



Oral History of Stephan Adams and William Adams

Interviewed by:
Hansen Hsu

Recorded via Zoom September 25 and 26, 2020

CHM Reference number: X9363.2021

© 2020 Computer History Museum

Session 1 – September 25, 2020

Hsu: Alright, the date is Friday, September 25, 2020. And I am Hansen Hsu. I am here with Stephan Adams and William Adams of Adamation. So, to begin, can you tell us when and where you were born, and where did you grow up?

William Adams: Age before beauty! <Laughter>

Stephan Adams: Well, I was born in Watts, Los --<video recording was paused and restarted here at 00:00:11, corresponding to 00:00:42 in audio recording>-- Angeles and lived there for two years before we moved to Placentia, California, and lived in Placentia, California, for what?

William Adams: About 10 years.

Stephan Adams: Ten years?

William Adams: Yeah.

Stephan Adams: And then moved to Anaheim, and that's where we were raised as children up through our teen years, before we went to college.

William Adams: And I was born in Fullerton, California, in 1964. Same. Placentia is where our house was. Placentia is just a tiny dot right at the edge of Anaheim.

Hsu: Hm, I see. So okay. And what were your parents' backgrounds and education?

William Adams: Well, Mom was-- originally Mom was a schoolteacher, but by the time we came along I think she was already into either a social worker? Stephan, you would know.

Stephan Adams: Yeah. Yeah.

William Adams: By then she-- I think she was a social worker at that time.

Stephan Adams: Yeah, she was a social worker, worked for the Welfare Department. She worked in welfare for a while before she became an administrator.

William Adams: Yeah, and our dad at the time when we were children, was a typewriter repairman.

Hsu: Oh, really?

William Adams: Yep.

Stephan Adams: But he was in the-- he was-- his career before that was in the Navy, actually during World War II, and actually was on two ships that sunk in-- that were sunk in the Pacific. <laughs>

William Adams: Yeah, the Indianapolis and something else, huh?

Hsu: Oh, wow.

Stephan Adams: Yeah. So we're lucky to be here.

<laughter>

Hsu: Yeah. Do you have any other siblings?

Stephan Adams: Yes. We have a sister. She's between us, Marlena, and you know, she's not a tech person, but believe it or not, she has more energy than both of us combined.

<laughter>

Stephan Adams: Yeah, very gregarious woman. She lives in Arizona.

Hsu: Okay. Yeah. So Stephan, you mentioned-- so you were born-- you said you were born in Watts?

Stephan Adams: Yeah, in 1962. Matter of fact, I think I was born during the-- shortly around the Ratts-- Watts Riot, and I think what my mom, what our mom told-- said at the time was that they didn't want to be around that, and they had some people who lived out in, like, in Orange County out in the Hinterlands, and Placentia, Anaheim, Fullerton area was all orange groves and strawberry fields at the time, and so they had some family friends that lived in the area and she wanted to get-- they wanted to get out of Los Angeles because of the riots, and that's how we ended up in Orange County.

Hsu: Oh, wow. Okay. So--

Stephan Adams: Which is kind of apropos for where we are today. <laughs> You know, trying to escape, you know, inequality and racial strife. My mom just wanted-- didn't want us to be exposed to that.

Hsu: Right, right, was-- I mean, was it-- did your family face any resistance moving to Orange County, like the...?

Stephan Adams: My mom-- from, you know, because our father died when we were really young, so I was in the fifth grade. I forget how old I would've been then. Fifth or sixth grade. But our father died young, so, you know, she's a single parent raising three, and when she was bringing us up, I think she, in her days, encountered, of course, the lunch counter sit-ins and protests that were happening in Indianapolis, because she grew up in Indianapolis, and when we were coming up, she brought-- she took us to Orange County mainly because they didn't have that kind of strife at the time, and we-- I don't-- I

never en-- we never really encountered directly. You know, it's the-- Orange County's where the John Birch Society was started. I mean--

William Adams: Not in our neighborhood. <laughs>

Stephan Adams: But I think given the fact that we were tokens in Placentia and in Anaheim, we were the safe ones, and so we didn't really encounter that, and I think my mom picked well as far as neighborhoods, you know, where we were. So we, we really didn't encounter a lot of that strife. Well, William's experience might have been different, but me being first through the mill and being very aggressive myself, I didn't have those kind of encounters.

William Adams: Yeah. I would say that-- well, our neighborhood and the neighborhood around us was mostly working-class blacks and Mexicans. Migrant workers were working the fields, you know, and blacks who were like my dad. Came from some war, typically Vietnam vets or whatever they were, and our whole neighborhood was pretty much black and Mexican. There was a freeway that was put in when we were young that split our local neighborhood in half and [we] ended up on the side of the neighborhood that was more Mexican than black. But, you know, we're not in a position there where people are going to be discriminating against us because we're black. It's like, "Well, you're also being <laughs> discriminated against because you're Mexican or a farm worker, so we're all in the same pot."

<laughter>

William Adams: We all played together. We all-- you kn-- <audio cuts> black or white or Mexican or anything. We were just kids. Right. Came into our neighborhood to tell us we were something else, so it's like, "Ah," it's fine.

Hsu: Yeah. Wait. So that was before you moved to Orange County.

William Adams: No, that was in Orange County.

Hsu: Oh, that was in Orange County. Oh, okay.

William Adams: Yeah, that was-- Placentia-- our Placentia neighborhood was like that.

Hsu: So it was actually kind of a lower-income neighborhood in Orange County?

William Adams: Yeah.

Hsu: Oh, okay.

William Adams: Yeah. I mean, it's nothing like what Orange County is today.

Stephan Adams: Orange Count--

William Adams: Where, you know, like my brother said, we were, literally, when we went to school, right across the street from us was a strawberry field, you know, and our weekly play on weekends, we'd go running through pomegranate fields, orange fields, you know, all that sort of stuff, so we were kind of at the edge of farmland.

Stephan Adams: Yeah. Matter fact, Orange-- Sunkist, Sunkist's packing plant for-- one of their Southern California packing plants was at the end of our block, so, you know, it was truly agrarian society in Orange County at the time. It grew quickly, right. You know, so when we moved to Anaheim, we moved I think like two miles down the road, and, you know, traditional Orange County suburb tract homes and that was the edge of the suburbs and we were on the edge, you know, so--

William Adams: Right on the edge.

Stephan Adams: --you know, literally across the, you know, Orange Store Boulevard, which is a main thoroughfare connecting Orange County and Los Angeles, and, you know, that was the suburbs, and so my mom wanted us to be in the suburbs. We moved two miles down the street to stay in the same school district but away from, you know, the changes that were happening. But Orange County didn't look anything like it does today, <laughs> I mean now.

Hsu: Right. What it was back then.

William Adams: But one thing that was happening in Orange County at that time, we were surrounded by fields, you know, orange fields, all that sort of stuff. But just down the street was Rockwell International, and Bechtel Engineering and, you know, so aerospace was happening at that time, and Los Angeles had the bulk of it in El Segundo and stuff like that. Hughes Aerospace was over in L.A., but we had Rockwell, you know, so all of the white engineers from Anaheim were working at-- in aerospace, and it's just, you know, a mile down the street from us. So the kids we went to school with, the white kids, their parents were doing engineering, and all us black kids <laughs> and Mexicans, we were, you know, our parents were farm workers, and like my dad, typewriter repairmen, or my mom, administrators. So that dynamic was going on as well.

Hsu: Interesting. Yeah. I mean, I was going to ask about, you know, the mix, the ethnic mix at the school.

<00:08:54>

William Adams: Yeah. The school is where it gets dramatically different. Like when we were-- certainly in elementary school, because we actually had to travel a couple miles to go to the elementary school, I would say from there all the way up through high school we were always only a few black students. So my graduating class from high school was like 330 students, and there were probably a handful of black kids, me included, right. Literally 5 or 6 out of 330, and that was true for the entire time we were in school. Is that-- you think that's right, Stephan?

Stephan Adams: Yeah, yeah, I think that's, you know, mine was even fewer. Matter fact, my mom used to tell the story, which was funny, when we were in elementary school, that McFadden-- when we were in elementary school, when my sister followed into school, the PTA said that we doubled our black enrollment.

<laughter>

Hsu: Oh, God. Ah.

Stephan Adams: And my mom was on the PTA board just to make sure that we wouldn't get left behind.
<laughs>

Hsu: Yeah, yeah, yeah.

Stephan Adams: So that's what Orange County was like. <laughs>

William Adams: Yeah, and this is a school that's just a block from our house.

Stephan Adams: Yeah.

Hsu: <laughs> It's a little reminiscent of Silicon Valley. I grew up here in Silicon Valley in the '90s, and it was a little bit like that too. <laughs>

Stephan Adams: Yeah. You still actually had, in the early '90s, what, you still had, you know, Pruneyard, they had a name for Pruneyard for a reason. <laughs>

Hsu: Yeah, exactly. Yep.

<laughter>

Hsu: There were still a few orchards around back then.

Stephan Adams: Right.

Hsu: Yeah. What were your best and worst subjects at school?

Stephan Adams: Hm. Well--

William Adams: You can go on that one, my brother.

Stephan Adams: Oh.

<laughter>

Stephan Adams: Well, interesting enough, you know, it's kind of ironic where I am academically today because William and I, our paths changed academically not based upon intelligence but based upon <laughs> opportunities, I think, because, you know, I went further in my educational pursuit but had the least capabilities to do so.

<laughter>

Stephan Adams: When I was in school, you know, I had and still somewhat dyslexic, so I struggled mightily through school, but was-- so, you know, the academic subjects weren't interesting to me. I was-- I excelled in sports. I excelled really well in sports. But one thing that I used even to this day was, like, photography and the creatives. That's the stuff that was really interesting to me, because I was really interested in the photography and art and stuff like that, but then I, you know, I followed William actually to Berkeley, and when I got to Berkeley I was going to flunk out immediately <laughs> and I had an epiphany and life changed and I discovered academics late in life, and I actually finished Berkeley with a Sociology degree, so I really understand where you're coming from, and then I went to a private school in Berkeley called the Wright Institute, for a PhD in Psychology, so... So I've been-- so academia became important to me as I got older and less so when I was younger because of, you know, struggle.

William Adams: And for me, I was just a standard brainiac, you know. I would say that out of all the subjects, and this is true all the way up through high school, I was way better at English and writing and composition, all that stuff, and I was good in math, you know. I had-- at home I did my own stuff like Erector sets and chemistry sets and physics sets and, you know, stuff like that, so I was a tinkerer, like, but academically I actually excelled at English. Moreso than math. I mean, I was good at math but I was even better at English.

Hsu: So it's a--

Stephan Adams: Which is why-- I think that part of that could be attributed to our mother because she's, you know, she was an English teacher when she was a teacher, and one of the things that William is, you know, is you-- that William is not saying is, you know, my-- our mom, you know, other than buying a Kirby vacuum cleaner, which is what you did in that time, but she also bought a Britannica Encyclopedia set and William--

William Adams: And I read that. <laughs>

Stephan Adams: --read it, and not just like read one, but read all of them, and <laughs> so, you know, he had a head start on a lot of his peers and so-- because of that early exploration early, whereas I would be out, you know, doing things that were more physical, you know, sports and so forth, where he really excelled academically.

William Adams: Yeah, and I would say something, and maybe this'll come up later, but when I-- my approach to programming is based on that as well. You know, I look at programming as just storytelling. It's just you're converting from one language to another. You're converting from a human domain

language to a computer domain language. Well, that's all about communication, right. The fact that the language is very limited on the computer side is beside the point. It's just language conversion at the end of the day, so...

Hsu: Hm. Wow. Interesting. So we're already talking about the kinds of fun things that you guys were doing as kids. You know, William, you mentioned you're a tinkerer. Could you get more into that?

William Adams: Tinkerer. Yeah. So, you know, I do-- do they even have Erector sets these days?

Hsu: <laughs>

William Adams: So whatever-- back then the Erector--

Hsu: There's LEGOs.

William Adams: Well, no, this way better than LEGOs. So Erector sets were like these pieces of metal. <laughs> There's strips, you know, various sizes, and nuts and bolts, and you screw them together and build like a crane or a castle or whatever the heck. We had LEGOs too, but I had Erector set, because it was more mechanical. So that kind of thing. I would do things like I built a pinhole camera out of a box, cardboard box. So I had read up on, you know, cameras, photography, whatever, and somehow, I read something about pinhole cameras, and so I got a box <laughs> and I put a hole in it. I got inside and I did the experiments. It's like, "Oh, yeah, look. The picture's upside-down," and, you know, so I would do stuff like that. I would do mechanical-- mechanical? I would do construction things. Like in our garage I constructed us a big platform to put our HO scale railroad on, and it had a hoist system so that when we weren't using it we could pull the hoist and it would kind of lift it up, you know, but then I'd do other <laughs> fun things. Like I took all the wheels off my mom's car. <laughs>

Hsu: Uh-oh. Oh.

<laughter>

William Adams: And put them back on. I think mostly correctly, and I would-- I took the hood off, <laughs> and-- I don't know how I did. This is all before-- this before I'm 10 years old, right. So I took the hood off. <laughs> It's like, "How does a 10-year-old get the hood off a car?" you know. I did. I got it on probably mostly correct, and I would do just repair stuff, like, oh, I re-- our roof had a leak and I went up and said, "Okay, Mom. You've got to go get me this kind of liquid tar and I'm going to go up and repair the roof," and, you know, I would just do stuff. So that's the-- that's how I'd tinker, at least at that age.

Hsu: <laughs> Oh, wow. <laughs> Yeah.

William Adams: I mean, I didn't do things-- I was just your classic kid, of like, okay. There's a radio. I'm going to take it apart and I'm not going to get it quite back together correctly. <laughs> You know, and I think a lot of that's... That mechanical sort of stuff probably stems from watching my dad with the

typewriters, because he had tools in the garage and I saw him doing stuff, and it's like, "Oh. Okay. I'm going to tinker too," right.

Hsu: Hm. Yeah. Yeah. Huh. And Stephan, you started a business as a child?

Stephan Adams: Well, we did-- yeah. Yeah. I started exploiting people young.

<laughter>

William Adams: No. You started out with good intentions with the newspaper stuff, right?

Stephan Adams: Oh, yeah, yeah, yeah. So yeah.

William Adams: Tres cincuenta. Tres cincuenta.

<laughter>

<00:17:59>

Stephan Adams: Yeah, you know, selling newspapers. I mean, a courier and all that. So, you know, the--

Hsu: So paper route kind of thing?

Stephan Adams: Yeah, as, you know, and having a newspaper route and so forth, but I think what-- in, like, and the next article we referenced is that when I was a teenager, when we moved to Anaheim, we moved into, you know, we moved into a housing community that was built from the ground up, so would get, you know, when we got it, it was just dirt, a dirt patch, and so, you know, my mom wanted a sprinkler system and we weren't going to pay a landscaper do it, so I learned how to do it, and William and I did that. We poured cement and did all these things around the house, and then there was like 130-some other houses that were in the same place. So I would-- I created a kit and went door to door and said, "Hey, I'll put in this sprinkler system for you, but--" I was too young to drive, so it's like, "You have to take me to the store to buy all the parts," and then I'd come back and then I would make-- I would do the computer-- the systems, and then I got good at it and then I would bring my friends and William and pay them a pizza or something and then we would-- we did, like, I think maybe 12 homes or something in this new development, and that's actually when I got the entrepreneurial bug, right, was that, because I saw that I was solving a problem, right. It was like there was a brand-new housing development. The landscapers were late to hit our neighborhood, so I just walked around and said, "I'll do that for you instead of you doing it yourself," and it was great.

Hsu: Wow. Wow. <laughs> And the article also said that you also used your photography skills in this enterprise.

Stephan Adams: Yeah. So I used my-- actually, to circle back one bit there, when William was talking about his cardboard box and his peephole and so forth, I think that's the day I got interested in photography, was because--

William Adams: I didn't know at all. <laughs>

Stephan Adams: He didn't know that. Matter fact, I just told him this just re-- wasn't it just recently I told you?

William Adams: Yeah, just a couple weeks ago.

Stephan Adams: Yeah, just a couple weeks ago, was that when-- I remember as if it was yesterday. You know, he was in the backyard and he had this box, a big old box, and it had this paper on the front and he didn't tell you that he burned his eye doing this, but--

Hsu: Oooh.

William Adams: No, not from that. I burned it from looking at the sun through my tel--

Stephan Adams: Oh, oh.

William Adams: My self-made telescope.

<laughter>

Stephan Adams: But he-- when we--

William Adams: Moving right along. <laughs>

Stephan Adams: But when we looked in there and I saw, you know, basically life on the back upside-down like that, it's like, "Oh, that's awesome," and then there happened to have been a photography class at school and I wanted to learn more about that. So that's actually, my first side of it was with William, and then when I was in school I took up photography and converted a bathroom actually into a little darkroom. But when we were-- when I was doing my little business, I would take pictures of all of the sprinkler jobs that I did, so when I went to house to house, I would show them pictures of the jobs that I did, and then also I showed them the couplings that I used and the Rain Bird heads that I used, the manifolds. So I would have it by visual aids going to door to door to show them what I used to show that I was legit, and then the pictures were validation of the actual projects.

Hsu: Hm. Wow. Wow, that's amazing.

Stephan Adams: Fun times.

Hsu: <laughs>

William Adams: This was also the time where I got my first computer. I don't know if you're going to ask about that or not, but--

Hsu: Oh, actually I was going to segue into that. That's perfect. <laughs>

William Adams: Okay. <laughs>

Hsu: Yeah, let's talk about that.

William Adams: Yeah. So my interest in computing actually started before that, when we were-- I mean, there's a big transition here in our lives where-- students that we lived in Placentia, and then when I was-- I think I was 10-- we moved two miles down the street and we were then in this new housing development and I was-- so I remember things as before I was 10 and after I was 10, right. So after I was 10-- before I was 10, we actually used to go to this place called Boys Club, like Boys and Girls Club that they have today, and we went to the Boys Club and we hung out and we met this guy named Jackie Robinson, and this was I thi-- he taught us both how to play tennis initially and he taught us, you know, he just became a role model for us, as, you know, young guys who didn't have a black father and, you know, here he was, Jackie Robinson. I think his wife name was Veronica? Was that right?

Stephan Adams: Yeah, yeah, yeah.

William Adams: Yeah, Veronica and-- you know. He went to UC Irvine and all this sort of stuff. Or actually I don't know if that was true. Someone else went to Irvine, but--

Stephan Adams: He went to Irvine.

William Adams: But he had some computer printouts, you know. It's like, "Oh, wow. What's this?" and then we moved and my uncle, my mom's brother, he did work for the Navy, and he had this computer, a Commodore PET, and talk about ancient technology. I mean, that was one of the first personal computers before the Apple ones came out even, and for whatever reason he was like, "Oh, I'm getting a new one. Do you want this one?"

Stephan Adams: <Inaudible 00:23:23> forget why you got it, because you remember you were at ho[me]-- you had surgery.

William Adams: Oh, yeah. Well, so I had this-- I'm-- I was born totally flat-footed and you'd think, "Ah, what's the big deal?" but I was so flat-footed that it caused me knee and back problems, so I actually had this surgery, corrective surgery, on my feet, and while I was laid up, my doctor, my foot-- my podiatrist was kind of a computer geeky guy himself and he gave me this book, which I still have. I actually used this in a video recently. But he gave me this book and it was like "Digital Computers," and so while I was in the hospital I was reading this. I was like, "Yeah, yeah. This, this for me. This for me," and then my

uncle, you know, is like, "Hey, here's this computer," and so that was the entry, and I taught myself 6502 assembly. You know, this was in the days of like the tape drive, <laughs> you know, tape cassette. There was no disk drive. There was like tape cassette and, you know, you type in your program and if the power goes off you lost it and <laughs> all that, all that fun stuff. So I was learning-- well, first it was machine code, which was really hard, and then it was like, "Oh, you can write in assembly." So that's how I got started, right, and I would do things like hardware interfacing to the machine with a joystick and other fun stuff, and then the Commodore PET turned into a Commodore 64 by the time I was headed off to college, but that's how I got started was this Commodore PET, you know. If you ever see a picture of one, it's just like, "Wow, that's like classic '60s-looking computer."

<laughter>

William Adams: Oh, this was, what?

Hsu: We have a couple in the museum.

William Adams: Yeah, so this is in the '70s, I guess.

Hsu: Yeah. <laughs>

William Adams: So yeah, that's how I got started in the computer thing.

Stephan Adams: And what William als-- the other thing about this uncle, our Uncle Jim, one of the things that's important about him in our story is that, you know, he worked with the Navy but he worked on missile systems. Much we don't-- we don't know--

William Adams: We don't know.

Stephan Adams: We don't know a lot about what he did, because no one talked about it.

William Adams: Can't talk about it.

Stephan Adams: But supposedly he worked on the Minuteman system, so to be a black engineer, you know, you see the-- what was that movie that came out with the black women who were...?

Hsu: "Hidden Figures."

Stephan Adams: "Hidden Figures."

William Adams: "Hidden Figures."

Stephan Adams: So he was that, but one of the engineers, so he was a pioneer himself, and I think one is-- another thing that's important about our story about kind of, you know, when William talked about our

father being to typewriters, you know, going from the standpoint of race, when he was in the Navy, he was a broiler man. So, you know, like all black men at the time, they worked below deck and that's why he was lucky to live after being on two ships that sunk. But when he got out of the Navy he couldn't get a job at the hotels, and at the hotels is where most of the broiler men went after they got out of the military, and because of racism and segregation he couldn't work in the broiler rooms, and so he got into typewriters in our school district, and that's, you know, so, you know, he was mechanically inclined, but he didn't jump into that. He was forced into that, because he initially wanted to work in broiler rooms, because that's what he knew.

Hsu: Right. Huh. Interesting. So you've already mentioned, like, two sort of male role models. Did you also have any other mentors growing up?

William Adams: Yeah. Well, for me, who would I say? There's milestones in my life, there-- and it's usually around teachers and other things, so early, when I was in fifth and sixth grade, I had the same teacher, and this was-- I don't know why they did it. It was only for our year that the same teacher got to go with us. Mrs. Helen Kinsey, you know. She was just a really good teacher, and we had, in my fourth grade, we had-- David Ramsey I think was his name. His wife was blind, and he brought her in and showed us, you know, "Hey, these regular people. Here's how you read Braille," and, you know. We hadn't-- as we went older, I had in high school Dr. Jim Jenkins, who was my math teacher, and I had him for four years. Same math teacher. He was a guy who was-- he was a millionaire, and he had worked on the Manhattan Project when he was younger. He was a graduate of UC Berkeley. He lived down in Newport Beach. He drove all the way up to Placentia, and this is like at least a 45-minute drive, in his Rolls-Royce.

<laughter>

Hsu: Woah.

William Adams: Yeah, every morning, you know, stopped in the office and into the classroom, and he was the head of our sailing club, because he had a boat down in the harbor, you know.

<laughter>

William Adams: And he was a real role model, not only because-- well, I'll tell a couple of things. So not only because he was this figure, like, "Why are you here?" and he just said to us, it's like, "I'm giving back to the system that raised me." He went to public schools his whole life, so he's giving back, right. His wife was a Stanford grad, <laughs> so that was always fun. She came from the rich side of town and he came meager beginnings. He's like, "I'm paying back." As simple as that, and he at one point, I remember in the classroom, and in math I was a really smart kid, but I didn't really apply myself, and he just got me one day. I was the only one in the room and he said, "Why do you--" I don't remember exactly, but essentially, "Why don't you apply yourself to your potential?" you know, and it just kind of stuck with me because I remember one test in particular where he gave us a really <laughs> hard problem and I solved this hard problem, like, it's like, "Yeah, whatever. It's this Monte Carlo thing, blah." I

was the only one that got this, the solution. We were just supposed to explain why something couldn't be blah, blah, blah, and I got this thing, right. It was a really hard problem, and I was the only one in our class that got that, and he's like, "You know..."

<laughter>

William Adams: But I just had other things on my mind, you know. It's like, "Yeah, I'm not going to be a physicist. I don't know what I'm going to be, but I'm going to-- I got things on my mind."

<laughter>

William Adams: So these were role models for me. I mean, I remember, I can-- I'm still telling you the names, right. Dr. Jim Jenkins, you know, millionaire, right, <laughs> and how he lived his life was to give back to the system, and that stuck with me, right. It's like, "Oh. That seems--" and I went to UC Berkeley, you know, and I still have in me today this sense of giving back, right, to the system that brought me up. So those would be my role models.

Stephan Adams: and William and I-- we share the same experience with Jackie Robinson. However, we had-- we looked at him differently because he taught us how to play tennis. William was interest-- didn't play tennis, and it's-- to this day it's my favorite sport. Because of that time. He gave me a Jack Kramer autograph. The grip was too big for me, but he taught me how to play, and I just thought it was the greatest, greatest thing, because no one in our neighborhood played tennis. But this goes back to something that my mom, when she moved us out of Los Angeles when I was a baby, and we moved into Orange County, she always wanted-- my mom was-- she's funny this way. Our mom. That she always wanted to be kind of like the first black person in doing something, right. So, you know, the first black person in this part of Orange County, right. When she moved to-- later in life when she moved to Arizona, she was like first person-- black person in the particular neighborhood that she lives in, and now she's in-- unfortunately she's in a nursing home, but she's the only black person in the nursing home.

<laughter>

Stephan Adams: Even with her demented self, she's still a trailblazer, <laughs> you know, so she likes to be in those positions where she can shine on her own, and I think that's important, because she instilled in us really young about this, "Don't worry about other people's garbage." You know, "Just do your thing and keep yourself on some type of a path." But Jackie Robinson, he taught me how to play tennis and then I hung around because I liked all the physical stuff because I wasn't excelling academically, and then after that there was a-- I would go to this tennis store to get my racket strung, and I met this guy named Raul Niño, and he was, he owned-- he was a Mexican guy that owned a tennis shop in Orange County, which, you know, imagine that, and so he was-- he not only taught me how to play competitive tennis, but he also told me how-- taught me how to ride bikes. He would come and-- he became more like a father figure, so he picked us up, picked me up, and we'd go riding bicycles. We'd go to the beach. We'd play tennis, did all that kind of activity stuff, so... But then when I got to college, things shifted and once I-- my early parts of college I, you know, I just struggled mightily. Didn't have a direction.

But when I got to Berkeley is when-- and I started to get interested in business, is when I started to seek out black older men to be father figure mentors, and my career today is because of one particular gentleman, and I'm sure we'll get into this a little bit later, but his name was Michael Fields. He has since passed away. But he's actually, he and his partner should be in the black section of the museum on, you know, black entrepreneurs and so forth. You know, he was a former president of Oracle Corporation. Lot of people don't know that Oracle's first U.S. president was a black man, and was a military man, and he took me under his wing and I got serious about life after that. <laughs>

Hsu: Hm. Wow. Yeah. So moving from direct mentors to, you know, what kinds of-- who are your heroes, like people that you idolize?

William Adams: For me it was Nicola Tesla.

<laughter>

William Adams: I mean, I'm sure 80 percent of tech people say the same thing. Nikola Tesla was one for me. I mean, I read histories and biographies of people like Tesla and Edison and whatnot. But then there was also Crispus Attucks and Harriet Tubman, you know, and these people are-- we, growing up, we had these not comic books but comic books of African-American history, and we'd read those, you know, and had these kinds of stories in them, and seeing the struggles of those people and their-- the bravery of those people was inspiring for me, right, and then people like Tesla is just a different kind of inspiration, because it's like, "Oh." You learn things like he did a lot of his invention in his head. He was good at visualizing things just in his head, and he was just coming from a different plane. But then there's the silly, like Calvin and Hobbes.

<laughter>

William Adams: You know, which makes you just-- reminds you that there's different perspectives on the world, right. So some fictional characters, some ancient characters, some not so ancient characters, and then in modern day, I would say that just recently, as over the last six months, I've gained an appreciation-- I don't know if they rise to a level of mentors or idolized or whatever, but Malcolm X, James Baldwin. I won't say Martin Luther King, because I was aware of him way back then. But I wasn't really aware of really who Malcolm X was, you know, or James Baldwin. It's like, "Yeah, that's a name," but I'd never heard of anything he had ever said, until recently. So these people give me a more modern-- I won't say inspiration. They give you a modern perspective that the-- and I don't idolize Malcolm X, but I certainly look at him and go, "Huh. He wasn't just some violent miscreant. He had some interesting words to say for the people of that time," and there's echoes of it now, and there's some inspiration and there's some warnings, you know. So that's-- those would be my external ones, indirect ones.

Stephan Adams: I think for me it would be, younger, it's going to be more like, you know, the first one without a doubt would've been Arthur Ashe, and I think, reason for Arthur Ashe is because, you know, I was, you know, exposed to tennis at the time that he was at his zenith, but also from the standpoint of, you know, doing something that, you know, in the white world, doing something that no one's done

before, right, and before him was Athea Gibson, who was a female tennis player and all-around awesome athlete, and even today I kind of-- I don't idolize anybody, but I do have a very fond appreciation for people who conquer things that are against all odds, like, you know, of course the Williams sisters. One of my favorite, favorite people right now is like Lewis Hamilton, and-- an F1 driver, right. You know, he is singlehandedly doing to the-- one of the most popular sports in the world that there's no black people in, not even in the pits, and, you know, the best driver in the world is going to be, you know, is a black man, right. He's doing to motorsports what Tiger Woods did to golf. I, yeah, I'd never really looked at Tiger Wood, because he's about the same age, you know, not too much-- well, now, he's younger than me, but he came up through Stanford and that whole thing, so I'm kind of like, "Eh, he's from Stanford," right.

<laughter>

Stephan Adams: I do have an appreciation of what he had accomplished, but the theme between all of them, and I think how it relates to William and I, is that all of them were trailblazers in a world that wasn't expected to see people like that, and the good thing about that is that there's no script, and since there's no script you get just to do whatever you want. If you look at Lewis Hamilton he's just like, "Yeah, I belong here." If you look at the Williams sisters, it's like their father instilled upon them, "Yes, you belong here." Same thing with Arthur Ashe and with us, right. You know, we're, you know, black people who have excelled in predominately white areas. It's because no one told them, you know, they couldn't. They just kind of like-- and they're also coming at a time when since there's not a lot of them there, white folks would just kind of let them in because like, "Ah, you're no threat. You're by yourself." Then it's like, "Oh, shit. Then you dominated this." It's like, "How'd that happen?" you know. "Didn't expect that."

William Adams: <laughs> "Who let him in?" <laughs>

Stephan Adams: "Who let them in?"

<laughter>

Stephan Adams: But when it's only one or two of you, they don't-- they--

William Adams: No big deal. Yeah.

Stephan Adams: No big deal. But if there's 10 of you, it's just like, "Nah, no, no. There's no more French fries. Yeah, we're closed."

<laughter>

William Adams: "Sorry. The VC money's all dried up. We're allo-- it's spent. It's spent."

Stephan Adams: "We don't have any more."

William Adams: <laughs> "We don't have any more."

<laughter>

Hsu: What kind of books or media, fiction, did you consume, read?

Stephan Adams: William, you're the reader.

<laughter>

William Adams: Ah--

Hsu: --or TV, films.

William Adams: Well, TV we were classic '70s, '60s, '70s kids, so there were only three stations, so we watched whatever was on ABC, NBC, CBS, and we had a regular thing. It's like, "Oh, Friday, 'Six Million Dollar Man,' followed by 'Mickey Mouse Club,' and then TV off," you know, so Saturday morning cartoons, Bugs Bunny, you know, all that sort of stuff, right. And then later in life, for me, at least, for reading-- oh, what did I read back then? I don't remember what I read back then. I'm sure-- I had a bookshelf, so I must've read something. Other than the encyclopedias.

<laughter>

William Adams: I distinctly remember all the way up through college I read nothing but nonfiction, up until the point where I had a roommate who was a science fiction buff. This was Burt, Stephan.

Stephan Adams: Yeah. Oh, really?

William Adams: Yeah. That was the first-- my first exposure to science fiction. So he gave me Stanislaw Lem or Asimov or something like that, and then from then on, it's like all fiction all the time, <laughs> you know. But I was a strict nonfiction guy for forever. So I would read-- I read all the religions, except Islam. So I read Bhagavad Gita, you know, Upanishads. These are Hindu texts. I have an affinity for India for some reason. The Bible, of course. Old Testament, New Testament. I was into Buddhism. So I read all that stuff when I was in high school. I was into authors like Alan Watts, Carlos Castaneda. You know, all these sorts of things, right. So it was all spiritual, mind-expanding. You know, if I could've done LSD I probably would've, <laughs> you know, but I was too young, so... <laughs> I don't do drugs. I don't need it. So that's what I read then, and then I got into nonfiction. I mean, fiction, and then I got into computer books, and there was a bookstore, Computer Literacy, in the Bay Area, that's no longer there.

Hsu: Yeah. I remember.

William Adams: And that would be a pilgrimage. Right. It's like I would spend a whole day at that store, <laughs> you know, and come away with three books, but I would spend a whole day at a store like that, and now today I have, you know, I'm reading some African mythology right now, and maybe we'll get into

this, but we even-- we made our own magazine. So not just reading but we also did writing as part of Adamation.

Stephan Adams: Oh, do you have one of those? Computer--

William Adams: Oh. Well, funny you should say that, Mr. Adams.

Stephan Adams: Computer Dialogue?

William Adams: I have a Computer Dialogue right here.

Stephan Adams: Oh, that's <inaudibles 00:43:29>.

William Adams: It's part of my propaganda tact. With a Mac ad on the back.

<laughter>

William Adams: I even have the NeXTWORLD magazine here.

Hsu: Oh, cool.

William Adams: Yeah.

Hsu: <laughs>

Stephan Adams: For me, the reading wasn't-- I didn't read. <laughs> You know, I was, you know, I kind of went past the reading thing and say, "Well, academia's not going to be my thing, so I'll work on the people skills side of stuff." So, you know, I was very gregarious, you know, team captain of this, team captain of that

William Adams: Big man on campus.

Stephan Adams: Big man on campus. So I was more of, you know, the personality and relationships than it was academia, because I had, you know, learning difficulties, and since I, you know, instead of trying to overcome the learning difficulties I just compensated for them by, you know, I used compensatory strategies for what I was lacking academically, and that's kind of how I chose sociology too. You know, because it was people oriented, and at Berkeley you got more credit for class participation and labs than you did for the actual writing assignments and things like that, so I would take types of courses that would allow me to leverage my core competency and not the area where I was lacking. But now I'm a reader, and it's funny. It's funny how life turns, because now I'm a-- I read a lot. But I like geopolitical things. Like Foreign Affairs is something I read, like, religiously. I like Economist and things like that, and I read them not necessarily because I'm enthralled by the topics, but I read them because I'm curious about how the real world-- how the world works, and if you want to know how the

world works, it's geopolitical and it's business, right. You know, I grabbed Wall Street Journal, Financial Times. Even to this day I listen to, I look at, NHK. It's a Japanese station, and I've been watching that station for years now, and I watch it because I want to get a Eastern perspective of America and of world geopolitical issues. Those types of things have always been interesting to me, and that's the stuff I read now. But younger it was just compensatory. You know, let me use this personality to get through life.

Hsu: Yeah. <laughs> Well, let's-- we've mentioned Berkeley a lot. As a fellow Cal Bear, let's--

William Adams: Go Bears.

Stephan Adams: Go Bears.

Hsu: Yeah, Go Bears.

<laughter>

Hsu: Let's move to Berkeley. So Stephan, you mentioned you were a Sociology major. So you were a junior college transfer?

Stephan Adams: Yes, a junior--

Hsu: Hey. Go Bears.

<laughter>

Hsu: Nice.

Stephan Adams: Talk about propaganda.

William Adams: Yeah.

Hsu: I should've brought one of my hats from over there.

William Adams: Are you a true believer, are you just trying to, you know?

Stephan Adams: Yeah, definitely a true believer. Definitely. What was the question again? I'm sorry.

Hsu: Oh. So you transferred from a two-year college?

Stephan Adams: Yeah, from Fullerton.

Hsu: Oh, okay. Or a junior college--

Stephan Adams: Southern California.

Hsu: Southern California. Yeah.

Stephan Adams: Yeah. So once I-- I was-- I didn't even think I was going to go, but William was there and I wanted to be there, and little did I know once I got there that he went there to escape me, but I followed.

<laughter>

Stephan Adams: I followed his ass. But what was really interesting about Berkeley for me, going back to this issue of not being able to be, you know, was not strong academically, I knew I wasn't going to be able to get into that school on the academics, and so how I got into Berkeley was I-- I forgot how I did it, but I found out who the admissions officer was, and her name-- and this woman, I can truly say, changed my life. Her name was Jessica Brown, and I went up to see William and I took the train up, he was already at Berkeley before me, and I met with her. And she came in-- I came into her office. She had this big stack. She had two stacks; she had a small stack of folders and she had a big stack of folders. And she says, and she pulled my name off the top of the big stack. And she was opening it and she was reading my application. And the year before I had applied to UCLA and UC Irvine and I wanted to be in the UC system because I wanted to run track and field. And so I said, "Oh, Berkeley has-- in the PAC 10. I'll go to Berkeley and maybe they have a film school and I'll take film classes," because I wanted to be a film major. So I told her why I wanted to go to Berkeley and I told her what my deficiencies were but I guaranteed to her, I said, "If you let me into Berkeley," I said, "I will not be a statistic of a black person that failed. I will succeed and I will graduate from Berkeley if you give me the opportunity. And I know that I'm not the model student, but I just need an opportunity." And she looked at me and she smiled and as I was leaving, she made me-- she didn't say it, but she took my folder, she closed it up and she smiled at me and then instead of putting it back on the big stack, she put it on the small stack. And then two weeks later I got an acceptance to Berkeley.

Hsu: Wow.

William Adams: Hey, that's so touching.

<laughter>

William Adams: I didn't know that whole story. What was it? Downtown Jackie Brown, what was her name?

Stephan Adams: No, no, no. <laughs> It's not Jackie Brown.

William Adams: <laughs>

Stephan Adams: No, no. Jessica Brown. <laughs>

William Adams: Oh, Jessica Brown. Jessica Brown. That's pretty good.

Stephan Adams: Yeah.

William Adams: And I knew you came for the running but I didn't know that whole, like, big stack, little stack story.

Stephan Adams: Yeah. I, you know, I wanted to-- You know, I wanted to prove everybody wrong. Even my mom, you know. She, you know, you know, my mom and I, she and I had it out. You know, every parent has their favorite child, right?

William Adams: That would be me. That's me.

Stephan Adams: And so-- There's no secret that William was her-- the favorite. But it took me many years to understand that it was okay. Because William was a lot like my mom. You know, she's, my mom, our mom is very heady, very serious. And I felt that, well, I'll go-- I have to be as smart so I will-- And even though I'm the oldest, right, eldest, so I said, "I know. I'll go to the best school in the country and I'll show everybody and graduate." Because my mom nor neither of their friends thought I'd get through high school more or less a junior college and definitely not Berkeley.

Hsu: Wow.

Stephan Adams: And so to be able to do all of that, I was kind of on this quest to prove everybody wrong that I was smart.

Hsu: Yeah.

Stephan Adams: So it was an insecurity thing that kept me driving. And I also wanted to play sports. And then, you know, and I did it. <laughs> I was a--

William Adams: Yes, you did, Dr. Adams. Yes, you did, Dr. Adams.

Stephan Adams: <laughs> Yeah.

Hsu: <laughs> So William, your journey to Berkeley was much more straightforward or typical, I guess?

William Adams: I suppose so. Yeah. I mean, I was-- Well, the funny thing is, when I was applying to various schools, Rensselaer Polytechnic School.

Hsu: Oh.

William Adams: They kept sending me stuff. <laughs>

Hsu: Yeah.

William Adams: You know, and it's like what? I think it's in Indiana or wherever it is.

Hsu: It's in New York State.

William Adams: Oh, is it?

Hsu: Yeah.

William Adams: Okay. It's like they kept sending me stuff for some reason.

Hsu: It's in Troy, New York near Albany.

William Adams: Yeah, like, it's like I had never heard of this place and they just kept sending me stuff. It's like whatever. And then I was-- I was headed for Irvine because that's where a few of my friends from high school were headed and talk about, you know, life changing. It's like, man, I could have been in Irvine. I could have-- What are they, Anteaters or something? I don't know.

Hsu: <laughs>

William Adams: They're what?

Stephan Adams: That's Davis, UC Davis.

William Adams: Oh, okay. So UC Irvine, whatever their mascot is, I could have been one of those. And then somehow I got something from UC Berkeley and at that time I didn't actually know about UC Berkeley. I didn't know, I mean, other than my math teacher had gone there, so I didn't really know about their prestige in the world and all this other sort of stuff. I was like, eh. So I just applied. And I think the order of my applications was probably, like, UC Berkeley, Irvine, UCLA or vice versa.

Stephan Adams: What about Stanford? You came up to Berkeley--

William Adams: So I went up to-- No, but I mean, in the UC system, those were the three I applied to, right.

Stephan Adams: Oh.

William Adams: I think I applied to Stanford. I went up to Stanford and Berkeley to visit both of them and Stanford, it was like, okay, this felt like our-- like our high school. It was a big campus with trees and grass and buildings spread out. It felt like home kind of. And then I'm sure they rejected me. And then I went over to UC Berkeley and I was walking around on Telegraph Avenue, you know. And I remember this distinct feeling as I was walking around and seeing, you know, the hippies around and all that sort of stuff.

And I walked off through Sather Gate towards Telegraph Avenue with my mom and I remember just having this thought to myself which is, "I'm as smart as these people are. I can be here." And I got in. And I was Electrical Engineering and Computer Science. That's what I started. And that was at the time when we were just coming off the cardpunch machines and PDP-10s with flip switches and all that sort of stuff, right. So I got in. For me, college was different, though. Stephan had something to prove. I was probably, I had nothing to prove. And I was there just to become self-aware, you know. I wrote a lot of poetry walking around at night. You know, I still have a folder of, a notebook that has some of that early poetry. And I was just discovering stuff. Again, there's like people taking drugs. Why are you doing that? What are you learning? You know, and you're meeting different people. I fell in love with someone and I was an extreme introvert, man. I mean, I was the kind of introvert it was like I could not even answer the phone at home.

Stephan Adams: Yeah.

<laughter>

William Adams: I would run from it. The phone's ringing and, "William, get the phone," I was like, "No."

<laughter>

William Adams: Stephan can tell you that. <laughs>

Stephan Adams: So true. That is so true. <laughs>

William Adams: It was like, "I'm not getting the phone. Let the dog answer the phone."

<laughter>

William Adams: So, yeah,--

Stephan Adams: He would rather see the dog chew up the phone than answer it. <laughs>

William Adams: Yeah. It's like, "I don't want to talk to anyone." I couldn't tell people my name. I would spell my name out. I wouldn't say it. You know, I was just too shy. But so Berkeley for me was a coming out thing more than anything else. It wasn't really about learning stuff, it was more about, like, oh, okay, well, this is where I'm going to learn to be an adult. I had nothing to prove and I didn't really care about any of that sort of stuff. So that was my entre to Berkeley.

Hsu: Yeah. Did you explore classes outside of your major?

William Adams: No, I didn't go in and sit in on things. Because, I mean, you know, you went to Berkeley.

Hsu: Yeah.

William Adams: So it's like, you've got your hands--

Hsu: I was also EECS, so.

William Adams: Yeah. So you got your hands full, right.

Hsu: Yeah.

William Adams: It's like eh, you don't really have time. So I didn't get to sit in on any classes. But when you're sitting in the dorm with your other friends, you're just learning other things, right.

Hsu: Yeah.

William Adams: It's like, "Oh, you took a Psychology class. So what's that about?" And then you have conversations because you're being all Berkeley-like, you know.

Hsu: Mm-hmm.

William Adams: But I didn't get to sit in on anything. And that's when I-- I worked at the Computer Store on the campus. I opened the Computer Store on the campus. There's this guy named Bill Tate that they brought in and this was at the time where the Apple Mac was coming out. And we were one of the first campuses to carry it. I think we had the singular distinction that on one day we sold the most Macs of anyone in the U.S.

Hsu: Wow.

William Adams: Some particular-- I think it was like a Thanksgiving or something like that, we had the highest sales of anyone in the U.S. at our little tiny store.

Hsu: <laughs>

William Adams: So-- Uh-oh, my phone's ringing.

Stephan Adams: That's when-- BMUG started there too, right? Or Apple's--

Hsu: Oh, yeah.

Stephan Adams: Yeah, BMUG.

Hsu: Berkeley Mac User Group.

William Adams: Yup.

Stephan Adams: Yeah. It started as an offshoot from there, right, at that same--

William Adams: Yeah, so there's names like Fred Hucksam, do you know that name? Have you ever heard that?

Hsu: I'm not familiar with--

William Adams: No? Okay. So there's some early guys that came that were working in that Computer Store who then later became Apple guys. Fred Hucksam was a big deal in the community for a while. There's another guy named Jim Takahashi, maybe. Anyway, Berkeley was quite a hotbed for all things Mac back in the day and I was there in the beginning of it.

Hsu: Yeah, wow. <laughs>

William Adams: That's now we got to NeXT, basically, is because my interaction with the whole Mac crowd is like okay, we wanted to do whatever Steve Jobs was doing next.

Hsu: Right.

William Adams: And along came NeXT.

Hsu: Yeah, yeah, yeah. That makes sense. So, you know, you mentioned you were an EECS major. How many other black students were there in the EECS major when you were there?

William Adams: I don't think there were any.

Hsu: <laughs> Oh, wow.

William Adams: Yeah, I was probably the only one at the time.

Hsu: Wow.

William Adams: But that's-- I mean, it seems extraordinary, but we are often the only-- <laughs>

Hsu: Yeah.

William Adams: Take any major you want and we're usually the only. I mean, if we get to the Microsoft stuff, I'm the only blah, blah, blah. You know? I mean, this is just our life, right.

Hsu: Yeah, yeah.

William Adams: It's like we're always the only. Or one of a handful.

Hsu: Right.

William Adams: So it's not as extraordinary to us because it's just the way the world is.

Hsu: Yeah.

William Adams: But it is kind of extraordinary. It's like really? <laughs> Really?

Hsu: Yeah. <laughs>

William Adams: So, yeah.

Hsu: Yeah.

William Adams: We're the only-- I was probably the only black kid in my EECS class.

Hsu: So Stephan, earlier you mentioned, you know, somebody who influenced you in college. Could you talk about that?

Stephan Adams: Oh. Yeah, it's when I was in college, it was interesting because there, you know, the insecurities that I had started to come out, you know. In high school it's different, right. You know, you can personality your way through it. In college, you can't <laughs> and especially at Berkeley you definitely can't, right. So you either, you get through it or not. And I had a teacher, actually before I got to Berkeley it was at Fullerton, I took, you know, just to give you an idea of how bad my reading and writing was then compared to where I am today is pretty-- I chuckle at it. But I took an English as a Second Language.

Hsu: Oh, whoa.

Stephan Adams: That's how bad it was. And I was getting a D in the class. <laughs> So there were these people who didn't even know English that were doing better than me.

Hsu: <laughs>

Stephan Adams: And one day I wrote a paper. It was the funniest thing. I said, I wrote a paper called "Illiteracy in America."

<laughter>

William Adams: That's the perfect paper!

Stephan Adams: And it was pretty raw. [ph?]

<laughter>

William Adams: That's perfect, man.

Stephan Adams: And the paper was, it was all, like, riddled with spelling errors and everything.

William Adams: A-plus. <laughs>

Stephan Adams: And [the teacher] wrote back to me, and said it was genius. <laughs>

William Adams: Yeah, exactly.

<laughter>

Stephan Adams: She thought it was genius. She goes, "I love the way you did this." And she didn't know that I was illiterate. And then that same teacher after she realized, like, oh, yeah, you really are illiterate, she came back. She gave me a paper once and she said, "You know," she goes, "You actually are a really intelligent person. Your problem is, is you just don't know how to read-- you just don't know how to write," she goes. "But I think if you learn how to write your intelligence will come through." And so she taught me how to write and that set me on the course of, "Oh, what's this academic stuff? Maybe there's actually something here other than sports." So I only went to Fullerton because I wanted to run track and cross country. I only went to Berkeley to run in track and cross country. I didn't see these things. But then when a couple of teachers kind of like Mr. Jenkins for William said, "Why don't you apply yourself?" that was the kind of the same type of epiphany for me. It was like once I learned to apply myself, it was it. But I think the day that it really changed wholeheartedly was when, you know, the Campanile was-- I had just got a notice from the Registrar's Office that said, "Mr. Adams, you're on probation. Another semester and you're out." And the Campanile was ringing.

<laughter>

Stephan Adams: You know how the bells were so exciting.

William Adams: Don't ask for whom the bell tolls. <laughs>

Stephan Adams: Yeah.

<laughter>

Stephan Adams: It was lunchtime and I was reading this thing and I was, like, crying. I was like, "I'm going to let Jessica Brown down. And this can't happen." And so I buckled up. And I took a course with Harry Edwards.

William Adams: Yup.

Stephan Adams: With Sociology of-- Sports Sociology class. And then in there I met this guy, his name was Pedro Noguera and he was the first black President of UC Berkeley [ASUC]. He was a graduate student and he was a-- He's a professor now at Harvard, so he's a Harvard professor in Sociology. And he and I became pals and I was, like, his campaign manager when he ran for President of the ASU[C]. And I learned a lot about politics. And at the time when I was at Berkeley before you guys, it was, you know, divestment rallies, you know, because, you know, people were trying to get UC to divest their monies out of South Africa. And Pedro was on the frontlines of that. He was a student, you know, big man in the whole UC system, and so I was kind of tagging along with him and he was a real big influence to understand the importance of racial justice and inequality and so forth. So I learned that from him when I was at Berkeley.

Hsu: Right. So was it through him that you became active in sort of the campus politics and the social justice causes?

Stephan Adams: Yeah.

Hsu: Yeah.

Stephan Adams: Yeah. Because then I would go to, you know, the meetings and you know, the divestment rally meetings and sit with the guys that were the speakers and help them strategize. And so what I found myself doing was being a strategist. So I was a strategist for Pedro. I was a strategist for other speakers that were in the divestment rallies themselves. So, you know, not formally. I wasn't one of the forefront guys there, but I was in that environment a lot, so. And in Berkeley, the thing is is, you know, there's the academic part, right, where, you know, since this is a public school it's like either you make it or you don't and they don't give a rat's ass if you make it or not; and then there's this whole at the time, still, the leftovers from the sixties and seventies of the political side of Berkeley and I really resonated with that side of campus life.

Hsu: Mm-hmm. Yeah. And William, did you have any sort of mentors in college as well or influences?

William Adams: No, not really. No. I mean, that was at the time when, oh, what's his name-- he's a famous computer guy that came from Berkeley. Eh, no, so--

Hsu: <laughs>

William Adams: My time at Berkeley, like I said, my time was pretty self-exploratory. So I wasn't looking for mentors. I wasn't needing mentors. It was like I was doing my own thing, you know, exploring my own ass. I did a lot of running, bicycle riding, writing code, managing the Computer Store, that sort of thing. So there was no mentors there. There were plenty of interesting people that were there at that time and a lot of interesting things happening. Like that was the birth of the Pascal language, right. That was the continuing growth of the Unix operating system and the growth of Berkeley sockets. And, you know, we in the first year there switched from punch cards to terminals connected to a VAX computer. So there was a lot of-- That was the birth of email, you know. <laughs> So all of these things were happening and all of

those now looking back famous people were hovering around there. But so were the scientists from the Manhattan Project, you know. My professors in Physics were the same guys that had built the bombs and continued to do research through, you know, either Berkeley Labs, Livermore or whatever. And it was more like-- It was really interesting. I remember sitting in one lecture where something was going on, maybe it was apartheid stuff or nuclear disarmament, who knows what, and we were all sitting in this classroom and the teacher comes in, one of these famous Nobel laureate professors. And he said, "You know, I'm not going to teach today. I'm not going to tell you to boycott the class. Let's have a discussion." And we were just talking about whatever that issue was of the day and eventually I went, "Oh. Actually what I should do is get up and walk out."

<laughter>

William Adams: You know. So I did, you know. And this was the kinds of thing-- Now I don't idolize that teacher, but those kinds of people, these guys who were driving the evolution of our understanding of the physical world were the instructors. <laughs> Yes. So I don't-- They weren't mentors. They weren't idols. They were perhaps statuettes, things that you can look at and say, "You're a figure in history and I hear you saying words. Those are very probably influential words. I better be listening."

Hsu: Mm-hmm.

William Adams: I'm not a, you know, golden spoon in the mouth kid. I'm just a kid from, you know, a meager upbringing. Here I am exposed to this, these people, the people that wrote the physics book that I'm reading, right. So let me just listen. So that's what I got out of my time at Berkeley. There's no idols. But there were just a lot of things. I learned the language, TCL was birthed at that time, <laughs> you know. Bash shell, I learned vi. <laughs> You know, I still have a muscle memory of that stupid thing.

Hsu: <laughs>

William Adams: You know, it was that. That was just the birth of me becoming an adult and a lot of stuff that I learned and was exposed to then shaped my later choices in life and even shaped my life today, right; even without a single person, it was just the environment, right.

Stephan Adams: You know, I think one of the things that William is saying that, you know, in hearing William and then hearing myself talk, you know, this is really exciting. We're really glad that you ask us these questions because it makes you harken back to the time of, you know, your shaping. And one of the things that, you know, it's never-- you never wish someone to be raised by a single parent, but one of the things that I think meaningful about our, you know, about this whole mentoring thing and seeking it out or not is that, you know, we were kind of like a tabula rasa when we got into college. So, you know, we didn't, you know, we didn't see how you're supposed to act or what are the limitations for a black man and all those-- the strife that was around because we weren't exposed to it. Now our father was exposed to it and had great strife, but he died when we were so young that we didn't get to really-- It wasn't internal-- We didn't internal-- at least I can say for myself, I didn't internalize his strife and his struggle because he died when I was too young.

William Adams: Yeah. 1972.

Stephan Adams: So, so when-- What's that?

William Adams: 1972. Two days before school.

Stephan Adams: School, yeah. I remember that.

William Adams: September 7th, 1972.

<laughter>

Stephan Adams: So from that, what it does is it puts you on a path to be able to say, well, you can do anything.

William Adams: Yeah.

Stephan Adams: Because you didn't see anybody around you struggle and all the people that you saw coming up whether they be white or otherwise, they were all successful and this is what you do. It was just like, okay, well, that's what you do if you want to be successful. There's no, you know, saying no. And sometimes when you see no and the no was because of your race, you make it up for some other reason because you didn't have enough racial blockage to keep you from doing something so you're just like, "Oh, that's just a no. Well, I'll just go around that no."

Hsu: Right.

Stephan Adams: And it isn't until you get much older in life that you say, "Oh, those roadblocks were all racial roadblocks. I didn't see them. I just went around them." Whereas traditionally it's like, "Oh, that's a racial block, let me just-- That's not for me." We didn't-- We weren't exposed like that, so I think that's one of the reasons why we, you know, have the careers that we have had is because those roadblocks whether they be intentionally racial roadblocks or not were circumvented.

Hsu: Mm-hmm.

William Adams: Yeah. I would also say that there's-- There are probably counter examples at Berkeley, things not to do. Like I remember one of the guys in my dorm, his name was Theodore Cedar, and he did in fact get into LSD. And I remember years later seeing him on the street being led by a girl with a collar around his neck and he was clearly just out of it. It was like, he burned his brain, you know. He was toast.

Hsu: <laughs>

William Adams: And it's like--

Stephan Adams: Even with a collar, huh? <laughs>

William Adams: Yeah. He was literally, he had a collar on his neck. She was leading him around. You know, I was like--

Stephan Adams: Did he have a ball in his mouth too?

William Adams: No. <laughs> No. Maybe he did when they went back to their place. But, you know, it's like, Theodore Cedar, don't do that.

<laughter>

William Adams: You know? Don't do that. Don't do that. Don't do the drugs. Don't get arrested. Don't, you know. There were several things not to do at Berkeley.

<laughter>

William Adams: But at the same time, explore, right.

Hsu: Mm-hmm. You mentioned your father's death, you know, when you were younger. Was that particularly traumatic for the two of you?

William Adams: We probably have different responses to it. My response immediate-- Well, okay. So here's how it happened. We were out, my brother and I were out playing. I don't know where our sister was. She must have been at home, right?

Stephan Adams: She was at home.

William Adams: Yeah. So we were out playing. We came home and there was an ambulance there and I think our dad was either being wheeled out or he was already in the ambulance but it was like, something happened, right. And it was like, "What happened? What happened?" My first feeling was, "Oh, shit. I was supposed to mow the side yard. Dad did it and that's what killed him."

Hsu: Oh, no.

William Adams: <laughs> That was my first-- Well, I didn't know he was dead. He wasn't dead at that point. But I felt something happened. It was probably my fault because I should have cut the side yard, right. And we were gathered up. My mom went off to the hospital with dad. Our godparents came and got us and we were sitting at their house eating macaroni and cheese or whatever we were doing.

Stephan Adams: Yeah.

William Adams: And the phone call comes in, you know. We didn't have a speaker phone, so they didn't - We didn't know what the phone call was, right, what was happening. And they were like, okay. And they didn't tell us immediately what happened. And we're like, "Well, what happened?" And it was like, "Well, your dad, he's going to have to learn stuff all over again and," you know, sidestepping it. And it was like, okay. And then we were sent home where our mom was. And all they told us before we got there is, like, "Just don't ask your mom too many questions." <laughs> And then I think our mom made us some macaroni and cheese.

Stephan Adams: Yeah.

William Adams: And we're sitting there and either my sister asked or one of us asked, "So what happened?" And my mom said, "He didn't make it," you know. And my first response in my head was, "Can I have some more macaroni and cheese?" Now mind you, I'm 7-years-old, right. Our dad and our mom, I mean, they had a very complicated relationship. There was drinking and smoking and loud words and stuff and my bedroom was right next to theirs and I could see this stuff happen, you know. So at some points, I was kind of relieved. It's like, good, well, now dad's not going to be mean to mom. That was my most immediate response. You know, I had a little boy's understanding of mother and father relationship and it's like, well, dad's not nice to mom, I don't like that. So, you know, I'm a mamma's boy, right. So my first response was, "Can I have some macaroni and cheese."

Stephan Adams: That wasn't your first response. [ph?] You actually said that.

William Adams: Yeah, okay. So I actually said it. <laughs>

Stephan Adams: You actually said that.

William Adams: Yeah. "Can I have some more macaroni and cheese?" That was the full extent of my emotion. We had the funeral. I went up to the casket and I touched my dad's hand and I think I was the only one that did that, and I said goodbye. You know, because I kind of understood. It was like, yeah, you had a rough life, you know. Thanks for what you were able to do. I kept his hat. I kept his army jacket. You know, I loved my dad, you know. It's not like it was like, good riddance, you damn bastard. You know, it's like I really loved my dad and he was gone. I did not cry until I was 14. I never cried, you know. I didn't cry at the funeral. I didn't cry in private at home. Nothing. I had a secret fear that his ghost would come out of my closet at night sometime. You know, I had up until I was 30, I had a belief that I would die early, you know. So until I was 31, you know, I was like, okay, I guess I'm not Jesus. They're not going to take me at 31 like Jesus did, you know. <laughs> None of that's going to happen. But I didn't cry. I didn't deal with it. It was just like, "Dad's gone," that's it, and you moved on. I moved on. My sister had a completely different reaction and Stephan can tell you what his reaction was.

Stephan Adams: Well, everything is, it's funny because if you asked this question of the three of us, William's story and my story are pretty much in lockstep because I remember everything that he said and it's all true. But if you asked our sister this story, oh, my God. <laughs>

William Adams: You will get a Hollywood story. <laughs>

Stephan Adams: You'll get a Hollywood story and half of it didn't happen.

<laughter>

Stephan Adams: But, but it would be a good story. The whole thing that what William said is, it's funny to be taken back to that day, but it happened the way that he said it, so I don't really add any more color to it. But the one thing that, but our experiences were different because, you know, being the eldest in the family there was a different level of expectation for me. So all the black men that came for the service and for the--

William Adams: Wake.

Stephan Adams: The wake and for days and weeks after, everyone kept saying the same thing to me. People would give me money and say, "Now you're the man of the house. You got to take care of your brother, your sister and your mom. You're the man of the house." So everyone kept saying that, so there was this expectation, you know, at my, you know.

William Adams: You were only 10.

Stephan Adams: I was 10 and I was supposed to be the man of the house and I was supposed to take care of my brother and sister. And I didn't want that, I wanted to be a kid, but that was the expectation. I'm not sure-- I know I didn't do a good job with it, but, you know, that was the expectation. And it actually even to this day is, you know, I'm the only one that doesn't have children of my siblings. And--

William Adams: You did fine, by the way. I don't think we were any worse for wear.

Stephan Adams: Yeah.

William Adams: Even though we had our battles.

Stephan Adams: Yeah. You know, so, yeah, you know, it's, you know, the older-younger brother battles, you know, we still had those things and, you know, trying to do the whole domination that the big brothers always try to do to the little brothers. So we still had that. But at the same time, I am also being told, "Take care of your brother," so--

William Adams: Yep.

Stephan Adams: So, like, at school, you know, I was a fighter in school and I was a real good fighter. But William never had to fight because, like, yeah, I may beat him up but you're not going to beat him up.

<laughter>

William Adams: I was protected.

<laughter>

William Adams: It was like, "My brother is Don Corleone."

Stephan Adams: Yeah.

<laughter>

William Adams: So even though I would, you know, I would fight with him and mess him up and so forth, you know, and that's what you can see in our relation today, you know, we have a tremendous love for each other. But even as kids as I was going through this struggle, my job was to do what all the men said. It's like, "You take care of your brother and your sister." And in our family, I do that. So whenever there's been, you know, distance in our family like every family, I'm always the one that's calling to check up to find out how things are. Even with our children inside our family, you know, my nieces and nephews or nieces-- or now I have one nephew. But you know, I make sure that I stayed the glue between the nieces and their parent. You know, that's the role because I was taught that at such a young age. So, so it was rough. But, you know, but I think it's also added to our independence so young to be able to be, you know, fearless. Because when you lose a parent at that age, you know, it can go extremely bad.

<laughs>

William Adams: Yeah.

Stephan Adams: And I think our sister was on a different trajectory because of that than William and I are. But there was also some good things that came out of it, right? You know, William and I, our bond is really strong and I think part of it is because of that time. You know, we have each other and I believe that I was responsible for him then. He doesn't need me to be responsible for him now, but even in our conversations today, I'm always checking in to see about his wellbeing because that's part of my role is William's wellbeing.

Hsu: Yeah. Wow, that's great.

Stephan Adams: It's a lone wolf--

Hsu: <laughs>

William Adams: It's lonely on the frontier, right?

Stephan Adams: Oh, yeah, absolutely.

<laughter>

Stephan Adams: It totally is.

Hsu: Well, let's get to your early career now, so--

William Adams: The foundation of Adamation?

Hsu: Yeah. And also right before that. So William, you--

William Adams: Hold on. I'm going to get one artifact.

Hsu: Okay. I guess Stephan, I'll start with you then.

Stephan Adams: Okay.

Hsu: You actually waited tables--

Stephan Adams: Yeah. <laughs>

Hsu: For a period?

Stephan Adams: Yeah, for a long period. Because again, it goes back to that whole gregarious personality thing, right. So I wasn't-- I wanted to be independent so waiting tables was a way of being independent. And then it was also about you made money based upon how well you were at serving and what your personality was like. So, you know, I was good at it and I liked the flexibility of your own hours and I liked the meeting new people. I liked hosting and taking care of people, right. So that was also-- So that's how I ended up doing it and I did it-- And actually, at one point I thought I was going to be a professional waiter. Matter of fact, living in Berkeley, you'll appreciate this. I remember when I was on my first summer at Berkeley and I stayed home and I needed a job for the summer. And I just, I said, "I'm a good waiter. What's this-- What's this Chez Panisse place that everyone keeps talking about?"

Hsu: <laughs>

Stephan Adams: "I'm going to go over there and get a job." <laughs> And I walked over to Chez Panisse and I met Alice Waters.

Hsu: Wow.

Stephan Adams: And I said, "I want a job." And she looked at me and, you know, and she was a really striking woman at the time. And she says, "Well, what do you do?" And I said, "Well, I want to be a waiter." And so Alice Waters and I were sitting in the front of Chez Panisse and she interviewed me and she goes, "You know," she goes, "I'd love to hire you as a waiter." She goes, "I only have one position open and it is a waiter that's and he's French and he's in France right now. But if he doesn't come back I

will call you-- If he doesn't come back at the end of summer, I will call you and you can wait tables at Chez Panisse."

Hsu: Wow.

Stephan Adams: And that knucklehead came back and--

<laughter>

Stephan Adams: Because I wanted to wait-- I wanted to work at Chez Panisse so bad. And I had met-- And Alice Waters at that time wasn't who she is today, right. You know, she's an icon, right. She's a food icon for the world. But at the time, Chez Panisse was just coming into its own, right. You know, people had parties at Chez Panisse. All these great chefs would go there and I wanted to be part of that whole Chez Panisse family.

Hsu: Wow.

Stephan Adams: And it would have definitely put me on a different path if I would have gotten that waiting job.

Hsu: Yeah.

Stephan Adams: And I really hit it off with Alice Waters and-- But, yeah. So I waited tables. And even when we started Adamation, I still did it because--

William Adams: We needed money.

Stephan Adams: We weren't making money, so it was a matter of, well, I better wait tables to take care of myself.

Hsu: Right, right.

William Adams: Yeah.

Stephan Adams: That was always my go back.

Hsu: Right.

Stephan Adams: So but it's the theme, right. It's always doing as William said, just before he, you know, diverted for a moment, is that, you know, I was kind of a lone wolf, right. You know, I've always done things that are singularly being responsible for myself. And actually, there's a very important story, it's a high school story that translates into college of kind of even to this day of why I take this lone wolf and the path not taken, that when I was in high school and even before high school I was, you know, sport was

my thing and I was a really, really good baseball player. And I was the only kid in high school that had made the-- as a freshman-- that made the All City All Star team. So, you know, it was-- You know, so most of the All Star players for our city came from a rival school, but at my school I was the only one on the freshman team that had actually made the All Star team, so I was a really good player. And this guy came in, this coach, and I was the very first kid that was cut from the team and I was--

William Adams: Oh, the high, the high school team.

Stephan Adams: The high school team, right?

William Adams: Right.

Stephan Adams: And everybody on the team said, "You got to be kidding? He's the best player on the team." And he cut me and, you know, it was probably a racial thing. I didn't know why but all I knew is I threw my glove on the ground and I said, "Fuck baseball. I will never play this game again and I will never play a team sport ever again in my life." And to this day I haven't.

Hsu: Wow.

Stephan Adams: And that's when I took up tennis. That's when-- <laughs> I took up cycling, right. I took up all these individual sports. And then I also looked at corporate the same way. It was like, I won't go to corporate. I will be an entrepreneur. And it's all because of that, because, like, I will rise and fall on my merits and my merits alone. And then but having a company, it's like, yeah, I'll be in a company as long as I'm the CEO.

<laughter>

Stephan Adams: So I don't mind being on a team as long as I'm the one that's calling the shots. <laughs> So, so anyways, I wanted to share that because I think it's instructive about, you know, my core personality of being an entrepreneur.

Hsu: Right. Huh.

Stephan Adams: And it started on that experience. I can say that my interest in entrepreneurship started with that ill-fated experience.

Hsu: Right. So that was before you started the sprinkler business.

William Adams: It was after.

Stephan Adams: Yeah, it was all around the same time. I was a freshman-- Yeah, yeah. It was, that happened all around the same time.

Hsu: Huh, okay.

Stephan Adams: The sprinkler business and then this thing of, you know, that actually happened before, actually. Yeah.

Hsu: Hmm.

Stephan Adams: So anyway, so that's-- Yeah.

Hsu: Yeah.

Stephan Adams: So that's my experience.

Hsu: And, you know, William, you mentioned that, you know, you were working at the Campus Computer Store. You became a manager there?

William Adams: Yeah. So I managed the Computer Store in the Berkeley campus for I don't know how long, maybe a year or two. I have this artifact I want to--

Hsu: Okay.

William Adams: Does this look familiar, Mr. Adams? <laughs>

Stephan Adams: Oh. So William, why don't you tell the story? You'll tell it better than me. It's a great story.

William Adams: So, hold on. Let me see if I can open it. I forget what the combo is-- Oh. So we were in 1984,--

Stephan Adams: <laughs>

William Adams: We decided to start a business. And we were on the UC campus and we were, we went into a classroom-- Or one thing to understand is we had an aunt that worked for IBM and she was a sales--

Hsu: Oh.

William Adams: She was a salesperson, a regional salesperson, so she was pretty feisty. This was the aunt through marriage. So our uncle who gave me the computer, this was his first wife. They had gotten divorced but we still kept in touch with her. She worked at IBM and-- Well, this-- And she gave us advice on how to form a business plan, you know, all this sort of stuff. And then she said, "Okay, go off and try to figure out your name." Oh, I opened it. Wow. So we did. We went off to a classroom and we went on the chalkboard-- chalkboard, can you imagine, chalk? <laughs> So we went on a chalkboard and we wrote

up all sorts of names and stuff like this and we were, like, Automation for this and that. We were going to do teaching, teaching computers, because one of the first things I did after my freshman year is I actually taught some people over in Walnut Creek how to use VisiCalc and Word-- let's see, WordStar.

Stephan Adams: WordStar.

William Adams: And Basic programming <laughs> on TRS-80s or something like that. And so we thought, well, maybe we'll get into some education, you know, something like that. And then but we also liked automation, so we were just swirling around and eventually we ended up with Adamation was Education for Application.

Stephan Adams: Application. <laughs>

William Adams: Right? <laughs>

Stephan Adams: Yeah.

William Adams: I present to you <laughs> Exhibit 1. <laughs> This was the-- our first business card. And it says, you know, Adamation, Education for Application. And I was the Projects Coordinator.

Hsu: Oh.

William Adams: <laughs> That was my title. And this briefcase, this is an interesting story in and of itself.

Stephan Adams: Yeah.

William Adams: So we originally, we had to go and get a bank account, right. And so we needed a briefcase because we're going to have a business meeting, right. So we went and bought a briefcase and then we went and had the meeting and then we returned the briefcase <laughs> because we needed the money more than we needed the briefcase.

Hsu: <laughs>

William Adams: This one I think came after that, but this was the-- And then we went and had it was, like, really late at night and something and we went and had dinner at-- We had breakfast at, I forget, a place in Oakland that's not there anymore.

Stephan Adams: Dave's.

William Adams: Dave's, was it?

Stephan Adams: Yeah. Dave's. And we had pancakes.

William Adams: Yeah, pancakes.

Stephan Adams: Blueberry pancakes.

William Adams: But the bank thing was interesting. And we had done all this after we had finished our articles of-- it's not articles of incorporation but our business plan. We finished the business plan so we were celebrating. And we went to the bank and the bank actually would not give us an account, which was really interesting. It's like, well, why not? <laughs> And the guy, the banker, was telling us all about how businesses fail and that, you know, we shouldn't do it and blah, blah, blah. It's like, "What does that have to do with anything? Just open the account." <laughs> You know. They would not open us an account.

Hsu: Huh.

William Adams: That's very strange, right. And we actually complained to the Better Business Bureau and all that sort of stuff and I think that branch closed soon after anyway. But they would not give us an account. <laughs> That bank would not give us an account. But this is the briefcase. It still has our City of Berkeley original business license, you know.

Hsu: Wow.

William Adams: And all you see is the address, but this is the actual, like, City of Berkeley, California Business License Application. Computer consultant. It has my apartment address and our P.O. Box and all that sort of stuff. \$40 dollars <laughs> this cost me, right. So that's an interesting artifact.

Stephan Adams: That's awesome.

William Adams: And then I think there's, I don't know what else is in here. So that was the start of Adamation. And we were going to, we didn't know what we were going to do, but we were going to have a computer business of some sort, <laughs> you know.

Stephan Adams: And the reason why computers was because it was melding our two interests. William was really interested in computers and when, you know, and when we were in high school, I was into photography. And since I was in track, I got-- I took pictures of all the track events throughout the whole year and at our high school banquet I would, I put on a show for everybody.

William Adams: Yeah.

Stephan Adams: For the boys and girls track team. And so there was this computer, it was a computer by Kodak and it was called a Quadra Cue. [ph?] And what a Quadra Cue did is it allowed you to be able to synch music and multiple projectors at one time. So, you know, the carousel projectors, right, and you put slides in them. So I had I started I think my junior year I had, like, 8 projectors and then by the time I got to my senior year I had, like, 12 projectors and they were all tied together through this Quadra Cue

and I put on the slide show at our banquet. And that's what actually got me interested in film, yeah. And it's like, oh, maybe I'll be a film major after doing this. And so when we started Adamation, it was like, well, maybe we'll meld my multimedia experience and interests with your computer interests and maybe we can write programs that can be able to do what a Quadra Cue does, whether it be for education or entertainment or whatever. So that's kind of how we came together with our mutual interest, that multimedia was-- it wasn't even called multimedia in the day, it was something else.

William Adams: Yeah.

Stephan Adams: But today we would call it multimedia and he had the programming and somehow there's some connection there. <laughs>

William Adams: Yeah.

Hsu: Yeah. Well, so, I want to step back. So you started Adamation while you were both still in college, correct?

Stephan Adams: Yeah.

William Adams: Yeah.

Hsu: And so--

William Adams: Okay, it was 1984.

Hsu: Right, 1984.

Stephan Adams: April.

Hsu: Oh, wow.

William Adams: April, 1984.

Hsu: So how did you both decide to do this? Most people don't start companies while they're still in college. <laughs>

William Adams: Well, we just did.

<laughter>

Hsu: What was the thought process to, like, I want to start a company with my brother?

William Adams: Well, here keep in mind that this was the days where Apple Computer was becoming something.

Hsu: Yeah.

William Adams: Right, 1984.

Hsu: Yeah.

William Adams: Adobe was becoming something. And it was a common refrain at that time to think, I'm going to become the next Adobe.

Hsu: Ah.

William Adams: Just like today everybody-- It's different than today, though. Today everyone's looking for the big cash payout, right.

Hsu: Yeah.

William Adams: I'm going to go to Y Combinator. I'm going to get my founders, you know, payout and I'm done. We were about changing the planet at that time, right. Because Microsoft was young, you know. In the Valley we were all anti-Microsoft or ambivalent. It was like, "Who's Microsoft? Who cares?" Right, we got all these other things we're trying to-- And we were also in-- the Valley it was more about hardware, so Sun Microsystems was burgeoning. One of my roommates was an earliest employee at Nvidia, right. I knew Jensen Wang. So this was the environment. It's like we were all doing stuff like this, so it was then natural to just kind of go, "Okay, we're going to do this thing." <laughs> Right. Education be damned, I mean, and it was also a time where computer dudes were making lots of money, just like today. You know, it's like there was no fear that you wouldn't get a job, right. We always would say things like, "Ah, and if this doesn't work out I'll just get a regular job." Right. So it was just natural that you would do something like this. Stephan continued his education, got his Ph.D. and all that. I didn't. I didn't go for the Ph.D. I didn't even finish. I decided to start Adamation because I was confident that we would be able to do stuff, right.

Hsu: Right.

William Adams: I was confident in my own technical skills. I was just cocky. I was young. I was, you know, all that. So it's like, well, what do you mean, how did you think of doing that? How could you not do this? <laughs>

Hsu: Oh.

William Adams: Right? It's like how could you not. And in particular at that time, you know, maybe this goes back to the black thing is, like, we didn't know. We didn't understand the limitations that were ahead

of us. We didn't understand that no one was going to give us money. You know, we didn't understand that people wouldn't buy from us because we were black, <laughs> you know? It's like, "Whatever, we're just out here like everybody else, just going to make it big. We're going to be the next Adobe." <laughs> Right. So that was the environment.

Stephan Adams: And you felt that because everyone around you felt like that, right.

William Adams: Yeah.

Stephan Adams: You know, it's like, you know, Adobe is--

William Adams: The Golden Age, right.

Stephan Adams: So Adobe was-- Adobe was struggling just like us, right. <laughs>

Hsu: Mm-hmm.

Stephan Adams: Right, you know, all the giants of the day, of today were all--

William Adams: Small.

Stephan Adams: Came out of Berkeley and Stanford, right. So, you know, 128 Corridor is different, right. You know, they have their own stories that were on the 128 Corridor. But in the Berkeley-Stanford environment that you're very much aware of, at that time, it's just like you just thought like that. You know, it's like, like on the 128 Corridor at the time it was like people when Micro—when Facebook came up it was like, yeah, there's a whole lot of companies like that that came out of that Harvard, Cambridge, Cornell kind of cabal over there. And then on our side with Stanford and Berkeley, you know, this is where, you know, Sun, SGI, you know, Tandem Computers, remember them? You know, so, you know, all those things, you guys, like, you knew those people. Or you knew of those people--

William Adams: Intel.

Stephan Adams: I mean, I remember when the internet came, I think it was some of the guys from Yahoo or some-- I forgot the guy that would come over. It was one of the founders of one of those companies. He'd say, "Oh, there's this Ethernet thing. We're going to go link up your NeXT computers, right." You know, it's, you know, all that stuff--

William Adams: What?

Stephan Adams: You just didn't think that, you just thought that-- No one knew that computers would be where they are today, but during that time, it was an expansion of the user group mentality, right. "Yeah, we're all going to-- We're going to build shit." <laughs>

William Adams: Yeah. We're going to get it done, you know.

Hsu: Yeah.

Stephan Adams: <inaudible 01:39:31> inequalities [ph?] or barriers or any of that stuff. It just, it was something to do because it was a new frontier, let's go stake our place.

William Adams: Yeah.

Stephan Adams: Matter of fact, our very first ad in the *NeXTWorld* magazine, it was a cowboy galloping across, you know, the prairie.

William Adams: Yeah.

Stephan Adams: And, you know, we, you know, I forget the tagline that we had at that one before we got a professional ad company, but it was that whole idea like this is a frontier and we're just frontiersmen like anyone else, right.

Hsu: Right.

Stephan Adams: That was our philosophy.

<01:40:03>

Hsu: Right. So it sounds like William, you were the one who had the idea first to start a company?

William Adams: No, it was both of us.

Hsu: It was just simultaneously or--?

William Adams: No, I mean, we were always talking to each other so at some point, you know, on one of our walks we probably just said, "Okay, well, let's do a company. I think we can do the following," right. So we both just kind of-- that was a joint thing. It wasn't like I had an epiphany and I said, "Hey, Stephan, let's go start a company." It was like, no, we were just in it from the beginning. It was just like, you know, maybe one of us sparked it, but I was there when he was building the sprinklers, right.

Hsu: Right.

William Adams: It's like, "Hey, brother, come on. Let's go do this now." "Okay, let's go," right.

Hsu: Yeah. <laughs>

William Adams: Here's more artifacts. <laughs>

Stephan Adams: What's that?

Hsu: Oh, cool.

William Adams: This is the first Mac stickers. Apple Macintosh.

Hsu: Yeah. Oh, wow. Yeah.

William Adams: And then this is our first bank deposit. <laughs>

Hsu: Oh, wow. <laughs>

William Adams: Not from the bank that didn't allow us, this is from First Enterprise Bank. Do you remember that, Stephan?

Stephan Adams: Yeah. And that bank was owned by a black man--

Hsu: Ah.

William Adams: Yeah, First Enterprise. \$500 dollars, you know. And here's my-- Here's my first resume. <laughs>

Hsu: Oh, wow. <laughs>

William Adams: It's like one page. <laughs>

Hsu: Yeah.

Stephan Adams: So, you know, getting to the part about, you know, how did we get it started, I think it was a matter of I do remember distinctly this. How can we do something that melds our both of our interests? Because, you know, I then and still to this day lag behind William in the computer field itself, you know. Computers and the technology industry does not come to me innately. What does come to me is the solution side of things. So I don't, you know, the bits and bytes of computers, I can give a rat's ass about. But what I care about is I care about, well, what's it going to do for people and--

Hsu: Yeah.

Stephan Adams: How do you build a business that people care about and how do you get sales and all that stuff. That part of the business. So it made it really easy to delineate who was going to do what, right. I was going to be, like, the front guy doing all the business side and building the company and you're going to build the product. And then we stayed in our domains so we didn't, you know, there was no conflict of argument because I couldn't code. <laughs>

William Adams: And I don't like people.

Stephan Adams: And William didn't want to talk to people, so it was perfect.

<laughter>

Stephan Adams: And that's changed. Now he's a chatterbox. We can't stop him.

<laughter>

Hsu: So you mentioned, you know, the not getting the loan from that one bank.

William Adams: No, it wasn't even a loan. They wouldn't even let us open an account.

Hsu: Whoa, really?

William Adams: We weren't even asking-- we weren't even asking for money.

Stephan Adams: For money.

Hsu: Oh, wow.

William Adams: We just wanted to-- We had our money. We just they wouldn't let us open--

Hsu: You couldn't even deposit?

William Adams: We could not even deposit our money in that bank.

Hsu: Wow.

Stephan Adams: In Berkeley. In Berkeley.

Hsu: Wow.

William Adams: <laughs>

Stephan Adams: Of all places.

Hsu: Wow.

William Adams: Yeah. Forget the loan. I mean, no one's going to give us the money. But we could not even-- They wouldn't even let us open an account.

Hsu: Wow. So, so talk about, like, you know, getting the capital to start. How much capital did you actually need or were you actually okay since you were--?

William Adams: No, we didn't have any money. So we started by doing stuff by contract work, it was originally- So I think how we originally funded stuff was I still had the job at the Computer Store.

Hsu: Yeah.

William Adams: So I was using my income to fund whatever we were doing, right. Like I remember we had-- I had one friend, the one who went off to Nvidia later, who created for us a piece of hardware. It was a mouse adapter that allows you to use a mouse with a Mac, a regular mouse with a Macintosh. And we developed that board. I paid him personally. You know, we got the boards made, stuff like that. That's because I was working at the Computer Store. At some point we ended up I guess it was even before NeXT came along, we were doing some contract work for the guys that owned the building that our office was in. You know, we were doing, like, a mail merge program, printing labels and stuff like that. Turbo Pascal, Booya, you know. So we were just doing odd job stuff basically, anything to bring in dollars so we could employ a couple of people, we could print our magazine, you know, and disseminate. So we had, like, two or three employees and we were doing enough contract work that we could pay the bills, right.

Stephan Adams: William's being modest. He did all that contract work. I was waiting tables. <laughs>

William Adams: Okay, fine. I did all the work. So, <laughs> I worked. Yeah. Anyway, I did work for RTI, so Relational Technology International, the birthplace of Ingres, the Ingres database. I was doing a lot of test work for them in the early days of relational databases. And that money all just got plowed into Adamation, basically.

Hsu: Right.

William Adams: So, yeah, we were shoestringing it. We never got investors.

Hsu: Okay.

William Adams: At least not at that stage.

Hsu: Right. So was it easy to get those contracts?

William Adams: Yeah.

Hsu: Or did you face any--?

William Adams: I don't-- I wouldn't say-- I mean, you don't know what you don't know.

Hsu: Yeah.

William Adams: So did I not get a contract because we were being discriminated against or something like that? Who knows?

Stephan Adams: Well, you also, you worked for Barbara Lee, too, remember?

William Adams: Barbara Lee?

Stephan Adams: Barbara Lee. Barbara Lee's office. She's Congressman-- Congresswoman Barbara Lee.

William Adams: What did we do with her?

Stephan Adams: You did an office-- You did some office automation for her.

William Adams: Wow, I'm awesome. Okay.

Stephan Adams: Yeah.

<laughter>

Stephan Adams: And that was before she was a congresswoman. She was just a city-- She was an assemblyperson at the time.

William Adams: That wasn't Elihu Harris?

Stephan Adams: Oh, yeah, it was Barbara Lee.

William Adams: Barbara Lee? All right. So I did that. And I did some work with an office, a medical--

Stephan Adams: Hummingbird.

William Adams: Some other office.

Stephan Adams: Hummingbird.

Hsu: Hmm.

William Adams: Oh, I did Hummingbird. That wasn't medical. That was another one. So there was just various contracts that we would land somehow when we needed to and that was that. We did good work.

Hsu: Yeah. So how did you come to create this magazine, *Computer Dialogue*?

William Adams: Yeah. It started as *A Bit Short* was the first name of the magazine.

Hsu: <laughs>

William Adams: And I don't think I have a copy of that. I think I do somewhere but, eh. So we started because, you know, we were Education for Application, so we--

Hsu: Oh. That was the initial pitch for the company was in-- you were going to be an educational company.

William Adams: Yeah. But by the time that-- We were doing the magazine because we had advertisements, so we were selling some stuff, right.

Hsu: Right.

William Adams: So, like, here's an ad for an AT&T personal computer that we sold, right, that we could sell. Or, oh, we want to sell diskettes. <laughs> Or modems or whatever the heck else.

Hsu: So it's a way for you to sell ads in your own magazine essentially. <laughs>

William Adams: Yeah, pretty much. It's like, here's, you know, here's a Mac ad, right. And we probably had a relationship with Apple to pay us whatever they paid us for that. And we would distribute this on college campuses. So of course, college campus, okay, there's a Mac ad. Well, you know, that's it. So I actually wrote fiction. So I actually wrote stories in these magazines. And it's kind of funny because the stories when you look back at them now it's like wait a minute, now this is, what, this one's 1986, *Computer Dialogue*. And one of the stories in here, Derek Glazer was my pen-- one of my pen names. <laughs> And I would just write stories about what the future would look like, you know. And so just keep in mind, 1986, like, I remember one of these stories, it's probably in this one, this is May of 1986, was about-- So here's an ad for Prolog, you know, Borland's Prolog Compiler. But I wrote a story about, hey, what if you're sitting on the beach and you've got this tablet computer and you register for your classes while you're at the beach and blah, blah, blah. It's like, well, okay. That's exactly what you would do today with your mobile phone.

Hsu: Yeah.

William Adams: Right. But this is 1986. <laughs> Right.

Hsu: Yeah.

William Adams: I wrote another story which is now coming true about Artificial Intelligence and it talks about the woes or the potential woes of downloading too much information too fast without being able to comprehend anything. And that's exactly what we're going through today, information overload. And it was about, oh, there's this institute that was set up to help people recover from this information overload and blah, blah, blah, blah, blah. So I'd write stuff like that and then some other stories that were more,

like, technical, like, oh, here's how you set up your R:BASE database or here's how you draw lines, whatever. So the magazine was just a way to sell ads, right?

<laughter>

William Adams: And also to put stories out that were just kind of interesting for that day, right. So it was fun, exciting and that's why we did it. I think we only did that for, what, about the first Computer--

Stephan Adams: Yeah, it was about a year.

William Adams: The first magazine was *A Bit Short* and then we did the *Computer Dialogue* for maybe a year or so.

Stephan Adams: That was a year.

William Adams: Yeah. That was fun, man.

Stephan Adams: Yeah, it was.

William Adams: And the stories are just so prescient. It's like, damn, if that Negro didn't already know what was going to happen.

<laughter>

William Adams: It's like, yeah, I guess I had it up here. <laughs>

Stephan Adams: That's great.

William Adams: I actually predicted a lot of stuff that's actually happening.

Hsu: Yeah. <laughs>

Stephan Adams: No doubt.

William Adams: So anyway, yeah, so that was the magazine.

Hsu: Yeah, okay. And so how did you get from--

William Adams: How's this lead to NeXT? <laughs>

Hsu: No. I wanted to say, like, how did you get from doing contract work to doing your own products?

William Adams: The first products were with the NeXT, right, Stephan? I mean, we did the stuff with AVI but that wasn't really product. The first product we did was on NeXT.

Stephan Adams: Oh, I got a story. This is the very first product that we, you know, this is one of the-- I have like you have would have, should have, could have, this is one of those would have, should have, could have where big brother definitely knows-- doesn't know shit.

William Adams: Where our CDs [ph?] <laughs>

Stephan Adams: There was this day that William and his guys, they were, it was before the-- it was the Mac and then there was, of course, there was the PC and the PC didn't have the whole Window interface. And this was going to be our first product I thought or William thought and I talked him out of it. So he says, "Yeah, come on over to my apartment. I want to show you something. I want to show you something." And I go over there and he had a Commodore, it was I forget which one it was, but he had--

William Adams: It must have been my Commodore 64.

Stephan Adams: It was your Commodore 64.

William Adams: Yeah, it must have been.

Stephan Adams: Yeah. So it was a Commodore 64 and he goes, "Look at this. There's this thing." It was like a, it was a window, basically. And this is before, this was in DOS. It had a window.

William Adams: Not even DOS. I mean, it's just Commodore whatever. <laughs>

Stephan Adams: Yeah. So then he had another window and another window. And it had these multiple windows with these programs running in these windows. It wasn't called Windows at the time. And I looked at it and I looked at it and I didn't really understand it. And I said,--

William Adams: "Nah."

Stephan Adams: "Ah, that looks like a Mac. Who's going to want that?" <laughs>

William Adams: Nah.

<laughter>

William Adams: Nah.

Stephan Adams: No one's going to want that.

<laughter>

Stephan Adams: I said, "Stop doing that." <laughs>

William Adams: Nah. <laughs>

Stephan Adams: Ah, shit.

William Adams: That's all right. It wouldn't have gone anywhere.

Stephan Adams: Yeah. And we called it AVI, the Adamation Visual Interface.

William Adams: Did we?

Hsu: Oh.

Stephan Adams: Yup.

William Adams: Wow.

Stephan Adams: AVI. And we just named it and it was actually named after the guy that we were renting space with, a Jewish guy named Avi--

William Adams: Tevanian.

Stephan Adams: Stachenfeld. And so--

William Adams: Oh, Stachenfeld, yeah.

Stephan Adams: But we were really, he was the inspiration to us--

William Adams: Interesting. [ph?]

Stephan Adams: Because he gave us, he saw our potential and gave us free office space to be able to start Adamation. And so I said, "Let's call it AVI for Adamation Visual Interface and to give homage to this guy that gave us this space."

Hsu: Yeah.

Stephan Adams: But, but I remember the very first product that we-- we went to a fair at Moscone Center and I remember seeing this product, it was a presentation manager. I forget the name of it. It was one of the early-- It was like a PowerPoint but it was early, it was even before PowerPoint. And I said, "That's what I want us to do," because it was of course media and William had this knack for graphics. I said, "We should do that thing." So we kept looking at stuff and we'd say, "We should do this. We should do that." Oh, I know what it was called. It was called-- It was called Paint. I think it was just called Paint.

William Adams: You mean from the Mac?

Stephan Adams: No.

William Adams: Or something else? It's probably something else.

Stephan Adams: Yeah, it's something else. Anyways. But I think we want to get to products, because products was, like, you make money from products, right. You're not making it from labor, you make it from if you can market it, you can make money off of products. And, you know, and that was kind of the trend, going towards products. Because you know, packaged software was a thing, so, you know, it's like well, if you wanted to be serious in the software industry you had to have a product.

William Adams: Had to have a box.

Stephan Adams: You had to have a box.

William Adams: Yeah. So really, Who's Calling was the first product, right?

Stephan Adams: Right. And that product was a derivative off of a product that was the fledgling product called ACT, A-C-T at the time.

Hsu: Oh, the Symantec thing?

Stephan Adams: Yeah. So ACT was, you know, it was the first CRM product. And so when we first started, what we did is we got ACT and we got all the other products that were like it and we just kind of listed all the features that they all had and said, "Okay, what's the one feature that they all had in common?" And that was, like, the feature list. It's like the baseline is they all had to have a contact manager. Right. And some of them had other features and some of them didn't have other features. So that's how we did our first project was we just did-- I remember doing clippings and did a feature board and then compared features and to say, okay, here's the five that they all have. Let's do that, so.

Hsu: Yeah. Before we get too far into that, I wanted to go back to, you know, talking about the free office space. So you mentioned, so this guy Avi what was his last name?

Stephan Adams: Stachenfeld.

William Adams: Stachenfeld.

Hsu: Stachenfeld.

Stephan Adams: Yeah.

William Adams: Was it free or was it just rent deferred?

Stephan Adams: It was rent deferred.

William Adams: Yeah, we had-- We paid rent when we could.

Stephan Adams: We paid, like, \$300 dollars or something or a couple hundred dollars.

William Adams: Yeah. We paid something when we could.

Stephan Adams: Yeah. So the office itself, you'll get a kick out of this one. So you know, you know, where the West Oakland BART is, right?

Hsu: Yeah, I think so. That's the one near 580?

Stephan Adams: It's where we first come out of the tunnel.

Hsu: Yeah, yeah, that one. Yeah, yeah. Yeah.

Stephan Adams: Yeah. So it's in the hood, right.

Hsu: Okay, yeah. <laughs>

Stephan Adams: And, well, it's not the hood now but it was the hood then. So it was a shoot them up-ville. As a matter of fact, it was where the heroin tract of Oakland was at the corner of 15th and Center, which is-- 14th and Center and we were at 15th and Center, so it was just shoot them up-ville. And they had a, they were a beta site for Sony. It was called-- What was the name of the company, William?

William Adams: Yeah, it'll come.

Stephan Adams: Yeah.

Hsu: I have it written down as Catalyst Productions.

Stephan Adams: Yes.

William Adams: Catalyst Productions.

Hsu: Catalyst Productions.

Stephan Adams: Man, you really did your homework. Yeah, so Catalyst Productions. So Catalyst Productions, that's where they were at and they were a beta site for Sony. So they had all this wild Sony audiovisual equipment before Sony was who they are today, right. You know, Sony was, you know, it was Apex and some other people were really dominant at the time and Sony was just this small company coming up and they were their first company in the United States to have Sony gear on the audiovisual

side. And so we were upstairs and they were downstairs and we were trying to, you know, get this business going in West Oakland, so. I was going to go somewhere with West Oakland. Ah, it'll come to me.

Hsu: I mean, that's incredibly generous of them to offer you, like, you know, free or rent deferred office space.

Stephan Adams: Well, the reason why they did it was because there was a Berkeley connection here.

Hsu: Oh.

Stephan Adams: So they used to have a-- they used to have a business, Catalyst Production used to be it was a fledgling little company just him and his partner, Joshua Rancheck, I believe his last name was. And they were on University Avenue. And during the whole apartheid divestment movement, Catalyst Production, Avi, they did some videotaping for free for the students to help because they were social justice guys. And so they did some free video stuff and the guys that I was, that we were with that were, that they were doing this-- they were doing this free video stuff, they were complaining because I think Avi wanted, like, \$100 dollars or something like that just to pay for the film. And these guys were complaining and I piped up and I said, "You guys are crazy. Do you know how much money they're giving you guys in free services? And the fact that they want \$100 dollars just to pay for their video tape is nothing to ask for." And so when it was all said and done, Avi came over to me and he says, "I really appreciate that." He goes, "You get it." He goes, "I really would like to, you know, continue a relationship." So, you know, I would go in and I'd do some video work, because of course it was video, so I learned how to use the video cameras and their video tape machines. And then their company, he was a lawyer and he got, they got-- they did some video depositions for some big, like, tobacco case or something like that. And so their company was blowing up and they moved to West Oakland. And when they moved to West Oakland, they said, "Hey, Stephan, I know you and your brother are starting a business. Maybe you guys might want to have some office space and we'll give it to you cheap." And we needed office space so we said sure. So that's how we-- That's how we ended up in the office space.

Hsu: Wow.

William Adams: There you go.

Hsu: Yeah. Okay. Okay, so let's talk about NeXT.

William Adams: Yeah. What's NeXT.

Hsu: So clearly-- <laughs>

Stephan Adams: What's NeXT?

Hsu: So clearly you guys were fans of Steve Jobs already.

William Adams: Yes.

Hsu: Or at least William was.

William Adams: Oh, we both were.

Stephan Adams: We both were.

Stephan Adams: For different reasons. William on the technical side but me because of the showman that he was.

Hsu: Yeah. Right.

Stephan Adams: Yeah.

Hsu: So, you know, talk about, like, you know, why you decided to do your first product for the NeXT?

William Adams: Well, it might have extended from the Berkeley time. So we were into the Mac. We didn't actually do any product on the Mac. But as the, as Steve was going off to do the NeXT thing, we just both said, "Well, whatever he's going to do, that's what we're going to do." Because it's going to be exciting.

Stephan Adams: We missed the boat on the Mac, right.

William Adams: Yeah, we didn't have anything--

Stephan Adams: We just missed the boat, right. You know, because we were still trying to figure it out and we didn't have a setting. We were still-- William and I were working through our relationship too at the time, so we just missed-- we just missed the Mac, right. Even though we were in the-- we were in the middle of it, right? <laughs> We were in the smack middle of it at Berkeley, the Computer Center and BMUG and all that stuff, we just missed it. So then when Steve got kicked out of Apple and he started, we were just like, "We're not going to miss this one." And so it's like, whatever he does, we don't care what it is, we're in.

William Adams: Yeah.

Stephan Adams: Because we missed the first wave so we weren't going to miss the second.

Hsu: Mm-hmm.

William Adams: Yeah and somehow either through my connections through the Apple world or otherwise, we got connected to them. And I was doing contract work at Ingres at the time and we convinced Ingres to allow us to port the Ingres database to the NeXT as our first thing, right. So imagine,

you-- Imagine going to Oracle today as a developer who's doing some contract work for them and saying, "Hey, I'd like to port your database to, you know, Raspberry Pie."

<laughter>

William Adams: Right? So they said, "Okay. Sounds good," you know. Good Berkeley people that they were. <laughs> So that's how we were able to get a substantial thing. And on the NeXT side they're like, "Hey, having Ingres here would be great," you know.

Stephan Adams: Well, you got to remember, too, that so to add a little bit more color to this is that we were trying to look at an angle to get in because the NeXT box cost \$16,000 dollars and they were having a very limited developer program, right.

William Adams: Right.

Stephan Adams: They were only going to let in a handful and they were going to hand select every single one of the first wave of developers. And we got in. But the way that we got in was the way William was saying, but the additional color to it and from the business cunning side was that when William convinced Ingres, we had to get Ingres to commit and then we also had to get NeXT to commit and then I had to get an investor to commit all at the same time. Because we didn't have the money. We didn't have Ingres. And but the one thing that was certain is that NeXT computers was going to ship with this database called Sybase, right. And they were out of Emeryville. Sybase wasn't going to ship in time, right. They weren't done. And Ingres, RTI at the time, and Oracle was a distance, right. I remember it was Sybase, Ingres and Oracle, but Oracle was just, like, they weren't there. So, so what we did is we said, "Well, if we can get Ingres to beat Sybase to the punch, that will give Ingres an advantage and then we will look good in their eyes." And I think in the ad, we actually had an ad, and so an ad in the Ingres publication. I think it's in that materials that I sent you. As I make a-- We were going to unite Ingres and NeXT. And that was going to get us to get into the door as one of the first developers, and it worked, right.

Hsu: Right.

Stephan Adams: And then the argument for Ingres was, when we build our data, when we build applications, we'll build it on top of the Ingres database.

William Adams: The database.

Hsu: Right.

Stephan Adams: So Who's Calling is actually an Ingres app on NeXT. So we basically, like,--

Hsu: Right.

Stephan Adams: William with the-- with *Computer Dialogue*, using *Computer Dialogue* magazine to be able to sell ads, we're going to do the port and build all of our apps on top of what we ported, which we thought was going to give us a strategic advantage. And it did.

Hsu: Yeah. Wow, okay. And I think I read that, you know, due to that whole deal thing, like, because you didn't have the money to buy the NeXT machine itself to do the development, so you had to have both the deals in place on either side to even get the machine to do the development.

William Adams: Well, I'll tell you how skin of the teeth it was. <laughs> I was actually at the developer days where they show you how to program the thing. And I am sitting there doing the exercises and I get the tap on the shoulder, "Mr. Adams, come with me, please." <laughs> You know, and it's like, "I don't think your money's been wired in yet." <laughs>

Hsu: Oh.

William Adams: And, and I don't know what happened. Somehow magically the money did eventually show up, you know.

Stephan Adams: I was in Texas at the time trying to secure the money through a friend of a friend to try to convince him that, you know, this is going to be the greatest thing and that if he gave us \$8,000-- it was \$8,000 dollars-- \$8,000 dollars that we would make a good-- we'd make good and return the money in a certain amount of time.

William Adams: Yeah. But I was at the place and it was like, "You may not be going home with your box." <laughs>

Stephan Adams: Yeah.

<laughter>

Stephan Adams: You had to go there and then you would walk home with your box. And I was out. And so he was at the conference and I was just trying to secure the money at the same time.

William Adams: Yeah.

Hsu: Wow. Wow.

William Adams: So I was learning about speakers and listeners and writing in Objective-C and he was off trying to get money so I could go home with the box, so.

Hsu: <laughs>

William Adams: By the skin of our teeth, we got the box.

Hsu: Wow. <laughs>

William Adams: So the first product after that-- Well, so Ingres was the first thing we did and then after that we decided on, all right, we're going to, what are we going to do? And we came up with the Who's Calling thing and then followed on with that with What's Happening, which was the calendar program. And then we did all sorts of custom stuff for Alain Pinel Realtors.

Stephan Adams: Livewire was the other third one.

William Adams: Livewire.

Hsu: Oh.

William Adams: Livewire was pretty cool. If you think of today how we have all of our chat programs, right, Livewire was that basically back in 1990. It was a precursor to that kind of stuff.

Hsu: Right.

William Adams: It had some other-- Yeah, it was just live communications basically on the network. Ah, that was such-- that was fun.

Hsu: So What's Happening, the calendar program, like, I think in one of the materials that you sent me it looks like it was broken off from Who's Calling? Like that functionality had been part of Who's Calling and then--?

Stephan Adams: Yeah. There was this company that came out with a product, after we came out with Who's Calling, it was, like, ACT, right. It had contact management. It had scheduling and all this other stuff built into it. But there was this other company that was this guy, he had a product called Pencil Me In, which was a calendaring app. And Steven Jobs told us that you needed to be able to, your application needs to be-- Your interfaces need to be slicker and you need to just have it just do one thing. So then we said, "Well, we already had this calendar app. Let's just pull that out and then just make it a separate product," and that's how we came up with What's Happening.

Hsu: And--

Stephan Adams: And we did that play on words just for fun, right. You know, Who's Calling?--

Hsu: Yeah.

William Adams: What's Happening? Who's Calling? Livewire.

<laughter>

Hsu: Yeah. So how well did these products do? How successful?

Stephan Adams: Well, we did better-- They, well, it's more of how well [did] the NeXT do. <laughs>

Hsu: Well, yeah.

Stephan Adams: We were dependent on NeXT. We did better-- We had a couple of sites. You know, not sites, though, but we-- They didn't do that well. Because NeXT--

William Adams: We had a good deal. So you had the distributor in Germany, right.

Stephan Adams: Yeah. Well, we did better when we rebranded the product with others, like there was this-- There was a company out of Germany called Data Becker and they were a really big software company. And so we licensed our technology to them and they basically repackaged it in Germany. Then we also did a repackaging of the product with Hitachi for the Japanese market. So then we sold in Japan first through our own products and then Hitachi then rebranded it. And then we did another rebrand. Oh, that was Personal Studio.

Hsu: Yeah, okay.

Stephan Adams: That was a different--

Hsu: Yeah, I'll get there.

Stephan Adams: But, but those-- But Data Becker took us into Germany under a different brand. So we did better that way. And then what we did, like, when we get to the Alain Pinel and so forth, we used the database-- we used the toolsets from these commercial products then to do custom products.

Hsu: Oh.

Stephan Adams: So now we had this library and now we could use this library for different things.

William Adams: Yeah. And this is--

Hsu: Right.

William Adams: This is actually pretty--

Stephan Adams: I think the most successful product that we had and the most successful sale and William, correct me, of course, if I'm wrong, but was with Livewire, selling it to the CIA.

Hsu: Oh.

Stephan Adams: I think that was our biggest success.

William Adams: I'd rather not talk about that.

<laughter>

Stephan Adams: Well, we can, because remember, they sent us back, you know, they called us and, you know, of course the anti-Berkeley that we were, anti-military that we were, coming from Berkeley, holding up to tradition, we said, "Well, we'll never do-- We'll never deal with the military." Until they came calling and they asked, you know, as the Gulf War was-- What was the first one called?

William Adams: Yeah. Big thunder--

Hsu: The Gulf, yeah, it was just called the Gulf War, I think.

Stephan Adams: Yeah. So the first War. And they called and they said, theoretically, if you had a battle map and you moved the tank on one side, would the person see it on the other side? And well, it's not built to do that, but--

William Adams: Yes.

Stephan Adams: Theoretically, yes. So they asked a whole bunch of scenario questions. Then there was this guy that came down out of the mountains to visit us and he wanted to ask a whole bunch of little questions. And then we answered all these questions and that was it. And then the next thing you know we got this order for \$76,000 dollars for a site license for Livewire. And then it had to be delivered at Moffett Field.

Hsu: Wow.

Stephan Adams: So you had to take the box and we had to go to Moffett Field and deliver it at Moffett Field.

Hsu: Wow.

Stephan Adams: So we delivered the box at Moffett Field and then, and then it was like a couple weeks later, the registration card came back. Because we put our registration card in the thing, right.

Hsu: <laughs>

Stephan Adams: And they actually sent it back and all it said was, "CIA" and that was it.

Hsu: <laughs>

Stephan Adams: And we just said, "Oh, shit."

<laughter>

Stephan Adams: That was our most significant product sale, though.

William Adams: Fun times.

Hsu: Wow. Yeah.

Stephan Adams: <laughs>

Hsu: Well, you know, because it's been, you know, well reported that, like, the, you know, the security agencies were buying NeXT and--

Stephan Adams: Yeah. Yeah.

Hsu: So it's an interesting--

Stephan Adams: Yeah.

Hsu: Interesting--

Stephan Adams: So the Who's Calling, that stuff didn't make any sense to them, but the--

William Adams: Livewire.

Stephan Adams: The Livewire made a lot of sense to them and we believed that it would-- it did well for them.

Hsu: Hmm. Yeah.

Stephan Adams: And since it was a site license, we don't know where it went, how they used it.

Hsu: Right.

Stephan Adams: But all we know is they paid us a good chunk. You know, \$76,000 dollars at that time for a small business.

Hsu: Yeah.

Stephan Adams: It was a lot, you know.

Hsu: Yeah.

Stephan Adams: Nirvana. <laughs>

Hsu: Yeah. Were most of your other sales also site licenses? Or how-- What was the mix between individual sales and site licenses?

Stephan Adams: Well, the NeXT computer, you got to remember how expensive the NeXT was.

Hsu: Yeah.

Stephan Adams: So it wasn't the consumer-- You know, we couldn't sell to consumers. You couldn't sell to businesses because it was just too expensive of a machine. Matter of fact, before they came out with the pizza box, the cube itself, it cost I think it was like \$30 dollars for the CD, for the--

Hsu: The optical.

Stephan Adams: For the optical drive.

Hsu: Yeah.

William Adams: Probably more like \$300 dollars.

Stephan Adams: Was it \$30?

William Adams: No. I'm thinking it was more like \$300.

Hsu: Wow.

Stephan Adams: Was that \$300?

William Adams: It was not cheap. And they didn't store very much and they weren't very fast and they weren't very reliable.

Stephan Adams: Yeah. So we had the-- So you had to ship on that. So but when they finally came out with the pizza box, then we could sell products. But by that time they--

William Adams: They were done.

Stephan Adams: The price was, it couldn't sell to-- sell. So that's how we ended up doing the custom work because it was, like, okay, let's do the custom work because you can make money there. Because nobody made-- The only company that made any money on software that we believe is probably Lighthouse Design. And Andy Stone. Andy Stone did well because he found a good-- He found a good

graphics niche. And matter of fact, I think Andy Stone did the best as a small developer but then as a corporate salesperson it was Lighthouse Design. They did really well, too.

William Adams: And maybe Glenn Reid did.

Stephan Adams: And some other guys. [ph?]

William Adams: Maybe Glenn Reid with his Right Brain Software.

Stephan Adams: Right Brain?

William Adams: Mm-hmm.

Stephan Adams: Yeah, yeah. The publishing stuff.

Hsu: Right.

Stephan Adams: But we're not talking about tens of thousands of sales. We're talking about--

William Adams: Hundreds.

Stephan Adams: At most hundreds.

<laughter>

Hsu: Hundreds, yeah.

William Adams: Yeah, no matter which company, because NeXT just wasn't that prolific, right.

Hsu: Right. Right. I mean, so you mention all of these other third party developers. You know, were you-- How much did-- You know, was there a sense of community among all these NeXT developers?

William Adams: Yeah.

Stephan Adams: Absolutely.

Hsu: Did you know all these guys really well?

William Adams: Yup.

Stephan Adams: Yeah.

William Adams: Like we would go down to Glenn Reid's place down in Palo Alto.

Stephan Adams: Yeah.

William Adams: His back room that had the light switches that said, "Don't turn this off because it costs more energy to turn the ballast back on than leaving it on." You know.

Hsu: <laughs>

William Adams: And they're all like us, right. They're all, like, small companies, two, three, five guys, you know. Andy Stone with his castle out in wherever the heck he lived, <laughs> you know.

Hsu: Albuquerque, yeah.

Stephan Adams: New Mexico.

William Adams: New Mexico, he had this little turret.

Hsu: Yeah.

William Adams: You know, castle thing.

Hsu: I've seen it. It's pretty cool.

William Adams: Yeah. So, you know, we were all like that. We were all just, like, hey, are you my competitor? Look, man, we're all just trying to make it here. So, you know, we were all-- It was a small community, right. We were all pretty supportive of each other. There was not a lot of animosity. Lighthouse Design, I think we were one of the first purchasers of their-- They were selling a disk of media, you know, icons and stuff like that. We were-- Jonathan Schwartz who went on to run Sun, right.

Hsu: Yeah.

William Adams: And it's like, yeah. We all knew each other and we were all friendly and we all saw each other and supported each other and lamented together and--

Hsu: <laughs>

Stephan Adams: Yeah, we did a lot of lamenting together.

<laughter>

Stephan Adams: Yeah. Yeah, we did a lot of lamenting.

Hsu: Yeah. How did you guys get the profile in *NeXTWorld*? I mean, like, the premier issue?

William Adams: <laughs> It was Dan-- Was it Dan Lavin?

Stephan Adams: It was Dan Lavin that he thought-- He--

William Adams: Was it because of him?

Stephan Adams: It, well, no, it was because of Jeanine.

Hsu: Oh, okay.

Stephan Adams: What's Jeanine-- The publisher name-- I remember her first name being Jeanine. And, you know, being a woman publisher in a male, white male dominated publishing scene, she saw the, you know, she looked at it, I believe, I'm just thinking about why she would do it, is that it's like here's this black company and with this really different computer with Steven Jobs and all that. And it was one of those things that she, I believe that she looked at it as this is fitting for something that's revolutionary in the computer industry. Let's put a black company on the front. Matter of fact, we were two days away from being on the front cover of the magazine.

Hsu: Wow.

Stephan Adams: Steve Jobs gave her so much gruff about his photo shoot that he was going to withhold authorization for, you know, the photo shoot that they did. He didn't like the photo. And Jeanine told him, she says, "If you don't give us a green light by, like, Friday," and it was like a Wednesday, "We're going to put Stephan and William on the cover of your premier magazine."

Hsu: Wow.

Stephan Adams: <laughs>

Hsu: Wow.

Stephan Adams: So they authorized the photo and then we ended up in the middle of the magazine. But, you know, the premier issue, what did they talk about? A black company. <laughs>

Hsu: Yeah. Right.

Stephan Adams: Right. But we were, but, you know, and I think outside of the social side of it, we were really further ahead than our peers. Because we had done more. Like, Lighthouse Design, they were doing, like, odds and ends type of stuff. Andy Stone was doing publishing, which was interesting. But they weren't doing things that were really taking advantage of the computer, right. Andy was, you know, with the graphics stuff, right. That, it was built for that. But I think from a business standpoint we were pushing the envelope further than all of them. And I think our story was more unique, right. Andy Stone's story was-- has been told 20 times, right. There's a thousand Andy Stones in the industry, right. There's a lot of

renegades like him. There's a lot of corporate types like Jonathan and his crew coming out from the East Coast. Those stories had been told before but no one had told a story like ours, right. black company out of Berkeley starting this thing. No one's heard that story in the industry, so I think that they gravitated towards it because it's like, ah, these guys are legit and no one's told this one before. I think that's how we ended up on the first cover-- I mean, the first magazine.

Hsu: Wow.

Stephan Adams: And it helped that we also bought ads, too, right, you know, in the first--

Hsu: Yeah.

Stephan Adams: You know, we bought ads. So we were a legitimate company. We weren't just these guys. <laughs>

Hsu: Yeah.

William Adams: Just these guys.

<00:51:25>

Hsu: Yeah. <laughs> So I guess next, maybe let's talk about the realty application with Alain Pinel.

William Adams: Yeah.

Stephan Adams: Yeah.

Hsu: Yeah, I saw, I watched that video that you sent. <laughs>

William Adams: Wasn't that awesome?

Hsu: Yeah. <laughs> That was pretty interesting.

William Adams: You got the propaganda, good. Doesn't that look like-- Doesn't it look like it's from the seventies or something?

Hsu: I mean, it does have that--

William Adams: All the big hairdos and all that.

Hsu: It does have the eighties vibe and--

William Adams: Yeah.

Hsu: I mean, I do-- I do remember reading, you know, about the Alain Pinel, like, deal for NeXT machines in, I think in one of the *NeXTWorlds*. So that, you know, was a pretty important, I guess, sale to them.

Stephan Adams: It was very important. And matter of fact, I don't think people-- People don't realize how important that sale was.

Hsu: Really.

Stephan Adams: And actually, actually, I have two Steve Jobs stories. And one of them, my favorite of the two is actually the other one. I'll tell you that one. But this one happens to be about Alain Pinel and how the Alain Pinel sale actually happened. Because I think very important to, because it tells a lot about Steven Jobs and his charisma beyond--

William Adams: I have to take a bathroom break.

Hsu: Okay.

William Adams: Go ahead. Tell the story.

Hsu: Okay. All right.

Stephan Adams: Actually, can I-- Actually, let's take five because I actually have to switch computers because this computer is going to die and I need to bring another computer out.

Hsu: Okay. All right. That's a good idea.

William Adams: Great.

Stephan Adams: So--

Hsu: Let's take a break.

Stephan Adams: Okay. I'm going to leave my-- Actually, if I put the-- touch this--

William Adams: You can just unplug it.

Stephan Adams: Should I just-- I'm going to just keep it running. I'll be five minutes.

Hsu: Okay. All right. I will also pause here. All right. And pause here.

<break 02:21:19>

Hsu: And that's starting and recorders started on your end? All right.

Stephan Adams: Yeah.

Hsu: Okay. Okay, so, yeah, so we were going to talk-- Stephan, you were going to tell us your Steve Jobs stories. <laughs> And your--

Stephan Adams: Yeah. Well, Alain Pinel-- I'd like to start with Alain Pinel and remind me if I forget about Ross Perot, but--

William Adams: <laughs>

Stephan Adams: But the Alain Pinel story is so it's one of those things that I don't think people really realize how significant Alain Pinel was as a customer to NeXT because it was the first validating commercial customer. And it transformed an industry and if you look at the industry today of real estate, I think you can trace it back to Alain Pinel because what we did with that area's software is where the industry is today. <laughs> But anyways, it all started with this guy, his name is Mark Richards. Was it Richards?

William Adams: Yeah. Mark Richards.

Stephan Adams: Mark Richards. He was a sales guy over at Tandem and his wife--

William Adams: Was it Tandem or SGI?

Stephan Adams: No, it was at Tandem.

William Adams: Oh, all right.

Stephan Adams: So his wife owned or she was the President of Alain Pinel Realtors and they had an office in Los Gatos. And the Chairman of the company was a gentleman by the name of Paul Hume and he was a backer of it. And she came from Cornish & Carey and she wanted to start a-- You know, she wanted to revolutionize the real estate market into what her vision was, was she was going to take real estate-- she was going to take the top real estate agents from the top firms and create Alain Pinel. And the way that she looked at it is she just, she fundamentally looked at that real estate market differently. And she would talk about all the time how the real estate was, that people thought that she was in the real estate business, that she was selling houses. And she said, "No, I'm not in the real estate business. I'm in the agent business." So my business or her business was to be able to put a product on the desk of the real estate agent so they could be more productive so that they could sell more and that she would pay them less commission because she wouldn't need to pay-- Oh, no, she would get more commission. She would pay-- She would-- The other way around. She would actually get more from them because she would make them more productive so they'd have more free time. So she wanted to put a NeXT computer on every person's desk because if she put a NeXT computer on everyone's desk it would differentiate her business from the other-- from Cornish & Carey that was running the market. And she only wanted to focus at the million dollar homes. So her first office in Los Gatos, I think she paid I think it was \$800,000

dollars to outfit the entire office with NeXT computers. And Mark Richards and when he came to us, he said, "I'd like you guys to--" He saw NeXT because, see, he was at Tandem, he understood the significance of NeXT and the networking capabilities of the machine. So that's why he was approached, why he came to us. So he was basically the scout and he drove down from Los Gatos and met with us and talked to us about what he wanted to do. And then he introduced us to Helen and Helen was like Steve Jobs and like all of the small NeXT developers, she was a renegade and she wanted to be able to differentiate her business. So that's how she got into it. And she told us her vision of how real estate should be done on NeXT and then we built the apps and William designed it, William and his wife at the time, they designed the applications to transform real estate. And I saw it as an opportunity as a marketing thing, so I got NeXT to pay for that video as something that we could do together. And so they actually paid for the development of that video that we did. But in that video it shows you what the applications in that time was and the applications that William built at the time are the types of applications that are just now coming online today, <laughs> you know.

William Adams: Well, I can talk a little bit about the technology that went into Alain Pinel. And it all seems kind of esoteric now. As Stephan said, it's like well, here we are, what, that was in 1990-something, and just keep in mind, we didn't really have the internet like we have it today. It wasn't as widespread, right. We were still on dial up, so we didn't have high speed internet to your home. We certainly didn't have HTML. No web browsers. No JavaScript, no CSS. None of that. We didn't have central databases. We didn't have cloud storage. So we had things like the MLS, Multiple Listing Service. It was a dial up service. You dial up. You type in some query. You get a list of properties, right. That was the MLS. Not like you can go on Redfin or Zillow today, put in some, you know, none of that. None of that existed. So one of the first things we had to do was an application for modem sharing, because you don't want to have a modem on every single desk, right. That would be like how-- I don't remember how big the offices, but let's say it was 30 modems. Like, no, you don't have 30 lines going into a business. You had, like, 10 at most. So the first app that we did was Modem Farm, if you will. There were maybe 10. I don't even think there was 10, there was probably 5 or 6. Anyway, so some fixed number of modems that were connected to actual machines and those 10 or however many there were, were connected to phone lines. And if you were at your desk and your application needed to dial out, it would essentially talk over the local Ethernet to a modem that was open, so we kept a little tiny database that said, "Hey, I have an open modem and it's not being used." So we would route your request to a modem and at that machine that had that modem, it would dial out and then we would establish the connection between that machine and your machine and the information goes back and forth, right. So if you're not using your modem it's being used by somebody else so we would, you know, just kind of go around and say, "Well, where's an open modem?" And if all of the modems were being used then you'd have to wait. But that was-- that never happened. You know, there's never 10 people on there at the same time. So that was the first piece of tech that was the basis for other stuff. The second level was okay, I don't want you to have to dial out to the MLS to do your searches every time. What I really want to do is copy the entirety of the MLS to a local database, right. Ingres, of course. So what we would do was we'd do an initial dump of the MLS and then all we'd have to do is keep it up to date, right. You could query and get the changes since the last time you got your query and then just apply those changes. So, okay, that's great. So now when most of your MLS queries can just hit the local database and in the background we would have an automated process that would just dial up the MLS, get the latest downloads-- I mean, the latest changes and apply them to

the local database. Right. So this is having a not quite distributed database yet, but at least a local cache, right. The third thing was okay, this came in when Alain Pinel started opening up multiple offices. They started in Los Gatos then they opened another one and another one, you know, to where I think they had three offices at one point. And the challenge was when they make changes, a new property comes into the office, right, they will enter it locally first and it takes a while to get through the MLS system. It might be a few days, right. But they want to have access to that data as soon as possible. So we came up with a scheme, a distributed database scheme. So you have your local caches in the three offices. The task was, I made some changes to the database, either to a listing that already exists or I've entered a new listing or I've deleted a listing. I've got a change log, essentially. So we needed to synchronize these three databases across these three offices every night, right. It's like, well, how are you going to do that? And again, there's no internet, <laughs> so, so what's the communication channel here? So what we did was we took the change log and we emailed it to each of the offices. So I've got my change log. I mail it to you and you and you do the same, right. So everyone now has everybody else's change log and then we do a local resolution of the change log against the local database, right.

Hsu: Wow.

William Adams: So now all the three databases are in synch again. And we had to resolve things like well, which changes first, you know. It's like time stamped and all this sort of stuff and you had to have a universal clock and blah, blah, blah. So we did a distributed database based on email. <laughs>

Hsu: Wow.

William Adams: Right. Now we do this today but we have more sophisticated real time synchronization. Like when maybe you use Paxos as a protocol or maybe you use-- Ah, whatever. Let's just say Paxos. This was before all of that, <laughs> right. So we had to keep all these things in synch. And it's like, okay, so now we got that. The other part of it was complex forms because if you ever look at a house listing, there's like 100 attributes. You got a checkbox and fill in the blank or whatever. And it's like, well, how you going to do that? I mean, just keep in mind that at that time the most extensive forms-based things was like, you know, your standard little window with 10 text fields, right. Not a form that has, like, 100 checkboxes on it. That didn't exist, right. And so we created a way of doing that and we had a real way of doing minimal refresh and redrawing and all that sort of stuff. And this is all on Display PostScript, right, so it was very graphical and all this sort of stuff. So we had to create all the technology that went into, like, well, how do you connect to the database? How do you store data in a local dataset? How do you create these forms? So we created these pieces, you know, that we could then reuse like Stephan said before. So now when you need to do the next app, it was like, oh, yeah. Take your forms thing. Take your database connection. Take this thing. Slam it together. Now you can create an app in, you know, a couple of weeks instead of a couple of months, right. Back then this was super interesting, right. Nowadays it's like, oh, yeah, just throw in some, you know, React framework and, you know, HTML, blah, blah, blah and you're done and it's like, yeah. You still have to worry about the database, <laughs> you know. And then the last bit of technology that we did there was what eventually became Livewire. They needed to have a way where an agent sitting at their desk, phone call comes in at the front office. The receptionist needs to be able to say, "So and so is calling about this property." And you need to get a popup on your screen

and you can reply, "Oh, send the call through," or hold it or whatever, right. So Livewire was exactly that, right. It's this instant messaging thing that allows you to communicate with anyone. So you'd have your list of people that you could communicate with. You go, click, I'm talking to Harry. Type in your message. Harry gets the message. It pops up on, you know, his little Livewire thing. He can respond. You're now in an instant back and forth chat. You know, you can save the chat or you can delete it, whatever, but that's how it works, right. So all of that technology was birthed from that, that one developing the ERES [ph?] software, right. And again, what, this is 1990-ish, so it was a long time ago. <laughs>

Hsu: Yeah.

William Adams: Thirty years ago. Do you believe that, Stephan? This is 30 years ago.

Stephan Adams: Yeah. That's amazing.

William Adams: <laughs>

Stephan Adams: It feels like yesterday.

William Adams: It feels like yesterday. <laughs>

Stephan Adams: There was also--

William Adams: And now we're catching up finally. <laughs>

Stephan Adams: There's something else that's, you know, one of the parts that I forgot to mention about this, about the sale. We wanted-- Steven Jobs wanted to-- didn't believe that Alain Pinel was viable because one of his executives' wife was a top agent over at Cornish & Carey and of course they badmouthed--

William Adams: Alain Pinel.

Stephan Adams: Alain Pinel all the time. So Steven Jobs already had this preconceived-- he already had this preconceived notion that they weren't going to be a qualified buyer. So, but anyways, we convinced them to be able to take a meeting. It was a nighttime meeting and it was a nighttime meeting, it was Helen and-- Helen Pastorino, the CEO, Mark Richards who was actually working for us by that time and decided to come over. I said, "Hey, you should work for us." And he ran sales for us. And then Paul Hume, who was the Chairman. And then Steve had his cadre of people and it was a night meeting. He put us at night because I think he wanted to say, "Yeah, you guys aren't serious, right?" So, so Steven Jobs, you know, we had the pizza box version of NeXT just came out and so he gets up and he just sells the lights out of this product. You know, he says why this is going to transform this and that. And he gives this whole vision thing, right. And if you were an Eskimo, he would have sold you ice that night. And so he gives a song and dance about the NeXT and why it was such a great computer and it was going to be the right thing for Alain Pinel. And the two things that were so distinct about that meeting was that he knew

enough about Helen's business that he could speak at her level of why this machine was going to help her business. That was the best part of the sale. But the determining thing happened was that-- the determining factor of why Alain Pinel went with NeXT computers was at the end of the night in the parking lot and we were having our debrief. And because at the end of Steven's presentation, Paul Hume, the person who could write the check, said, "I'm buying." It was just like, okay, he goes, "I'm in." And then in the parking lot we were kind of like having the debrief and asked them, "You know, I thought we were going to talk about this. Why did you make a decision so quick like that?" He goes, "Steven," he goes, "I don't know about anything of what that man just said in there." He goes, "I have no idea if what he said is true." He goes, "I don't even know what he was talking about. But I'll tell you, one thing I do know, he's going to deliver what he said he was going to deliver. So I believe him. I'm basically buying him--" And the thing was is he was not a Steve Jobs groupie. You know, he was a very strict, stern businessman. And what he was buying is, like, I'm not buying those boxes. I don't care about those boxes. I'm buying that guy. And he didn't know about the Steve Jobs persona. He just knows, I'm buying him and if those boxes are what I'm buying to get my advantage in the market place, that's what I'm buying. And that, that goes to show you the power of the individual, right. It was more Steve-- He bought Steve Jobs more than he bought NeXT computers and then it was up to us to be able to deliver the vision of what Steve Jobs said. Because it wasn't NeXT that developed the apps, we developed the apps or William developed the apps. <laughs>

Hsu: Right.

William Adams: Our team developed the apps.

Stephan Adams: So that story is of the sale I think is just as important as the applications that were built because it goes to show that Steven Jobs' passion for his product was more important than all of the bits and bytes of what was in the box itself.

Hsu: Yeah. I was curious, you mentioned, you know, this connection with Alain Pinel started with Mark Richards. How did that happen? How did he introduce you to Alain Pinel?

Stephan Adams: He saw the NeXT[World] article, right.

Hsu: Okay.

Stephan Adams: He saw us as the NeXTSTEP. And before that I think William, was the LA County Sheriffs before Alain Pinel?

William Adams: I thought it was after. Well, there's also William Morris in there, right?

Stephan Adams: Oh, yeah.

Hsu: Yeah.

Stephan Adams: Yeah.

William Adams: So William Morris, maybe that one was the first one and then LA County Sheriffs and then Alain Pinel.

Stephan Adams: Yeah, that's the right order. That's the right order. Yeah, so, see, all three of those, like, the LA County Sheriffs, which was tied to Rodney King and the whole beat down and oh, my--

William Adams: Yeah, that one got cancelled. <laughs>

Stephan Adams: Oh, my God, that was terrible.

William Adams: That was on the verge-- That was on the verge of closing and then, "I'm sorry."

Stephan Adams: I know. We were waiting by the--

William Adams: "I'm sorry, we got to stop. We got to-- We got an issue."

Stephan Adams: They actually-- You're going to appreciate, this is a great story. So Booz Allen and Hamilton, you know, one of the big accounting firms or consulting firms at the time, they had a contract with the LA County Sheriffs' Department and they were going to be the prime contractor to upgrade and automate the LA County Sheriffs' Department. So they had this contract. They'd been working with us for months on it and we had cleared the decks, we're going to do this deal. We were-- We faxed it. We, all three entities had to fax at the same time the agreement. So it was going to be like a million dollar agreement for us. We were so excited. So NeXT sends in their faxes over, their part of the agreement. Booz Allen faxes theirs. We fax ours and we're all waiting. We're all waiting for the fax for the LA County Sheriffs to sign it and send it back. So a fax came back. It was a cancellation fax because the LA riots had just started that day with the whole Rodney King beat down. So they cancelled the contract and they referenced, you know, on the back of the contract they said, "This contract is cancelled under hurricanes, earthquakes, fires and riots." And so you see that on the back of a contract, it's like, yeah, riots, whatever. They cancelled the contract because of a riot. They actually employed that clause. And it was a huge contract for NeXT. It would have been-- It would have changed the fortunes of NeXT because it would have then validated them throughout the rest of the police force throughout the country. But it got cancelled because of the LA County riots.

Hsu: Oh.

Stephan Adams: And we almost went out of business as a result because we had cleared the decks waiting for this opportunity. And it was, like, hundreds of computers for NeXT and we were going to build all the software applications for them. So that's a story that no one knows about because it didn't happen.

Hsu: Yeah.

Stephan Adams: But that was one, that was going to be one of their biggest sales that they could have talked about. Because they couldn't talk about the military sales.

Hsu: Right.

Stephan Adams: But they could talk about this one. <laughs>

Hsu: So that's interesting. So because I think I read about that in one of the later *NeXTWorld* magazines. So you're saying that it never actually went through.

William Adams: Correct.

Stephan Adams: It never went through.

Hsu: Oh. Okay. Wow.

Stephan Adams: I think it got published before-- I think that the marketing engine of NeXT got ahead of the reality.

William Adams: Yeah. It was on the way. It was moments away. <laughs>

Hsu: Yeah.

Stephan Adams: It was moments away. The day that we were all signing there was a riot. <laughs>

William Adams: C'est la vie.

Hsu: Yeah. So were you also involved in the William Morris sale, too?

Stephan Adams: Yeah.

William Adams: Yeah.

Hsu: Oh, wow.

William Adams: Yeah, we were there, we were doing this-- We were actually doing the software. We were actually flying down there. At the end of it, NeXT actually took over the software development. Working with William Morris is like at the end of the day they want to be talking directly to Steve Jobs, you know. Even though we already delivered, you know, all the software, it's like, "Ah, we want him to be the--" It's like, "Okay." But we were there, you know. They got that sale because they could see things-- Like we used Livewire or a precursor to Livewire. We used our database technology. We created a system for them that was tailor-made to their specifications. All of that was us doing the work and then eventually NeXT--

Stephan Adams: You got called-- Remember we got called off the show floor, right? Remember were were at an expo or something like that and--

William Adams: Oh, yeah, yeah. We were in-- Were we at Moscone Center?

Stephan Adams: Yeah.

William Adams: Yeah. So we were--

Stephan Adams: No, no. We were in LA. No, we were in New York.

William Adams: Yeah, Moscone New York--

Stephan Adams: We were in New York.

William Adams: No, yeah, right. Javits.

Stephan Adams: The Javits Center.

William Adams: Javits.

Stephan Adams: In New York.

William Adams: So we were actually in, I don't know if you want to hear the story or not, but we were in the Javits Center in New York giving a demonstration, you know, I forget what the show was that we were at, but we were giving a demonstration of NeXT stuff that we had done. And we got this call, it must have come from NeXT, huh?

Stephan Adams: Yes. They came to the booth.

William Adams: Yeah. So they say, "Oh, we got this thing. Can you fly on out?" <laughs> you know. And we're like, "Uh... okay." And so we went back to our hotel room and I think I was coding that night, right.

Stephan Adams: You coded that night the demo.

William Adams: Right.

Stephan Adams: You coded the demo that night.

William Adams: So I coded it. We go back to the-- And this is classic Silicon Valley shit, right. So we go back to the hotel room. <laughs> And keep in mind, this NeXT computer is in a computer case that's the size of a stevedore, right. And pulling that thing out, setting it up in the hotel room. I'm coding up some demo, whatever the demo was. And we were supposed to give this the next day. <laughs> Fly over to

wherever we're going and give this demo. And we wowed them enough, they were like, "Yeah, okay. Let's do this." So, yeah, we were there for to help land the sale to William Morris Talent Agency.

Hsu: Wow. Wow. Damn. <laughs> Yeah, so--

William Adams: Fun times, huh? <laughs>

Hsu: Yeah. So, so many of these sort of, like, sales were dependent on this custom work that you guys did.

William Adams: Yeah. In those early-- Yeah.

Stephan Adams: And none of the other companies did it. Right.

William Adams: Right.

Stephan Adams: Like the other companies like, you know, like all those other small companies, they were all application guys, right.

William Adams: Right.

Stephan Adams: Since William was doing all this stuff with Ingres and had all this custom work, that's why we were able to do it.

William Adams: We were framework sized. [ph?]

Stephan Adams: And we already had a library of tools from our packaged software to be able to go and repurpose them, whereas all the other guys, none of them were enterprise guys. So that's why they kept coming to us. And the Booz Allens of the world, they didn't have a bench yet. So none of the consulting firms had a bench and all the small developers, none of them had any enterprise experience other than William. That's why all those big customers came to us. And because we were the only ones that had the expertise and the libraries to do the work.

Hsu: That's really interesting because it sounds like you guys almost were the pioneer for NeXT's pivot into this mission critical custom enterprise app market.

Stephan Adams: Yeah.

William Adams: Well, that's where the naming came from. <laughs>

Hsu: <laughs>

William Adams: Mission critical custom applications. That was us.

<laughter>

Hsu: So you were the first to do it.

William Adams: Yes.

Stephan Adams: Right. And the way-- And, you know, and anyone-- And, you know, people would say, "Ah, yeah, I was there. I was there, yeah." But we actually had the customer engagements to prove it, right. So it's not, you know, it's like William Morris, the LA County Sheriffs, Alain Pinel. Those were all-- all three of those were early, you know, do or die situations for them, right. There were others after that, but by the time the other ones had come, then other companies, other consulting firms were starting to get a bench. But before the bench was developed, you know, the first-- these were the first-- these were the hallmark companies. And then the packaged software never took off. But and the reason why we survived longer than all the other ISPs-- I mean, and ISP-- that's the business I'm in now. <laughs> Than the software developers, is because we had all this custom work that was off of our packaged software, right. And all the other ones died, except for Lighthouse.

William Adams: Yeah, yeah.

Stephan Adams: Yeah.

Hsu: Right, right. Yeah. And I think it's really interesting because, you know, you also had this database from very early on.

William Adams: Yup.

Hsu: And later on, you know, NeXT developed their own DBKit, which then became Enterprise Objects Frameworks. But you guys already had this, you know, a similar functionality--

William Adams: Yep.

Hsu: Right from the jump.

William Adams: Right. So they didn't have DBKit in the beginning. We created-- What was it called? The actual objects were called, like, DataManager and DataSet and then the forms one was, I forget the-- The forms was probably called Forms, <laughs> you know. But, yeah, we had to do all that entity management and database connectivity and blah, blah, blah. I don't know if any of that stuff that they came out with was patterned after what we did but, you know, the pattern's pretty common and we had done it first, right.

Hsu: Yeah.

William Adams: So, yeah, that stuff's very useful.

Hsu: Yeah. Did you participate in the Bay Area NeXT User Group?

William Adams: Not really. I don't think so. I don't know if we ever gave a presentation there or something, but we were busy writing code, not doing the user group.

Hsu: Right, yeah.

Stephan Adams: No, we were before that. I think by the time that group kind of came up like a BMUG type thing, we were all kind of like, "Ah, we don't need that. We're already-- You know, we're already talking to the sales guys. We're already-- You know, we're already doing stuff." Right. That community was kind of after the real stuff had happened. And then, you know, then when that stuff started to implode, you know, we were-- You know, we were already able to get off because we saw it coming because we were on it for so long.

Hsu: Yeah.

William Adams: Then we were on to BeOS.

<laughter>

Stephan Adams: Yeah.

William Adams: Well, Taligent first and then BeOS.

Stephan Adams: Yeah, Taligent.

Hsu: Right. <laughs> But so you mentioned--

Stephan Adams: There's another--

Hsu: Go ahead.

Stephan Adams: Oh. Go ahead.

Hsu: No, go ahead. You're good.

Stephan Adams: I was going to say, relative to this, I just wanted to-- It's not linear, but it's a story that I want to tell because it's my favorite NeXT story or at least my favorite NeXT story that I was part of, <laughs> right, you know. It has to do with a dinner one night. And it's very similar to this Alain Pinel story from the standpoint of what really matters. But it was somebody else putting Steve Jobs in check as far as what's really important because sometimes he got, you know-- You know, he'd throw around lots of buzz words, right. You know, "interpersonal computing," whatever that meant. And, you know, there was all these things that, you know, his focus was always about the technology and always about the box.

And that was limiting and I think that's one of the reasons why NeXT never really took off, right. You know, and then there was the whole IBM thing, right, you know, and they sold the license to IBM and they said, "Well, that was only for 1.0. You don't get the rest of the stuff," and they screwed IBM and that was a big mistake. But there was a night that was at Stars Restaurant in San Francisco. Stars is no longer there. I'm not sure if you remember it, but it was a high end restaurant. It was actually the owner of Stars, I forgot the guy's name, he was actually as well as Alice Walker, part of that whole cabal. But anyways, Steve Jobs was, you know, he was a-- He liked that restaurant. So we had this customer night and it was a very important night. And it was early in NeXT when they started migrating into custom into, you know, dealing with big enterprises. And so NeXT had this dinner. They had all their executive team. They had their strategic IS software, independent software developers, us and some other ones. And then they had their customers, right. And so Steven Jobs gets up at the dinner and he starts talking about how great the box is and blah, blah, blah, blah, blah. So then he sits down and Ross Perot was, right, the first investor in NeXT. So Ross Perot gets up at the dinner and he's just a really plainspoken man and he just gets up at the mic and he says, "I'd just like to thank you, Steve, for bringing us all together tonight, blah, blah, blah." Then he says, and this was the best part, he says, "I'd like all the customers in the room to stand up." And all the customers in the room stand up and there was a like a handful, right. There was less than a dozen, right. And there was, like, probably there was--

William Adams: A hundred.

Stephan Adams: A hundred or more people in the room. So a handful of people stand up. And then Ross Perot says, "For all those that are sitting down, applaud those who are standing up because that's why we're here tonight." <laughs> Steve Jobs just had this blank look on his face because what Ross Perot did that I think this was the miss that Steve Jobs had with NeXT at the time, was that Ross Perot broke it down to the customer is what matters. And Steve was, it's the technology that matters. And I think in the early days of the big lift, NeXT as a company missed that. And Ross Perot I think didn't invest further because of that, because we lost sight as a community that it was about the customer. It wasn't about the technology, right. So, so unlike-- So it's the opposite side of the Paul Hume story about him buying because of Steven Jobs. And then Ross Perot saying it's about the customer. Don't forget about the customer. It's not about the technology.

Hsu: Okay.

Stephan Adams: But anyway, I just, I like that story so I told it, so it's done.

Hsu: Yeah. So that's the other story that you wanted to tell.

Stephan Adams: Yeah, that's the other story.

Hsu: Yeah. Okay.

William Adams: The Ross Perot story.

Stephan Adams: I tell both those stories because to me, where I am in business today, I harken back to those stories of my own purpose in business, right, is like, it's about the customer, not about the technology. Technology is just the tool to whatever the customer wants to do. Steven Jobs with Alain Pinel understood enough of the real estate because of Ron Weissman-- that's the guy's name. Ron Weissman's wife worked at Cornish & Carey and Ron Weissman and Steve were really close. And so Steve knew enough about Alain Pinel's business through Ron Weissman's wife. And that's why he was able to speak so detailed about Alain Pinel's business because he knew about Cornish & Carey's business. So in that particular case, he was very intimately involved and had the knowledge of Alain Pinel's business because of Ron Weissman's wife at Cornish & Carey. But when we were at Stars Restaurant, the global perspective of the customer, he kind of missed it. And then that's what Ross Perot got up and to remind everybody it's about the customer, not about the technology.

Hsu: You know, you mentioned that, like, Mark Richards was, you know, started to work for you guys. How big did the company grow? How many employees did you have?

Stephan Adams: Was it 6, I think? And including us 8? No, not that-- Is that right, William?

William Adams: You, me, Anaida, Young, Mark. Bert was there or not at that time, I can't remember.

Stephan Adams: Yeah, Bert was there. Yeah.

William Adams: Paul and-- Paul and Scott were already gone, right?

Stephan Adams: Yeah, they were transitioning. So it was 8.

William Adams: It was 6-- Six? Six to 8?

Stephan Adams: Six to 8. Yeah. So no bigger than that.

Hsu: So it was how many people, like, on the technical side versus the business side?

William Adams: Oh, we were all technical except for Stephan and Mark.

Hsu: Okay.

William Adams: All. <laughs> That's 2 out of 4 were not technical. <laughs>

Hsu: Okay. <laughs>

William Adams: Two-thirds. It was two-thirds, one-third.

Hsu: Yeah.

Stephan Adams: But you could see, you know, we were small, but--

William Adams: But we did a lot.

Hsu: Yeah.

Stephan Adams: And this was the-- This is the beauty of the NeXT platform is that, you know, it's kind of we were like a Seal team, like--

William Adams: Whoa, whoa, whoa. Hold on. Hold on, my brother.

Stephan Adams: <laughs>

William Adams: This is the beauty of my genius programming.

<laughter>

Stephan Adams: Oh. <laughs>

William Adams: It so happened to be on the NeXT platform.

Hsu: <laughs>

Stephan Adams: Oh, I'm sorry, Mr. Adams. I forgot. I forgot. It just shows how far a genius like--

William Adams: I just want to clear the record.

Stephan Adams: Like my brother-- My genius brother with such superior tools could do so much work--

William Adams: Yes.

Stephan Adams: With such little that--

William Adams: With such meager resources.

Stephan Adams: Oh. Meager resources.

William Adams: We turned our lemons not into just lemonade, but ambrosia.

Stephan Adams: Oh.

Hsu: <laughs>

<laughter>

Stephan Adams: Oh how I forgot. [ph?]

William Adams: I think you forget how good it was.

Stephan Adams: No, I don't. I do know the genius that you guys were, but I do know that it was like a Seal team, right. You know, it didn't matter if it was an application. It didn't matter if it was a packaged application or if it was something that was a custom app. It didn't matter. It's that we had a team that worked very quickly because we had a really big tool set. And to William's credit also, you know, we had the right architectural frameworks--

William Adams: Yeah.

Stephan Adams: To be able to be adaptive. You know, it's rare that you find an app-- You don't see Adobe making custom apps. And you don't see, you know, Price Waterhouse Coopers or Accenture making packaged apps, right. Those worlds don't meet. We did both because of the common infrastructure and the common architecture that William developed that allowed us to go into both worlds, which allowed us to survive on the NeXT. You know, we didn't get rich on the NeXT platform. I mean, only a couple companies did. But we touched a lot and we influenced a lot. That was kind of our thing.

Hsu: Yeah. So William,--

William Adams: Yes.

Hsu: Like, you developed, like, sort of shared frameworks that you would leverage, you know, between the packaged apps and the custom apps job to job?

William Adams: Yeah. I mean, I kind of mentioned them before but it's when you look at any app, even today, you know, you look at any app, it's like, well, there's only certain-- there's patterns, right. So at that time it was classic client server database apps. Okay. Well, there's a data store. You have to have a way to connect to that store in an abstract way so that you're not stuck down and every single thing has to become a SQL query. It's like, ah, abstract that a little bit. We had to have-- another pattern was the data set, which is a local cache of stuff, so then you can do subsequent queries on that local cache instead of again hitting the database all the time. You have to have a way of getting stuff from the local data cache to your presentation, right. So this is classic model view controller sort of stuff, if you're familiar with those patterns.

Hsu: Yeah.

William Adams: I knew Erich Gamma back in the day.

Hsu: Oh, wow.

William Adams: So but that was after all of this.

Hsu: Okay.

William Adams: I met him at Taligent. So, you know, this is just recognizing the patterns, codifying the patterns and then refining them after creating several apps, right. It's like, oh, okay, we created this app. Well, did we learn anything from that that we can make this abstraction even more powerful so that the next time we have to create one of those it's even less time, right? So we did that rapidly. And then one thing that really drove this architecture evolution was when you do custom work and you're a small company, you really quickly realize that you're billing per hour, right. Any bugs you have to fix essentially discount the dollars you're taking in for new features, right. So if I get \$100 dollars and I had to spend half my time fixing bugs, I only got \$50 dollars. Well, I got to eat. <laughs> So by force, I better come up with frameworks that are less buggy, let me leverage more so that I don't spend half my time fixing bugs and I get to spend more time billing for new features, right. So that's what helped shape those frameworks. But, yeah, there were frameworks in there, some of which I mentioned, which were just, like, at that time, we just didn't have, right. They didn't exist.

Hsu: Yeah.

William Adams: Now they do in spades. There's plenty of frameworks for all this kind of stuff. But at that time none of that existed.

Hsu: Yeah. I mean, how-- You know, you mentioned, you know, how important, like, NeXTSTEP and the AppKit itself was, you know, compared to the tools that, you know, were available on other platforms.

William Adams: Yes and no. So in the very earliest days, the AppKit was useful but it's like the, like using visual tools today. They only take you so far, right.

Hsu: Right.

William Adams: When you're going to create an MLS Form that has 100 attributes checkboxes on it, that's not AppKit. That's you and Display PostScript, <laughs> right.

Hsu: Okay.

William Adams: You're not using AppKit at that point.

Hsu: Yeah.

William Adams: AppKit maybe you drag and drop the window, but you're on your own from there on out.

Hsu: Right.

William Adams: So we had to create essentially our own AppKit after that. So now there's fundamentals that come from the programming environment. Like we had this pattern, Speaker Listener, right, which was-- I don't know if you're familiar with that stuff. But it was a pattern for how you can communicate. Objective-C had a thing where you can forward a method. If you don't recognize it, you can forward it on to somewhere. That was at the root of how you can communicate over the network in an abstract sort of way. So there's key aspects of the frameworks that they had that we used but we didn't necessarily leverage the AppKit itself for a lot of UI work.

Hsu: I see.

William Adams: Because, like, no, you kind of had to depart from that pretty quick, right.

Hsu: Right.

William Adams: But it was, the AppKit was a leap ahead of anything that anyone else had at that time. That was, I don't remember if that was before even Visual Basic was available on the Windows platform. If it was, then it certainly wasn't as big as it is now.

Hsu: Yeah.

William Adams: So AppKit at the time was quite revolutionary, just being able to drag and drop and connect lines. And sorry, I'll ramble on this for just one more second. Another key aspect of the way the apps are done on NeXTSTEP was that Steve, himself, was a proponent of single click. So he's the one, personally, as an aesthetic said, "You shouldn't have all these menus all over the place and features buried in menus. Everything should be one, maybe two clicks away." This was an aesthetic that he really pushed and we took that to heart and most of our apps it's like as much as possible, stuff was just right there and obvious, right. Other than-- And that's quite a departure from the way things were done at that time because we were just coming out of the era of terminals with menu selection. Selection 1. Now select 3. Now select-- You know. Not even windows where you're dragging around and clicking, like, on the Mac, but just, you know, your typical IT developed app was this, you know, green screen ASCII text, select 1, select 2, select 3, right. And Steve comes along and says, "No, it should all be one click, a drag, you know. It should feel good. It should be beautiful." So you get things like [Lotus] Improv, the spreadsheet, you know.

Hsu: Yeah.

William Adams: And we did the same stuff. It's like, to sort your column, just drag the thing to re-shuffle them. Drag back to the side to regroup them. Click on this to re-sort, you know. Rather than going to a menu and saying, "Oh, now sort by blah, blah, blah." So that's the kinds of stuff that AppKit and the platform in general gave us, was just a different way of feeling about how the app should work rather than the clunky stuff we were doing before that point, right.

Hsu: Yeah. So I guess in a way, like it kind of raises the bar for user experience--

William Adams: Yeah.

Hsu: Across the whole platform.

William Adams: Yeah.

Hsu: Yeah.

William Adams: Yeah. Because he was demanding, right. He was like, "Oh. Your thing's a piece of shit. You know, it should-- It shouldn't work like that. Why do I have to click three times for this thing?" you know. And you see it in things like what Glenn Reid did with-- Oh, what was his thing called? Well, whatever the Right Brain Software did, his publishing thing-- Now Glenn was at that time, he was Mr. PostScript. I mean, he wrote the Green Book. <laughs> So, you know, he knew everything about PostScript and he created a beautiful, very usable publishing application. And it's like, yeah, like that, right. It's like it just looked good, it felt good, it maximized to the greatest extent what the platform was capable of doing, right. And we all kind of aspired to that.

Hsu: Yeah.

William Adams: It's like, "Look what Glenn did!" "Oh, yeah. Okay. I'm not going to do clunky checkboxes. I'm going to do really awesome checkboxes." <laughs> Right.

Hsu: Yeah.

William Adams: So, yeah, that's the kind of thing that happened.

Hsu: It sounds like, you know, because it sounds like the whole community was sort of expecting a certain kind of, you know, aesthetic.

William Adams: Yeah.

Hsu: Because I think, like, you know, some of the reviews that you sent me were, you know, mildly critical of your UI in certain ways.

William Adams: Yeah.

Hsu: Like how did you--

William Adams: Yeah. We had one of the earliest UIs out there. And we-- Who was the artist that, it's-- Well, we had an artist that did our icons for us, but the style was kind of a Keith Haring style, right. At that time we thought, ah-- And keep in mind, this was one of the first apps available on the platform. So we're-- What's that?

Stephan Adams: Luther?

William Adams: Yeah, Luther was our artist and the style was kind of in the style of a Keith Haring. So the icons are kind of funky. You know, they're not this polished sort of 3D looking sort of thing. But we were out there, right.

Hsu: Yeah.

William Adams: We're like, "Hey, man, this is the aesthetic we're going to try." Now people come later and go, "Ah, it sucks." <laughs> It's like, "Yeah, well, yours looks like everyone else's." <laughs> You know. So there was certainly criticism, you know, of our apps and you could criticize other ones. And I learned from other people's apps. You know, we did Who's Calling first.

Hsu: Yeah.

William Adams: We did the Alain Pinel stuff later. It was much more functional and much more beautiful. You know, it didn't have that Keith Haring look to it.

Hsu: <laughs>

William Adams: Much more boring, right. But that's the way it is on the cutting edge. Some people are going to love it. Some people are going to see Andy Warhol and go, "Oh, my God." <laughs>

Hsu: Yeah.

Stephan Adams: Yeah, but it's also important to note that in those reviews, it's like with everything else on NeXT, right, the aesthetics is what matters most. But we didn't get knocked on the performance or the functionality.

Hsu: Yeah.

Stephan Adams: People were upset about the icons, you know. It's like, "It's garish-looking." Like, "Yeah, but the shit works."

<laughter>

William Adams: Not just works, it does something nothing else does, so.

Stephan Adams: Right.

Hsu: Yeah. I guess we're coming towards the hard stop today. Maybe I guess one last question for today, then. You talked about earlier on, like, you were completely self-funded. Did you actually take any investment money later on?

William Adams: That came in Adamation round two.

Hsu: Oh.

William Adams: That's when--

Stephan Adams: That came after-- Yeah.

William Adams: That came when we started to do stuff on the BeOS and beyond.

Hsu: Okay. Okay.

Stephan Adams: Yeah. That was-- And that's also the time when, you know, the realities of young family and wanting to keep pursuing the entrepreneurial dream, you know, where we diverted, but--

William Adams: That's when I went to--

Stephan Adams: That's a fun time. [ph?]

William Adams: That's when I went to Microsoft-- Well, first to Be--

Stephan Adams: Be first.

William Adams: And then to Microsoft and Stephan kept the Adamation flame going.

Hsu: Okay.

Stephan Adams: Yeah. And then that's where I raised money off of something-- I raised money for off of some of the work that William had started but then I brought a team, I hired a team to finish the work William started and then that's when I raised a lot of money. And there's a lot of stuff in that story that we can talk about that's indicative of what we did in NeXT. You know, being on the front, you know, seeing the future, what the future's going to be, and being able to get other people-- getting HP, in particular, to write us a real big check for that. <laughs>

Hsu: Right.

Stephan Adams: But we can talk about that, you know, in the second go round.

Hsu: Yeah, that's a fascinating story. I think that's a good, really good way to end because it sort of tees us up for tomorrow. Yeah.

Stephan Adams: Okay. All right. So would you like to send out an invite for tomorrow and we'll--?

Hsu: Yeah. We'll do that right after this.

Stephan Adams: So with our little recorders here, do we just hit the button and then start it up again tomorrow?

Hsu: I think--

Stephan Adams: Or do you have to reset it or--?

Hsu: I don't think--

Stephan Adams: And make sure we don't erase it?

Hsu: Yeah, I don't think you need to reset it or anything. I think if you just stop the recorder.

William Adams: So just press the red button again.

Hsu: Yeah.

William Adams: And there is a play, a pause, a square option button. I'm going to press the red button.

Hsu: <laughs>

Session 2 – September 26, 2020

Hsu: The date is September 26th. I am Hansen Hsu. I am back with Stephan Adams and William Adams for our second session, and why don't we actually start with that story you were just telling me?

Stephan Adams: Okay. Was it Demo '91, William?

William Adams: Demo '91.

Stephan Adams: <Overlapping conversation>..

William Adams: We probably still have propaganda around it.

Stephan Adams: Yeah. Well, I still have the cup from it. Anyways, so it was a conference that Stewart Alsop sponsored when he was a report-- long before he was an NEA investor, and, matter of fact, I think he started NEA, because he was the godfather of Silicon Valley, since he was reporting on all the inside stuff. I guess they figured he'd make a good investor, and actually he did. But at Demo '91, the first year, they invited the 25 most innovative companies in the country, and we were one of them, and it was held

at a La Quinta resort in Palm Springs-- or Indian Wells, and we were invited, and they basically had a pitch stage, and you got to pitch your idea a lot like the pitch stage that they have today. But it wasn't kind of this rapid-fire, poking holes. It was just, "What do you do?" and then they had a floor afterwards, and you would come on the floor, and you'd talk with investors and movers and shakers. So we were invited, and I think we took-- the Alain Pinel app was kind of what got us invited, so the fact that we did all these commercial applications, and then we did custom work, it was really unique, and it was really a big deal at the time. I wanted to state that, because that was the first time that a NeXT developer was recognized in the community at large, and we also-- that same app won at DB Expo the same year. So I talked to William to try to drum up the trophy for it, but that was also a big deal, because it was a database expo, so it was an industry event, and we showcased the Alain Pinel application, and it actually won best of show in the entire country, regardless of the platform. That was also a real big deal, and no other developer got such kudos. But I think also the demo conference-- there's a real funny story. I'll leave it to William, because he tells it better, about our flirting with Microsoft early, and it's one of those, I shoulda...

William Adams: I thought the cookies were better.

Stephan Adams: Yeah, well, you can tell both of those.

William Adams: Okay. So, first of all, to prepare for this show, unlike the New York thing, where we were writing code the night before, in this case we were baking 12 dozen cookies, chocolate-chip cookies, because we wanted to have some differentiator that would attract people to our booth. So we baked all these cookies, and as people were coming, we're handing out cookies, because-- I mean, if you've ever been to a computer conference, you know it's like you got to have something that kind of ropes people into your booth, so we used the cookies. But one of the people that came by was the-- what's his name? Oh, yeah, Nathan Myhrvold. So Nathan Myhrvold at the time was at Microsoft. He had started Microsoft's research group, and he came by, and he was chatting us up, and he was like, "You guys are from Oakland? Me and my brother were from Oakland, and we sold our company to Microsoft," and he's essentially saying, "Why don't you consider joining us?" getting bought by Microsoft, as it were. We were kind of like, "Nah. We're going to do our own thing. We're going to change the world." So that was, yeah, 1991, [almost] getting bought by Microsoft, which may have changed our fortunes.

Stephan Adams: But now look at. You work for Microsoft now.

William Adams: I went to Microsoft anyways. Why didn't I just go then? But life is what it is. So, yeah, that's the early Microsoft-- and we had other touches with Microsoft before I actually went there, but that was probably the most interesting one.

Stephan Adams: I think with the NeXT, it's a-- I was thinking about this after our interview yesterday and when I was walking this morning, and I was like, there's a lot of characters in the NeXT story. There's a lot of very, very smart people and very tenacious entrepreneurs, and a lot of them have become industry leaders today, and that's the same thing with the Facebook of the worlds or any platform. PayPal has minted, what, half a dozen movers and shakers, Elon Musk and-- to name just one of dozens. So back then I think one of the things we look at NeXT-- NeXT kind of was seen as a market failure, because it

never gained any traction. But this is a NeXT box today. This is a Mach kernel in this thing. So everything that's the iPhone today is the heart of what NeXT computer was. The UI of the Mac OS is the exact same UI that we played with, the Interface Build-- not Interface Builder but the..

William Adams: Application builder?

Stephan Adams: Application, yeah, the AppKit. All the stuff that was NeXT is now what Apple is today. So we didn't enjoy tremendous financial success on NeXT, but we were on the forefront. I think that's what keeps us even relevant today, because we saw what was happening, and we positioned ourselves, and I want to circle back on closing my thoughts about NeXT, unless you have other questions about it for me specifically, because William's really the hero of that story. But one of the things that's unique about, I think, our story in NeXT when it deals with race-- because you can't look at us, and you can't interview us without the topic of race, regardless of how much we want to not look at it. But one of the reasons we picked the NeXT platform was because of race, and it was identifying and knowing that there's walls up in an industry, and it's going to be hard to penetrate them. But when there's no walls and it's just like it's fertile ground, you can jump on in there. It's like, "Yeah, come on in. You're cool, because there's only one of you, so if there's only one of you, you're cool." So they let us in, and we were able to be part of the cabal. As things went on, of course, walls come up. So if we would've came into the Mac-- I mean to the NeXT platform later in life, we may not have gotten in so intimately close to the epicenter of the platform, so-- and that's even today. My stint in 3D printing was the same thing. Now I'm in fiber-optics and things of that nature. But one of the things that's important for people of color and women, I think, back then and is still the case now is that you got to find grounds where the walls are either thin or they haven't been erected yet. So we looked at the NeXT platform as, there's no walls there, so this egalitarian, "Race doesn't matter," type environment, so let's get in there and change the world, as William said. But the reality is, as William articulated yesterday, we couldn't open up a bank account. So the walls and realities of race were still prevalent. So, anyways, I wanted to share that, because we like to talk about the technology and all the fun stuff that we did and the vision and all that stuff, but at the end of the day we're still two black guys running a company in Silicon Valley and the realities of race. So you have to look at that as part of our story.

Hsu: Yeah. I think that kind of speaks to that link that you sent me, that little CNN thing about how or why race matters in Silicon Valley. Can you maybe speak to that a little bit?

Stephan Adams: Yes, I can, and William and I might have different perspectives on it, because he's on the internals of-- the belly of the beast, so to speak, and he's doing some great things over there, and mine has been kind of entrepreneurial, on the outside trying to slay the beast. So we come at it from different perspectives, but we still have the same goal, which is trying to put a stake in the ground for ourselves and the others behind us, because people have done that for us. But when Soledad O'Brien did that interview, she did a whole series on it, and it was really a good series. One of the things that I kind of came into it is-- her question was, "Is Silicon Valley a meritocracy?" and that was the essence of what she-- her whole show was about: Is it or is it not a meritocracy?

William Adams: <Overlapping conversation>.

Stephan Adams: I argued in that video that it is. But...

William Adams: But...

Stephan Adams: ... it is if you have the gumption like we had at the time and still have about, "Well, you can't worry about all the things that're-- not being able to get a bank account, people not taking your calls." I even had investors say, "We will never, ever invest in a company like yours." Well, that's code for a lot of words.

William Adams: What do you mean, like ours? You mean one led by successful, tenacious people?

Stephan Adams: Yeah. So I kind of smiled at him. It's just like it...

William Adams: "I got you, chief."

Stephan Adams: So...

William Adams: "But I'm dating your daughter." <laughter>

Stephan Adams: But it's not a meritocracy, and everybody knows that. But if you focus on the fact that it's not, then you wouldn't get up in the morning. So you really have to come at it from the perspective of, yes, it's not a meritocracy. Life is not fair. This industry's not fair, but if you can figure out how to get into the core of it, there are riches, and there are people who do want you to succeed. There are a lot of people that wanted us to succeed, even in the NeXT platform. There's a gentleman. Was it Stuart Grady, William? Was that his name?

William Adams: Yeah, our champion.

Stephan Adams: Yeah, he was our champion, and he broke it down like no one else. He pulled us aside at a conference once, and he said-- he goes, "I want you to know if you don't already know this." He's like, "This industry is run by a five percent." He goes, "It's very hard to get to the five percent, but once you get into the five percent, you're in. I'm going to get you guys into the five percent," and he did, and he was the one that brokered a relationship to get us into NeXT at the level. When NeXT had William Morris, they didn't call one of the white developers; they called us. When they were dealing with the Booz Allen and Hamilton to be able to go after the [LA] sheriffs, who was the biggest account that they had, they didn't go after a white developer; they came after us. So Steven Jobs recognized that-- he was about talent. Maybe it's because of his own ethnic background, but there's lots of-- I'm sure you've heard lots of Steve stories of him just flaming and belittling and doing all these nasty things to people. He never did that to us, ever. We never felt that wrath, and even when things were failing, when William Morris ended up crashing and burning, he never came after us and pointed the finger and was like, "It's those guys." He shielded us pretty well from that stuff. So that's something to share.

Hsu: That's an interesting story that you kind of just brushed by. What happened with the William Morris account?

William Adams: I kind of talked about it, and maybe Stephan had a different view to it than I did. But we were with them for quite a long time. It was an interesting thing. I mean, just keep in mind who William Morris Talent Agency is. They had-- Will Smith was one of their clients. Molly Ringwald was one of their clients. So they're a pretty high-flying agency. The origin of that account-- There was one agent that we were connected with that said, "Okay, this guy"-- I forget his name. "This guy is going to be the one who decides what we do with-- what software they needed." So we were interacting with him, getting specs from him, doing all this stuff, flying down, delivering software, and then at some point they added another guy, and that agent-- I mean, now, these are talent agents. I mean, if you think of lawyers and sharks, it's like these guys are tenacious. They're about their name. They're about their branding, all this sort of stuff, and this new agent had an increased amount of demand. It's like, "I want this. I want this," and this was a fixed contract, so more and more and more demands, and eventually that got to a point where they're just like, "Well, you guys can't deliver." So what they really wanted is they wanted NeXT engineers to be doing their stuff, because that's more prestigious. It's like they can tell their friends, "Yeah, I've got these NeXT engineers developing software for me," rather than this small company that no one's ever heard of-- that's not prestigious. So they just kept pushing until NeXT basically said, "All right, all right. We'll do the software. We'll take it from here." That's pretty much what happened. I don't know if you had a different perspective, Stephan.

Stephan Adams: No, no, I think that's right, but as a-- but even NeXT couldn't turn it around. NeXT encountered the same issues we encountered, so they didn't do the grand deployment that they had wanted to do. They had a very similar strategy as Alain Pinel did, which was trying to get over CA by using NeXT computers as a way to attract agents from CA. Was it CA? Yeah, CA. But it didn't work for them, because the problem was, as William had articulated, they put agents on the front line of being responsible for the agent-- of the software..

William Adams: Tech.

Stephan Adams: ... which would be like Alain Pinel putting their real estate agents on the front line rather than the CEO of-- the president and CEO of the company at the time, Colin Passerino [ph?], she said, "This is what I want to run my business." William Morris didn't come at it that way. They just said, "We want to be"...

William Adams: We need the Flash.

Stephan Adams: Yeah, "We want the Flash." The reason why William Morris-- I think one of the reasons why they went with NeXT is I-- this is at the same time, and this is something that I don't think a lot of people make the connection, is that there's-- you got to remember that RenderMan was standard on the NeXT platform, and RenderMan had just-- was used to do Pixar's-- the Tin Toy-- not Tin Toy. What's the lamp thing?

Hsu: Luxo Jr.

William Adams: Yeah, Luxo Jr.

Stephan Adams: So when they did that and they got an Academy Award for that, it's like, that's the same thing that-- that engine is in the NeXT computers. I think that Hollywood took note and said, "Wait. This could help us." SGI was kind of the machine in Hollywood, but I think people saw that, well, the horsepower was in the NeXT platform, and they had all these software tools with RenderMan, and so I think that's one of the reasons why William Morris said, "Let's get part of that stardust." It was actually an interesting...

William Adams: Yeah. It was cachet.

Stephen Adams: What's that William?

William Adams: It was basically cachet, right? It's like, they're Hollywood. They want cachet.

Stephan Adams: So right before William Morris Agency, before they bought, there was a conference in Beverly Hills. It was at the Beverly Hills Hilton. I remember this distinctly, because I think it was one of the first times that NeXT came out, and Steven Jobs was making a prediction about RenderMan and about what people were going to do in the future, and so he had just bought Pixar weeks or months just before this conference, and he was going to use this Beverly Hills conference to basically showcase, and so he starts-- all these Hollywood luminaries were there, and he's-- the lights go down, and he starts his presentation with Tin Toy [Luxo Jr]. So that lamp is going around, and the lights come on. The room was quiet. They're like, "Okay, what's the value here?" and Steve says, "That is the future." He says, "It won't be long before people will be able to make animations just like this on their computers," and people started laughing at him. I mean laughing like, "You're crazy," laughing. So the audience was kind of laughing at him about this, because-- in disbelief, and now we can make-- you can make a full-length movie off of one of these things. But he saw that, and he was promoting the NeXT box as the beginning of ushering in that type of creativity at the desktop level. That's why he bought Pixar, and then, lo and behold, he was absolutely right. That's another story.

Hsu: That's a good one, too.

William Adams: I think I didn't get invited to a lot of these special dinners and side-chats and Steve Jobs meetings. It's like, what the heck?

Stephan Adams: That one, William? At the ball we had a small little booth, and you had to man the booth, and I went in the-- you were manning in the booth, and I went out there hobnobbing.

William Adams: Aw, man! See? There ain't no justice. Even the black man's keeping the black man down. <laughter>

Hsu: Well, he's a CEO, right, and you're the...

William Adams: Yeah. He's got to do what he's got to do. I understand.

Hsu: Well, let's sort of finish off this NeXT period, then, that period where NeXT is starting-- it's in trouble. They're closing down the hardware. They're switching to Intel. Just maybe talk about what that whole period was like from your perspective.

William Adams: Did Taligent just show up right in time, or-- do you remember? So we had a way of jumping off, basically.

Stephan Adams: Yeah. We jumped off before it imploded, because Taligent came knocking, because they liked what we were doing with Livewire, and that's then when William went-- and he'll tell much better about that. But Taligent came to us at the time, because they liked what we were doing with Livewire, and they wanted to incorporate that into the core of their platform, and so-- and we tried to say, "No, no, no, we're going to hang in there to the bitter end to NeXT," and it was just spiraling down so fast. So...

William Adams: <makes a plane crashing motion and sound> "So, hey, Taligent. What's up?"

Stephan Adams: That's why if you look at someone like Stone Design, they stayed to the bitter end, and that's..

William Adams: And then they went to Apple.

Stephan Adams: And that's why when they went to Apple, Steve rewarded him with his loyalty by saying that, "You will be one of the core developers when we win," and we thought about that. We thought about, "Well, let's just stay with them, because we're at a trade show in New York, and they announced that NeXT had bought Apple with Apple's money," and so we said we should stay with this. We thought we should stay with it, but it's like, no, we had bled long enough.

William Adams: No, by then I was at Be when they'd finally bought them. But the thing with Taligent was, for whatever reason, they...

Stephan Adams: Before the Taligent, he was asking about the demise of NeXT. You probably have really good perspective of the technical demise and what was happening as it was spiraling down.

William Adams: Not really. I mean, they were spiraling down. That was the end of it. I don't really have any technical perspective on that, other than, okay, it's time to go.

Hsu: I mean, when you mention spiraling down, you're talking about market share or sales, revenues, profits?

William Adams: Well, there already was no market share. So then when there's even less market share from no market share, you can't pay the rent, and I think we were even out of Alain Pinel by then or getting out of Alain Pinel at that point?

Hsu: Your NeXT businesses were starting to dry up as well.

William Adams: Right. So it's like, okay, you're not getting huge revenue from off-the-shelf product, and your whale client is kind of moving on to other things. So the writing's on the wall. It's like, well, there's no more to get here. So there was no choice. I think we were just lucky that Taligent came along.

Stephan Adams: The developer community changed, too, at that point, because they-- I forget the gentleman's name that they brought in, but they brought in a president, and when they brought that president in, everyone knew. It's just like, "Okay, this guy's coming in to do the hatchet job, because Steve's not going to do it." So he brought this guy in, and not only were the employees disgruntled, but then the developer community was also disgruntled, because there was no communication about, "Well, what's going to happen to us?" and so there was turmoil just all around, because when the new president came in, he actually thought he was coming in to do a turnaround, and he-- I forget his name, but he really thought he was going to do a turnaround of NeXT, and then when it was evident that he was going to be the hatchet man-- I remember actually at an event where he-- I heard him say to a coworker-- he goes, "I didn't sign up for this. This is not what I had envisioned of why I came here," and it's just like, okay, he got sold a bill of...

William Adams: Bill of goods.

Stephan Adams: He's been given the hatchet, and Steve was like-- he walked away from the thing, like, "Hey, man, the business thing wasn't working," and of course he was working to get back at Apple. But he had to find some other way of winding it down. He wasn't going to take the responsibility for winding it down publicly, because I think he needed the persona to go back to Apple, and he couldn't go back to Apple if he had just laid off all these people himself. So he let the other guy do it.

William Adams: I think they limped along. I mean, by this time I was already moving on to other things, so I think they limped along for a couple years there doing this WebKit-like stuff or a Web...

Hsu: WebObjects.

William Adams: WebObjects, which I never got into. I don't even know what it ever did. So that was a period of, what, two or three years, where they were like, "Well, I don't know what they're doing, WebObjects, blah, blah, blah." We went off and joined Taligent. They essentially bought from us a license to integrate Livewire in to the core of the OS, and what that means is-- Livewire, if you remember, is this live communications thing, and as a substrate-- and, again, we don't have the Internet big-time yet. As a substrate, it had this ability to do in-order execution of commands. So I need to know that the message from you came in before the message from Stephan, so it's got to have a global clock, and it's got to have a way of ordering stuff and applying them against a journal-- against something, and, well, lo and behold,

that is kind of the core of what you need to do distributed anything. So as a demonstration, I created a word processor that you could-- two, three, any number of people, actually, could edit at the same time. So you open up the document, and then-- I mean, you can see this in Word now or Google Docs or whatever. You could be editing. You highlight something you're editing. Stephan can edit something. I can edit something all at the same time, and this was-- I forget what year that would've been. It's '92, '93, '94-- probably '94 by then, and that was interesting. There were only a few companies in the world doing that kind of thing at that time. It turns out people like NCR or-- NCR was one of them. I forget the Italian company that did computing. They were doing it.

Hsu: Olivetti?

William Adams: Olivetti. So Olivetti had this in the research lab, this <00:27:48> kind of thing. But this was available commercially, so they bought a license, and I spent a couple of years-- actually, I don't know if it was a couple years. I spent some amount of time incorporating this into their OS. So when you...

Hsu: So this is Taligent?

William Adams: Yeah, Taligent. So Taligent was Taligent. Taligent was a joint venture between Apple and IBM originally.

Stephan Adams: And HP.

William Adams: Was it HP?

Hsu: HP was involved, too?

William Adams: That might've come later, but in the beginning it was just-- Taligent was Apple and IBM.

Stephan Adams: Yeah, and HP was in that group.

William Adams: Okay. But I remember when HP came in, and we gave them a demo of the stuff that we had done, and the-- what's his name? Paul somebody-or-other.

Stephan Adams: It was Project Pink. It was Project Pink, remember?

William Adams: Yeah, it was Project Pink originally. I remember when HP came in, because we actually gave them a demo of this editor, and it was Paul something-or-other from NeXT who had gone over to be a...

Stephan Adams: Paul Vase?

William Adams: What?

Stephan Adams: Paul Vase?

William Adams: Paul Vase, maybe. So, anyway, the technology was about this, this collaboration capability. So we baked it in deep enough, such that every application automatically had this ability to be collaborative, and that was what they bought is being able to say, "Yeah, if you make a word processor, if you make a spreadsheet, if you make anything, it'll just automatically have this ability to be this collaborative thing," if you follow certain constructs. So I did that for, I don't know, a couple of years, and then...

Hsu: So you were still contracting for Taligent, correct?

William Adams: Yeah. So they paid us a ton of money. I don't know if it was a one-time payment, and then I was just there that whole time or if they kept paying us-- did they keep paying us money?

Stephan Adams: Yeah. They kept paying us.

William Adams: Okay, so they paid us a big chunk of money, and then they kept paying us some more after that. Bill Shalhoob [ph?] was our handler. You remember that?

Stephan Adams: Yeah, yeah, yeah. He was a cool dude.

William Adams: Yeah, Bill Shalhoob.

Stephan Adams: Yeah, he was a cool cat.

William Adams: During that time, I also met this guy named Chris Lovett, who was critical to me going to Microsoft later. But there were all sorts of people at Taligent at that time. That's where, if you ever heard of the Gang of 4, Erich Gamma was at Taligent at that time working on an editor and an IDE, and they later came out with a book, "The Gang of 4 Book."

Hsu: So is that where..

Stephan Adams: Also tell them that you did your patents, too, with Taligent off of that work, too.

William Adams: Yeah. I can't remember how many patents they filed on that, but at least this core technology was patented, I think, while we were there.

Stephan Adams: Yeah, and they gave you credit on that.

William Adams: Yeah. You were going to ask a question?

Hsu: Yeah. So, I mean, you mentioned Erich Gamma and design patterns last time as well. Did you know about design patterns before meeting them, or was that something that came out of working with them at Taligent?

William Adams: I can't remember exactly when that book came out, but it wasn't like Erich Gamma was-- "You're the design patterns guy," like we say today. This was 20, almost 30 years ago. So he was Erich Gamma, guy working at Taligent, just like if you ask people about me at Microsoft today, it's like, "You're the LEAP guy." Well, 30 years ago I wasn't. I was just some developer dude. So it wasn't a big deal at that time, and he's not the only super-bright brain that was at Taligent. They were chock-full of people just like NeXT was. They had really the best of the Apple engineers at the time, some-- and IBM engineers. They're just really smart people. So that was a journey. I actually lived away from home for-- I don't know if it was about a year of it, so that I could be closer to Silicon Valley, because I was living up in Richmond, at the time. So, yeah, they bought into our stuff. It was really cool and exciting. When we actually went to shows with them, it was one of those features. It's like, "Well, what have you guys got?" and it's like, "Well, let me show you this distributed paint program," because at that time it was just different. It's like, "I didn't know you could do that," and it's like, yeah.

Hsu: Yeah. I think I wanted to sort of go back to that a little bit. So it's not that you learned design patterns from the Gang of 4 but that you were already-- because you mentioned when you were working on Who's Calling? and then iterating on the successive versions of that and also the custom apps that you were already kind of doing that. It just didn't have a name yet, didn't have the name "design patterns."

William Adams: Yeah, exactly, and I wouldn't overemphasize the design patterns, because that's just one of several-- I mean, this is-- the environment we're in at this point is-- Smalltalk-80 is still kind of a thing, not like a big commercial thing, but it's a thing that was in our minds as developers. That was a pattern even then of having object-oriented-- sending messages to things. We were truly at that time exploring the depths of object-oriented programming. Now, object-oriented goes all the way back to the '60s, even, with Simula as a language. It's like, well, why-- simulating the world. It's like, this is where object-oriented came from. There was a lot of exploration, and on the news boards at that time, there's a lot of conversation about possibly having marketplaces of objects, and how would you have the API-- what's the right API for that, and this is why NeXT's speaker-listener pattern was so important, because, from Objective-C, you had a mechanism, where it could say, "Well, here's an ABI [ph?], and I can package up a message and send it to something, and it can act on it," and you didn't have to have a hard-coded API connecting them together. It was the data that connected them together, the data format, and this is classic. You see this in a language like Erlang, which takes us to the Nth degree, where it's like, oh, it's all about agents and message-passing. It's not about shared memory and hard-coded APIs. So we were exploring all of that stuff at that time, things like our data manager, our data set and our forms. Those were natural things that came out of object-oriented in general, encapsulation, polymorphism, all this sort of stuff. I think those sorts of patterns fell out naturally, just because you're doing the work, and it would just naturally come out. The Gang of 4, they codified it. They called things out. They said, okay, well, that thing-- model-view-controller or various other patterns. They named the patterns that we were all doing, and then that acts as a guidebook, and now you can go, "Oh, Okay. I guess that is called the factory pattern, this thing that I'm already doing. You call that the factory pattern. You call that the MVC.

You call that the whatever, client-server,” even that. So that’s how it was. It wasn’t so much following the Gang of 4, because there was nothing to follow. It was just, this is what we were all doing at that time.

Hsu: Right. So they were codifying existing practices people were doing already, just informally.

William Adams: I think so, now, I wasn’t at the table when they were creating their book, so I don’t know if they actually wrote down new patterns that no one had ever heard of. Reading the book, I didn’t see anything that was like, wow, that’s new. Most of it was like, okay, that’s the name for that? Okay. So that’s how it felt at the time.

Hsu: That’s a very good perspective. I want to step back just a little bit. You mentioned that Alain Pinel had moved on. What did they decide to move to after being on NeXT? What was that transition?

William Adams: I don’t actually know the details. Stephan probably knows better than I do, but there was a point where they decided to get off NeXT hardware. So they got a bunch of PCs, and they could’ve run the NeXT stuff on those PCs, but they switched to a new vendor, who did I don’t know what, actually. After that, it was like, okay, well, I guess we’re done. So I’m not sure what they ran after that and what they would run today. I’m sure it’s more standard PC sort of stuff. Do you know, Stephan, what they did?

Stephan Adams: No. It was such a tumultuous breakup. They looked at NeXT, the writing on the wall, whoever the PC manufacturer was that came in or the reseller that came in probably said, “Oh, those things? That’s going to be a dinosaur. You’re not going to be able to have support.” Alain Pinel was growing. They had the one office in Los Gatos. That’s where that video was shot. They had that one office, and then she was expanding the business, and they were going through turmoil themselves. The CEO and the chairman were having strife, and I think what happened was they were having strife. NeXT’s viability was in trouble, and we were this small company that they didn’t want to depend on anymore. So I think it was a crescendo of all these events, and so they just were like, “Okay. We can’t take this going forward.” PCs had been advancing. Software had been advancing. The Web was now coming more into the fray-- into the vogue, yeah..

William Adams: Forefront.

Stephan Adams: PC was evolving, and so the Web was also evolving, too. So then the applications that we built years before to replicate those types of applications or-- the baseline features was becoming more available.

William Adams: Easier, yep.

Stephan Adams: So I think it was just more of a crescendo of effects, yeah.

Hsu: Getting back to Taligent, then, from the business side how did that whole thing come about?

William Adams: How did they find us, or how was the deal structure?

Hsu: Yeah, how did they find...

William Adams: Well, they called us. They found us however, because small industry, black guys. You're going to find us. So the technology of Livewire is what attracted them, and either because someone saw it at Demo '91 or somewhere along the line, maybe a magazine article, who knows what. But somehow they latched onto Livewire, and they said, "We're really interested in you guys putting that on our platform."

Stephan Adams: Oh, and also, this goes back to-- I can't find it, but if you do some digging in the research, you'll find it, this-- of course, since I'm the marketing guy, I got to bring back the race again. But this is a good thing about race. This was really courageous of Taligent and somewhat courageous of NeXT, too, because NeXT didn't shy away from who we were. They just, "You guys got the goods. We're going to ride with you guys." Taligent did the same thing, and, matter of fact, Taligent went public with it. So Taligent took out a half-a-page ad in the San Jose Mercury news for a week, and it just kind of-- it was a recruitment ad for developers, and it's like, "Come join Taligent," and they had William and I standing there, and we were the face of Taligent's developer community, because there weren't any developers. We were the only ones, but they didn't-- I think that what's instructive here is that they didn't shy away from the race issue. This is why I say Silicon Valley has flashes of meritocracy because Taligent, at the time, and I think it's mainly because of the IBM influence, they were-- the CEO of Taligent, at the time, was an IBMer, so he probably was more enlightened than some other people may have been, but when they did those ads, it was shocking. I was actually shocked when I got the San Jose Mercury News. That was the bible newspaper of Silicon Valley for a long time. So, you opened it up, and then there's this half page ad, and you got these two black guys in there saying, "Come join Taligent," and it was-- if you could find-- I've been looking for it. I can't find it, but if you go into the archives of the San Jose Mercury News, it's pretty startling for the time. Today-- as a matter of fact, today you wouldn't even see that. Can you imagine opening up the Chronicle and seeing Salesforce having a half page ad putting two black guys and saying, "Come be a Salesforce developer." As egalitarian as that company is, they wouldn't do that. So that's important.

William Adams: Yeah, so. So, I think the-- and again, that's one of those things that I'm sure I knew it at the time, but it didn't stick in my memory at all because it's like it is all about the technology, baby. <laughs> It's like he remembers that, and I'm like I remember coding up-- how difficult it was creating the two-phase commit locking mechanism for the Word document thing. That's what I remember, and I was completely oblivious to anything that was not related to the code for the most part.

Hsu: Well, speaking of that, how was the Taligent platform compared to NeXT technically?

William Adams: It was different. NeXT, I would say was-- NeXT, from the beginning, had a-- they had a-- I want to say gestalt, but that's not quite the right word. They had an architecture from the beginning, and they were just filling in the gaps as they went along. Taligent was evolving an architecture as they went along, and they were exploring and trying different things. Like one of the commentaries that they would say was, "Everything is an object," you know, "Down to the integer." <laughs> Everything was an object, and that was kind of permeating the system, and it had its pluses and minuses. And so, they had a lot of philosophical things that they were pursuing. Like they would make statements like-- this is where things

like this come from. "We want to make the impossible-- I mean the really hard possible, and the really easy, you know, easy." And everything was hard.

<laughter>

William Adams: They made everything kind of hard because of the philosophy they had. It was like well, you're not-- yeah, you're making these really hard things possible, but you're also making the really easy things kind of harder than they need to be. NeXT wasn't like that. NeXT was more like well, this has all got to be beautiful, sure, easy, and I think they were just-- they had fewer engineers who were really driving a whole bunch of stuff. So, they were able to gel on systems that were more coherent. So, simple things like, okay, Objective-C, message passing, deferred runtime dispatch, all this sorts of stuff, it was like okay, there you go. Now, let's get on with the music library, and let's make the best music library there is. We had a DSP in the NeXT computer, so let's do digital signal processing just beautifully. Let's make music and really get-- you know. So, their philosophy was more like that, and they came out with things like the AppKit, which is all about making it super braindead simple easy for the developer to create apps. Taligent would have been like, "Well, let's make sure it's got the right theoretical basis, and the developer can adapt if the thing's kind of clunky." And they would do things--

Stephan Adams: That's that IBM influence. That's that IBM influence.

William Adams: Yeah, perhaps that's an IBM influence, and they would also do things at Taligent, like there was no file browser for the longest time. I created the file browser that was interesting, and this is what we actually demonstrated at shows because they didn't have one. It's like how can you not have a file browser. At NeXT, they had a file browser from day one. They didn't have a bunch of other stuff, but they had a file browser. So, I would say it's like that. Each one of them had super interesting technology going on, but Taligent was clearly more of a research project than a commercial product, and it never became a commercial product, right?

Hsu: Yeah.

William Adams: So, that's the difference between the two.

Stephan Adams: We're the only developer that you can say that we actually made money off Taligent because we actually-- we were their-- the developer, and we were also a vendor. So, we did well off that, but you know I think one of the things that William's saying that's mindful, from a marketing standpoint, is that Steven Jobs had a vision of what the NeXT experience should be. So, all these brain simple things were stuff that I want-- he goes, "I don't just want the machine to be beautiful. I want all the aspects--"

William Adams: The experience to be beautiful.

Stephan Adams: So, the whole user experience regardless of what type of application you're in, it should be consistently beautiful. So, if everyone's using the same kit, then it's all going to have the same look and feel, and the user experience is going to be the same, and I think that was the genius of NeXT. And then Taligent, as William was going about it, it was very much a consortium, right? You have Apple, IBM, and

HP all trying to compete against Microsoft, trying to break that juggernaut. So, they're just like, "What can we do? What will stick on the wall?"

William Adams: Yeah, nothing.

Stephan Adams: So, they weren't looking to be able to make the best user experience on the planet. They were trying to figure out how they can wrestle Microsoft-- market share away from Microsoft. So, the way they even looked at the marketplace was vastly different.

Hsu: Yeah, right.

Stephan Adams: And you know a company that was in between them, would you say, William, is like if you look at the BeOS, it's kind of, a little bit of both.

William Adams: Oh, then Be comes along.

Hsu: Well, we'll get to the Be story. I wanted to sort of finish off this Taligent portion. We were talking about the differences between Taligent and NeXT. How important was it that the language-- so, that it was C++ versus Objective-C?

William Adams: That's an interesting one because, let's see, in my progression of languages in college, I learned Pascal, and then by the time we-- and then we got into Turbo Pascal when we were doing our earliest stuff, even before NeXT or anything else. We were probably writing in Turbo Pascal. I probably played with Turbo Prolog. I don't remember if I got into Turbo C at all at that point. And then along comes NeXT, and it's all about Objective-C, which was a new language. NeXT was the only one pushing it, at that point, and that was very interesting in terms of single inheritance versus multiple inheritance, this message passing thing, the notation of how you even specify parameters to functions. That was all kind of new and different, but it was all okay because it kind of-- it was Smalltalk, basically. So, it was like, okay, you know, as a developer you learn different languages. So, I became an expert in Objective-C, and I knew everything about it at that time, and we used it to great-- it was just awesome. And I think there's just a couple of key features of it that really enabled certain things to happen. The speaker-listener [pattern], this runtime dispatch of functions, these things made the language loose enough that you could have an AppKit and draw lines to say, "Okay, when that button gets pressed, this function is going to get called." Really easy, right? And I think the language helped facilitate that because it was set up to do that sort of thing, message passing. Switch to Taligent, it was all C++. And for-- I don't know if I was completely new to C++ at that time. I must have known something, but multiple inheritance, templates which were just horrible. The thing is so tightly coupled. It's not like the Objective-C, where you can just pass messages and dispatches and all this sort of stuff. It's like you might as well be writing in assembly, right? That's the lineage. So, I think Taligent was-- it was harder because of the language, at that time. If I had to rewrite Taligent stuff in modern day C++, it would be easier because now modern-day C++ almost looks like a scripting language, almost has garbage collection. Objective-C wasn't about garbage collection, but it's a lot easier now. But twenty years ago, twenty-five years ago, it [C++] was a horrible language to be building that large-scale system with, with hundreds of engineers. It was really hard,

whereas Objective-C didn't quite have the same fragility that C++ had. That would be my assessment. It was like, eh, it was really slow going compared to what you could have done in Objective-C, at that time.

Hsu: Yeah. So, during this period, were most of the revenues coming from this Taligent partnership?

William Adams: Pretty much, is that right Stephan?

Stephan Adams: Yeah.

William Adams: Maybe we still had a little bit of-- no, we didn't have any real NeXT sales at that point, and we didn't have Alain Pinel so--

Stephan Adams: No, it was all that--

William Adams: It was pretty much Taligent.

Stephan Adams: It paid enough that we could-- I think we shed a little bit, but it was enough to be able to give us more life to-- you remember, because they paid, and then as you were doing that work, I was trying to figure out well what's next, and we played around with-- what was that gam-- that gaming company that-- there was a gaming company that we were going to--

William Adams: Well, we went and talked to EA, right?

Stephan Adams: Right, I talked to EA, right, and I pitched a game idea to EA, and it was so funny. I said, "You know, I'm not," I said, "I'm not a gamer, but what I want to see in games is I want to be able to be spectator in a game." And I got this from what William was doing with NeXT. It's like I want to be able to watch a game and watch like Street Fighter, and I want to watch two guys play Street Fighter. That's what I want to do, and I want to create a platform that allows you to do that.

William Adams: No, that's dumb. Who would ever want to do that?

Stephan Adams: And they said, "that's a dumb idea."

<laughter>

Stephan Adams: And I said okay.

William Adams: Yeah. So, you guys were busy exploring this and that, and I was down there doing the Taligent thing. So, I think that was our main revenue.

Stephan Adams: Yeah, it was.

William Adams: All the way until Be came along.

Hsu: So, yeah so--

Stephan Adams: There was a gaming company in there, William, for a hot few months that was one of the industry-- before EA, because before I went down to EA, there was a gaming company that was started by one of the gaming superstars at the time, and it had a short-lived-- because remember they were in the same area as NeXT. As a matter of fact, they might have been in the same building.

William Adams: No, that was EA. That was EA. We went down to their offices. We saw a preview of one of the new boxes. It had some Sony processor or something. I forget what it was, was but that was EA.

Stephan Adams: Oh okay. Yeah, you're right. It was. So, EA was not who they are today. That's why, I guess. It was a new-fangled company because we were just like, "Who's this EA company?" Now, look where they are today.

Hsu: Yeah so, then what year did the Be thing happen, and how did that start?

William Adams: That again started because they had seen my work on LiveWire and Taligent. <laughs> And well, what happened actually was Be got started, and somehow, they found us at a show, something or other, and so they brought us a couple of boxes. They said, "Hey, we're this new thing. Are you interested in maybe playing around with our boxes?" This is pre BeBox. This is when they had the white BeBoxes, prototypes, not the blue ones. So, they gave us a couple of boxes and said, "You know, try this out." Right? So, we kind of signed up for their developer program, and I started writing stuff. I don't even remember what I wrote. I think I did things like I ported a bunch of UNIX games like Snake. I probably did the analog clock, and I did the cat eyes following the mouse.

Hsu: Oh, yeah.

William Adams: Just playing around with stuff, and I just did-- I was getting in more and more, and Taligent was winding down because they were just done. So, at this point, this was a turning point. This is where Stephan and I start to part ways, and I'm like, "Well, I've got a family. These are my earning years. I need to go make the dollar." <laughs> So, they found us. I was tinkering around, just messing around with the box, and I got more and more into it, and I went to a couple of the developer little conferences that they had. I met them, and eventually, I said, "Yeah, I'd like to work with you guys. I want a job." So, I actually went to Be to work, and that's where Stephan and I parted, and he took Adamation in different directions, but we still actually stayed close to doing certain stuff. So, while I was at Be, and I was only there for two years, but while I was at Be, I created some more frameworks. I created a UI framework that eventually they used for creating Personal Studio at Adamation.

Hsu: Oh.

William Adams: That's right, right?

Stephan Adams: Yeah.

William Adams: I mean Paul and Simon did various other things, but the core of this UI. I want to talk about that because that's kind of fun, but the core of this UI was-- I developed while I was at Be. It's like, "Here you go," and it was for the community in general, but Adamation used it. And I did evangelism, and

I did developer support, and I wrote in the Be newsletter-- what did we do? I can't remember if it was once a week or once a month, but it was pretty frequent. And I was in every newsletter for a year. We had a weekly communication we sent out to developers. So, I would write various technical stories or just interesting stories. You know, it's just keeping the developer community interested. So, yeah, that's how Be started. It was basically me kind of going, "Okay, this is a cool platform. This is the next thing," and then that's how it started.

Hsu: So, wait-- which two years were you at Be?

William Adams: Well, I'm at Microsoft in '98, so it was probably '96-'97, or-- yes, so I went to Microsoft in November of '98. So, back up six months, so '96 some time.

Hsu: Okay so, it was right after you left Be that you joined Microsoft? Or soon after?

William Adams: Yeah, I mean there was maybe a two- or three-month gap, but then yeah.

Hsu: Okay, I see. Yeah so, you mentioned Taligent was also starting to go down.

William Adams: Yeah.

Hsu: Talk about that experience, what that was like.

William Adams: Well, again, for me, it was like nothing. It was basically like, "Oh, you're closing the doors? Okay, I guess that's the end of that," and then it's on to the next thing, and along came Be.

Hsu: Right.

William Adams: So, from my perspective, it was just, that's done. There's no more milk coming from that cow. Time to go find something else to keep the lights on.

Hsu: Yeah.

William Adams: So, there's no-- nothing interesting, from my perspective, really happened there. It was just clear that it was like okay, you guys are done. Right?

Hsu: Yeah. So, I mean when you decided to leave, this is a big deal because the company had been a partnership between the two of you, right?

William Adams: Yeah.

Hsu: So, from-- Stephan, from your perspective, how did you have to sort of change the way that maybe you ran the company, or what was the change in the dynamic?

Stephan Adams: Oh, it was hard. It was actually-- you know, William is saying, "Oh, you know, hey we're done," but when he parted, it was like-- it was painful. There was this movie out at the time, it was called "Big Night," and it's very similar to what happened to us. "Big Night" is about these two brothers, and they

had a restaurant together. It was this great restaurant, and then they fight, and they break up and blah, blah, blah. That was us, but, you know, it was very tumultuous, and it wasn't tumultuous because we were fundamentally at odds with each other. It was the reality. He just had a child. It was just like the realities of hey, I've got a wife and child, and I can't make it doing this anymore. And I was still single. I didn't have any children. So, I'm like, I still have the quest, but I think one of the reasons why it was so tumultuous for me maybe more so than for William is because technology-- I'm not innate with technology. So, I have to-- for me to be successful at it, I always have to have someone around me that has the technical vision, and I have the market vision, and then together we can do something. And in my stable at that time, [I] didn't really have-- didn't have anyone at the company that was at William's caliber. There was a young kid that we picked up out of the UK, Simon Clarke, and, to this day, he and another guy that was a friend of William's and then became a friend of mine, Paul Carnine, those guys became-- both of them together made a William. <laughs> And I said, "Okay, I can do something with these guys." And so, what I decided when we were-- when William was taking our vision forward, we were always on the enterprise side of things, fortunately, because that's where the money was. That's where people were paying. And so, William was database this, database that. Well, as you remember, before, I was interested in film and video and all that stuff. So, I said well, the BeBox is built-- I think it had an ARM chip in it, and--

William Adams: No--

Stephan Adams: Was that right?

William Adams: No, it didn't have ARM chip. It just had a dual processor. No, it was a Motorola--

Hsu: It was PowerPC, right?

William Adams: It was a dual proc-- the original BeBox was a dual processor Motorola 6[8]030 or 6[8]020 or something like that.

Stephan Adams: Oh. But there was something about the graphics.

William Adams: That's what was about it was that it had this dual proc thing, which no one else had at that time.

Stephan Adams: See, it just goes to show you how I stumbled over even that simple technology fact.

William Adams: Well, that was a long time ago. That's a fact that's like, eh.

Stephan Adams: But the thing was is that I sat, and I said okay, what kind of product do I want to have? And this is how I learned from William because, you know, he's just like instead of trying to speculate where the market is going to go, develop something that you'd want to use yourself. And so, I always wanted to come back to media. So, I was like well, you could do video editing with this thing. And at the time, Premiere wasn't in the-- Premiere-- I'm not sure if Premiere existed in the market, or if it was just a fledgling product at the time. It was fledgling. I think it did exist. So, I said I want to create a video editing application, and there was these guys that we met, well one who I already knew, Paul Carnine, and Simon, who was in the UK. And he was just a graphics whiz. I said let's develop video editing. That's how

we developed Personal Studio, and then William on the inside at Be, it was kind of-- we had an insider making sure that we had the frameworks that we could do what it is we wanted to do on the outside. So-- but before we did that, it had a really great audio signaling processing capabilities. So, we created a thing called Audio Ele-- it's kind of like a Who's Calling? And Who's Calling-- we took Who's Calling, then we decoupled it, and we did the same thing here, where you started out this crude video editing, and then we pulled out image processing, made an image processor, and it was called Image Elements. And then we pulled out an audio processor, and we called it Audio Elements. And then we had these bags of widgets that we sold as well. So, we basically decoupled the things. Sold off these little pieces to the tiny community that it was, but then we did a couple of turns with video editing, and video was just starting to come in at the time. So, that's when we got with Data Becker, and they rebranded the product and sold it there. I was able to get distribution in Japan. We got distribution in France and then here at home. Oh, and then we eventually got a branding deal with Broderbund. We sold-- Broderbund created a product with ours-- with our product. And then Sony came and ripped us off <laughs> at a show. They came to a show, and I think their product was called Vegas or something like that, and they came to a show, and they did a lot of due diligence. Then the next thing you know, they came out with something that looked like the spitting image of we did, but we still had some residual income from when William was there. And we made enough of a living off the Be, doing the same thing, custom work, but trying to-- they had more of a userbase. So, we sold Personal Studio. Personal Studio did-- I think the best market for us was Japan. So, we did a localized version, and we also did a mail product, too. And it was called--

William Adams: Yup. Adam.

Stephan Adams: Adam, yeah, it was called Adam. So, we did an email because the BeOS didn't have a mail system. So, we developed one, and it was called Adam, and that was a really cool application.

Hsu: Yeah, yeah, yeah.

Stephan Adams: And so, we did pretty well in Japan. So, I went to Japan for a couple of visits, and that went well, and Jean-Louis Gassée was a lot like Steve Jobs, you know, he was a Frenchman, kind of a swashbuckler guy. He didn't have the same vision, by any means, as Steven Jobs, but he still had that same swashbuckling persona and could move and get people excited. And it was with the BeOS that we had our second time at demo. And by that time, Fisher had-- Carrie [ph?] Fisher, she had taken it by then. And we came and presented at Demo. I forget which year the Demo was that time, but that was the second time that we had been asked to participate at the Demo conference. So that was the Be stuff. That was fun because William wasn't there, and, with William not there, I felt-- it's like what am I going to do with this company? I'm not a technologist, but then I just focused in on the mark-- I focused on the market and the differentiation that we had in the market. So, just like Taligent and NeXT before us, is if those platforms can find a way of being successful, we'll be the star application on the platform, and we'll be successful. So, we picked three platforms that went nowhere, but we picked three platforms that had the most cutting of edges, and we just bled to death on all three of them.

<laughter>

Hsu: Right.

William Adams: Well, no, we did manage to feed ourselves. We did manage to start families and launch careers and all that sort of stuff. So, it wasn't a total waste, at least I don't view it as a total waste. It was about evolution as humans, so...

Stephan Adams: As we get older, I'm coming into more of the evolution, but you have to remember, William left, went to Microsoft, did extremely well. And then I stayed in this whole entrepreneurial thing for a while. So, our paths definitely took different trajectories, but I don't begrudge the decisions I made at all.

William Adams: Except that Nathan Myhrvold one.

Stephan Adams: Oh, I know. Nathan. "Why don't you guys come join us? Yeah, I know where your office is. Ours used to be right down the street." "Nah." <laughs>

William Adams: <laughs> "Nah."

Hsu: Could have been an Apple hire? <laughs>

Stephan Adams: Yep. Right, and then Microsoft, at the time, was so tiny. It was like William would have been the uber architect, and I would probably have been doing some uber marketing thing, sales, and-- oh, well.

William Adams: C'est la vie.

Stephan Adams: C'est la vie. Here we are now.

William Adams: Let's talk software. So, you want to know about the Personal Studio stuff? <laughs>

<laughter>

Hsu: Did you ever decide to port Personal Studio or any of the other applications?

Stephan Adams: Yes. As a matter of fact, it was because of Personal Studio that I was able to finally raise venture capital.

Hsu: Oh, okay.

Stephan Adams: So, it was Personal Studio that got us to the venture fund--

Hsu: Okay.

Stephan Adams: So, even though-- so, this is an interesting story. So, when Be was starting to do its crash--

<laughter>

William Adams: We're like the death-- the angels of death for software companies.

Stephan Adams: If you want a platform to die, put us on it.

<laughter>

Hsu: It's interesting. You guys are always like the first on every new platform. And had that platform succeeded, you guys would have been--

William Adams: The tops.

Hsu: Yeah, but then--

William Adams: But no. And see what's happening. We weren't the first at Microsoft, and damned if they won't go down.

<laughter>

Stephan Adams: 3D printers are the same way, right? Dabbled in 3D printing, and now that market is stalled. But how we did the first venture round is like, you know, with William gone, I was looking for mentorship. And I had reached out, and I mentioned this gentleman earlier, who was my mentor, not only a professional mentor, but personal life development, was Michael Fields, who was a president of Oracle USA. He turned around Oracle. And he had raised seventy-five million dollars for a company called Open Vision. And so, Open Vision was something that he launched, and he raised the money from Warburg Pincus. And at the time, it was the largest venture capitalized fund in the Valley. And, you know, he was a black man. Nobody ever talks about that in the annals of technology. Even seventy-five million dollars today is a lot, but anyways, he invested in the company, into Adamation. And I was so naïve because, you know, I was talking to him about-- I just wanted to meet him for lunch, and we would meet up for lunch every month and just to talk to him about the trials and tribulations and to get his advice. And then one day, he just says, "You know, I think you're at a point now that you need some investment dollars," and he goes, "I'm going to invest in you." I mean I didn't ask for it. He just said, "I know who you are. I know your character." So, he goes, "I think I'm going to put a hundred thousand dollars into your company." And so, I was just like speechless. And so, he gets out his wife's checkbook, writes me a check for a hundred thousand dollars, and I was looking at it like it was a Willy Wonka ticket. I mean like, "I can cash this?" And his wife comes in, and she's fussing at him because he writes this check, and then she says, "Did you balance my checkbook because you always write checks out of my checkbook without balancing it." And I'm like, "Who has a hundred thousand dollars in their checking account," because I never had more than a hundred.

<laughter>

Stephan Adams: So, it was just amazing. So, and then he introduced me to a company out of Chicago called Polestar. And they were our first institutional investor. And they put in two million dollars. So, then it's just like okay, now I have some money to actually do something. And then that's when we polished up Personal Studio, and we did a second revision of it. And it was a really good product. And that's that video that you saw is that was Mark Hall, who was our lead of engineering at the time. And he was giving a demo of the product, and that product was doing-- it was doing okay. But what happened was the Internet was really starting to take off. It was just like it was go-go years, right? And so, what I saw is I kind of-- William and I, we were talking a lot. And we were talking about the Web and what it meant. And so, I kind of had this idea. I said, "You know, I think in the future--" This is crazy. I said, "In the future, people are going to want to take videos, and they're going to want to share it with their friends over this thing called the Internet."

<laughter>

William Adams: "Nah, stop with your nonsense."

Stephan Adams: "And people are going to want to do that in the future." And Be was just like they were doing their dive, and I said, "I've got to get off this platform." And so, I don't know how it happened, but there was someone at HP. I think it was that HP had known of us because of our Taligent work. And so, somebody introduced me to someone at HP. And I said-- I told them my vision of what I thought the future was going to look like. And he says, "I want you to meet somebody." He goes, "I'm going to socialize this inside HP, and I'd like you to put a deck together." And mind you, all we had was Personal Studio running on the BeOS, right? We didn't even have any code, didn't have anything. I just had a deck. So, he got me to a guy that was the vice president of finance, I think. His name was Craig White. And I was able to do a pitch to him and his team. So, I brought my CFO, my CTO, myself, Mike Fields. So, there was four black people going into a car. We show up at this conference room over at HP headquarters. And then Craig White's there. And he had this, just this army of people. There was probably a dozen people on his team that were sitting behind him. So, I'm sitting in front of him. And we're talking. And I give this big-- I show Personal Studio. And I said, "This is Personal Studio, video editing on the desktop." And it was still kind of new at the time. Premiere was getting a lot further but still wasn't where it is today. And I said, "But this Internet coming on, it's going to be big. Imagine doing that on the Internet at home and then sharing this with other people." And this is from William's work of doing LiveWire. I was thinking about LiveWire and that whole idea of people simultaneously working on videos together. So, but I think what really got them was I said at the time, HP made digital cameras. People don't know that. And at the time, they were the biggest seller of digital cameras. And so, I said, "If you invest in us, it will be an opportunity for you to be able to beat back Sony on the video camera front, and it will be an opportunity for you to beat back SGI on the server front," because they were getting their lunch eaten by SGI. And so, "And then you'll be the first ones getting onto the Web. So, imagine that you're running this application with video and picture taking off of HP hardware, and then it's all being served up on the Internet with HP servers on the background." That's the vision that I sold to them with no product, just a deck.

Hsu: Wow.

Stephan Adams: And they said, "Great." And it was so funny. So, it was like that story that I told earlier about Paul Hulme [ph?] at NeXT. And this was my NeXT coming back, right, where when Steven Jobs gives this big presentation about the NeXT box, and then Paul Hulme says, at Alain Pinel, says, "I'm buying because I'm investing in you." And so, I remembered that, and when I was doing this pitch, I knew that I had to convey to Craig White that I know what I'm talking about, and he's going to invest in me. And sure enough, he didn't even ask any technical questions because he wasn't a technical guy. He said, "I just have one question for you." And I said, "Okay." And I said please, don't make it a technical question. So, he goes-- he said, "Did you do sports in college?" I said well, that's an odd question. I said, "Yeah, I did. I ran cross country and track." He goes, "Okay." And he turns around to his minions. He says, "We're doing this deal." And you should have seen their faces. They were just like, "What?" None of them got to ask any questions, and they were all looking, and they were all staring us down, too, right? And our team, we're just like on the verge of tears, and then he says-- and this is the part that stunned me, he goes, "Well, how much do you want?" And I wasn't prepared for that because I thought-- I didn't think they were going to say yes. I thought there was going to be more meetings. And I said-- and so I said, "You know, two million dollars?" And I said it just like that. I said, "Two million dollars?" And I put up my hands like that. He just looks at me kind of like, and he gives me this puzzled look like,

William Adams: "That's it?"

Stephan Adams: "Is that all? Is that all you want?" And then Mike Fields, since he was in there, he knew what was happening. He goes, "Let's take a time out. We need to talk as a team." So, Mike gets up. We go into a separate conference room. And so, we're talking. He's all strategizing about what the number should be. And he says, "I think we should go back and ask for seven." I said, "Okay, okay." So, I go back in there. And Mike starts talking a little bit, and then I said, "Seven million." He goes-- and then he kind of nods his head. He goes, "Okay," and then, before long, I said, "Nine." He goes, "Okay, we'll do nine." It was just like-- he goes, "Nine million it is." And so, we wrap up the meeting, and he looks at me. He says, "We were prepared to go to fifteen." He goes, "Basically, you left a lot of money on the table." He goes, "We were prepared to go to fifteen." I looked at him and smiled. I said, "I was willing to take two."

<laughter>

Stephan Adams: So, and then we closed the deal on the first Craig grant. What's his last name, the guy that introduced me? Anyways, we closed the deal from first to close was forty-five days. I mean it was just rocket fast, and then it was just about go-go, trying to do stuff. So, just like as all the other platforms that were on that did the death spiral, after we got the money, and we're a year and half into it, we started to work with Pricewaterhouse Coopers to help us on the development because we needed more development help, and then the Internet bubble was getting bigger and bigger and bigger. And then-- and HP had just bought Compaq, so they were struggling trying to integrate and swallow Compaq, and then, at the same time, the Internet was just getting ready to burst, and then it just like bam. And then when HP had to clean up their balance sheet, so they had invested a hundred and twenty million dollars into strategic investments, and they clawed back every single one of them because they had to clean up the

balance sheet to make the merger with Compaq look more attractive. So, they had a hundred and twenty on the balance sheet. They had to get rid of that, so they just killed off all these investments, and us included. And, you know, we were halfway through it. And Mike Fields and I, we had this disagreement because he came from Oracle, so-- he was at ADR before that. And he went to Oracle, and he started Open Vision. So, he's a big enterprise guy and really used to managing cash flow, right? And interest and all that stuff, and I'm this struggling entrepreneur guy. And I'm like, "If there's money on the table, take all of it and put it in your pocket because you don't know if you're going to get any more of it." So, when we first did the draw down, HP gave us the option. You can draw the whole nine million down immediately, or you can take it over-- at your pace. And Mike said, "Let's take it over time." And I'm like, "There's money on the table, who knows what's happening? Let's take it all now." And we didn't take it all now, which is unfortunate because if we would have taken it all now, we would have had enough room because we only had burned through like two-- no, about three million of it. So, we had a lot of money on the table that would have bought us enough time to find the next platform to do a death spiral on.

<laughter>

Stephan Adams: So, when that happened, it just kind of-- the whole thing just kind of imploded.

Hsu: Yeah.

Stephan Adams: And then without having William there, there wasn't like-- I couldn't, by myself, figure out what the next thing was. So, the two-- my two lead programmers, Simon and Paul, they picked up the work that we were doing, and then they created a company called Vara Software, and then they basically took the next evolution of video streaming, which was of course where we were going, and they developed some video streaming apps, and they were a top developer on the Apple platform, and then they ended up selling to a Grass Valley company. I forget who it was but one of the video companies. So, anyway, that's that story.

Hsu: Okay wow so, you mentioned that-- so, during this time, how big was the company, how many employees?

Stephan Adams: Oh so, at that point, we got up to about thirty people.

Hsu: Oh, wow.

Stephan Adams: Yeah so, because you know we had venture money, and I was-- it was really interesting because I had already had the company for, what, ten years prior. So, I'm used to how William and I were just really like meager with how we spent money and making sure that everything was really tight because we didn't have a lot of time, and Mike one day says, "What are you doing?" He goes, "Spend the money." I said, "No, I'm trying to conserve money." He goes, "We didn't give you all this money for you to conserve it. We gave-- if we were going to do that, we'd put it in the stock market. Spend all of your money." So, I just started spending, but it wasn't prudent because we kind of got away from the principles that William and I had, which was be much more methodical about products and who the market was versus we had a boatload of money. The Internet was the thing, and I had this vision. And

so, as things were kind of winding down, I had the next-- when I talked about the video editing and all that, I called it Mediapolis. <laughs> So, Mediapolis was what HP had invested in, and then when it went away, just that was it, then it was a fire sale.

Hsu: Right. So, then-- you mentioned that when you went to that HP meeting that everybody was black. So, how many-- how much of the company was black versus--?

Stephan Adams: We were trying to do the black thing.

Hsu: Yeah.

Stephan Adams: So, my entire-- all but-- I had five executives, and four of them were black.

Hsu: Wow.

Stephan Adams: And I was really focused-- on black people can do this. And so, since the executives were black, they hired black people, and it was-- it was something-- it's like find black folks that can do the job. Interesting enough, though, on the technical side, our technical lead was black, but the two racehorses, Simon and Paul, they were white. They were the core, and then we built the support staff around them. They were black, too. So, I would say eighty percent of the company was black.

Hsu: Wow, that's big, yeah.

Stephan Adams: Yeah.

Hsu: And so, that original investor that you also-- you talked about, how did you meet him?

Stephan Adams: Oh, Mike Fields, I met him-- in the San Francisco Chronicle they did a profile on him after he raised seventy-five million dollars for Open Vision, and I saw his picture in the paper, and I said, "I'm going to meet you." And I knew that I couldn't get to him directly. So, I called-- I did a cold call. I cold called his--

Hsu: Admin.

Stephan Adams: Jennifer Spoon. I said who I am. I just want to have lunch, and I asked her for her email-- I mean her mailing address, and I mailed her a package of who we were. And then about a week later, she called me back and said, "Mr. Fields would like to have lunch with you." And that's how it started.

Hsu: Okay.

Stephan Adams: So, I cold called the guy.

Hsu: Wow, okay.

Stephan Adams: So cold calling works.

Hsu: And so then, it sounds like after he made the investment, he ended up joining the company.

Stephan Adams: No, he was-- yeah, he was a--

Hsu: Or chairman of the board?

Stephan Adams: He was a chairman-- he wasn't a chairman of the board. He gave that to me because he wanted me to learn what it meant to be a chairman. So, and then when things got really dicey, then he took over the executive-- he became the executive chairman because it was just-- I was over my head at that time, but then when it all imploded, he had sold Open Vision and was-- he did really well for himself, and then he went to do a turnaround at a company called KANA software, and when he went to KANA Software, he recruited me because I was-- KANA's the only corporate job I've ever had, and he recruited me to join him there. And it was really, really cool. He says, "You know, I want you to come join me at KANA Software." He goes, "There's some holes in your skill set, and I want you to fill them here."

Hsu: Oh, wow.

Stephan Adams: He goes, "I want you--" and this-- you know, this is part of mentoring, right? So, he goes, "I want you to"-- he goes-- he said, "I want you go buy a company." So, he put me in the head of biz development and mergers and acquisitions. I'm like, "How do you do that?" He goes, "Just figure it out." He goes, "Identify a company that we need. Fill a hole, and then make a presentation of what we should do," and--

Hsu: Wow.

Stephan Adams: He said-- he goes, "I didn't"-- when he went to Oracle, I think he told me that it was Ray Lang that taught him how to really do finance. And Ray Lang told him about, it's just like, just figure it out. So, he did the same kind of thing with me that Ray Lang did with him, which is he had me just figure it out. And I identified a company that filled a service hole for us, and I went and bought it, and, to this day, it's the most profitable part of KANA.

Hsu: Oh, really?

Stephan Adams: Yeah so, and then I did the integration, and then I did divestiture of old technologies. And what was cool about it is that, at the time, we were a small cap, publicly traded company. So, we were under the rules of Sarbanes-Oxley. So, I was-- I learned how to do mergers and acquisitions as a small cap company under public oversight. And for someone who didn't have an MBA from Harvard, it was pretty big deal to be able to do an M & A at a publicly traded company, and I had no experience but--

Hsu: Wow.

Stephan Adams: Now, I know what M & A is about, and so, M & A and divestiture of technologies, and integration of acqui-hires. So, I know that, what that's like now.

Hsu: Right.

Stephan Adams: And but Mike was the one that had the foresight that I needed that skill set.

Hsu: Right.

Stephan Adams: So, he gave me the opportunity to develop that. So, even though he lost all of his money that he invested in me, he's like-- and I was just really tore up about it. He goes, "Don't worry about it." He goes, "I could have lost as much if not more in the stock market." He goes, "But my investment wasn't about the return. The return on investment is your skill set and advancing your skill set. That's what I'm investing in."

Hsu: Wow, that's amazing.

Stephan Adams: And that's how mentoring really works.

Hsu: Yeah, wow.

Stephan Adams: And that's what William is doing with LEAP. He's doing the exact same thing. And then there's a couple of folks that I mentor right now as well, and I try to find how can I open up opportunities, and both of them now have skill sets that have eclipsed mine, but that's how it should be, right?

Hsu: Yeah, yeah.

Stephan Adams: If you mentor properly, the person that you're mentoring should eclipse you.

Hsu: Right.

Stephan Adams: So--

Hsu: Wow, man, there's a lot there.

Stephan Adams: Yeah, there is.

Hsu: Talk about maybe winding down Adamation and that whole process.

William Adams: The dissent into despair.

Stephan Adams: Man, it was so depressing.

William Adams: The one thing you should keep in mind in all of this, I'm already at Microsoft, by this time, so Stephan's on his own with all of this.

Stephan Adams: Yeah so, actually, I felt abandoned. I felt-- and William and I-- as a matter of fact, I think we had a rough patch there too because I felt like I was abandoned by him. I was just-- I was just alone because I didn't-- we had built this company together, and then I also felt the failure because I lost twelve million dollars of other people's money. There was-- no black company, at that time, had raised-- Mike Fields raised a lot of money. He raised, as I mentioned, seventy-five million dollars from Warburg Pinkus,

but, other than that, there wasn't a lot of black companies that had raised more than ten million dollars. And to be able to raise that much money and to fail, I felt like, not only did I fail, but I let down my community because there's a lot of people in the Bay Area, you know, I had developed name recognition, and people were rooting for me, and the fact that I felt like a-- I let people down. So, it was a moment of despair. It really was. So, I kind of floundered about for a couple years until Mike said, "Okay, enough of that. You need to come over to KANA and learn some stuff," and it was really exciting. And it was a turnaround, and we ended up selling KANA to A-KKR. So, it was a successful turnaround. It was a very tumultuous turnaround, but we did it.

Hsu: Right, right, yeah. And so, Adamation ended in 2003, and you were at KANA from 2006 to 2010?

Stephan Adams: Yeah, I think that's about right.

Hsu: Yeah, okay. Let me see here. One of the things you sent me was this little certificate from the White House Conference on Small Business.

Stephan Adams: Oh, that was fun. Yeah so, when William had left to go to Microsoft, I figured that Adamation wasn't-- we weren't going to be successful-- Adamation wasn't going to be successful on technical merits alone. William's just grit and intellectual prowess got us to where we were. We were driven one hundred percent by technology. I was just looking for how to support him and how to find market opportunities to put all that genius into something. So, that was my role, but without him there, then I had to say I had to make the company less about technology because, as I said, it doesn't come to me innately. So, I started to dabble in the politics and business side of things much, much more. So, there was this opportunity. The Clinton administration had this thing that was called the White House Conference on Small Business, and in that conference, what they were doing was they were-- there was a movement about getting-- that Congress wasn't being attentive to small business, and Clinton wanted to be able to be the president to do that. So, there was a California delegation. You had to get voted in, and I got William and all my friends at the company to come and vote me in to be a delegate on the California delegat[ion]. And so, Stephan goes to Washington, basically. And so, I went to Washington and got my taste of politics and took a lot that I had learned from Adamation in how to work with peers across the country. So, there were probably ten break out groups. They had franchisers. They had a technology subcommittee. They had medical. They had all of these different subcommittees, but Congress said, "We're only going to take the top ten, and those top ten are going to be the things that we're going to then put legislation behind." And the smallest group of all of them was technology. The chair of the technology committee was Audrey Rice Oliver, a black woman. And she was actually a very successful black entrepreneur in tech. She had an outsourcing company, and she and I were friends. And so, I drew up a strategy of how we were going to get the tech sector to be in the top ten when we were just way down on the totem pole of things. And so, it was a fun thing, but it was just politics. It was just a matter of can I bring Adamation's name onto the political stage. So, that's why I did it, then also, for me, can I broaden my contacts. And going to Washington, I was hoping that I would also get government exposure so that maybe I could take Adamation more towards government contracting or developing apps for government agencies since we had done work with the CIA, unbeknownst to us, at the time. So, I thought well maybe there's some money there. So, I if I can get this White House conference under my belt, that will allow me to get exposure into the Washington infrastructure.

Hsu: Right. You know, talking about this whole relationship with Mike Fields, how imp-- you've mentioned all the mentoring that he did for you. How important is it for black entrepreneurs and investors to mentor others and to help build a community?

Stephan Adams: It's essential. It's essential. Well, it wasn't just me. He also mentored-- there was a gentleman by the name of David Ellington, who had this company called NetNoir. It was a first social media company. As a matter of fact, they existed before Facebook. It was out of San Francisco, and it was a black social networking platform, and it was great, and some of the people who worked for NetNoir ended-- that's where I got my technical people from is that when they-- at the demise of that company, Mike was an investor over there. And so, I picked up some of their-- some of the people from there. But black entrepreneurs are going nowhere without mentoring, absolutely nowhere. You can't do it without being mentored. It's just too hard.

William Adams: And it's not about the skills, necessarily. It's about access as well as-- someone has to show you the path and bring you into the room and make you the introduction to whoever, as well as skills, but I think it's more about all the other-- it's like how do you navigate, right?

Stephan Adams: And Mike did that. So, when I walked into HP to do a pitch, I'm walking in there with someone who was a former president of Oracle. So, it's just like okay, if that guy invested in this guy, then he must have some type of credibility. So, he brought some validity to me to be able to actually be in the room. I had to close the deal, but he was part of that entrée that got me there. So, mentoring is important. It's not talked enough about. I'd be really excited to hear William's perspective when we start talking about LEAP because, if it wasn't-- over at LEAP, here are hundreds of black people who owe their career to William, and if it wasn't for William taking arrows in the back, it's like no, we didn't take the Microsoft call when we were at NeXT, but not doing that, if we would have taken that then, we'd probably be very well off today, but there was a different mission for us. So, William has done very well at Microsoft in advancing other people's careers. I've advanced some other people's careers myself, and I continue to do that now. That's why I'm in the Virgin Islands, and I'm hoping to advance people's careers again because that's what was done for me. So, we actually have an obligation to pass the baton, and I talked to William about that. It's just like no, you have to do this. Mentoring is-- you can't be about getting a Ferrari because if it's that, we're doomed.

Hsu: Yeah, so much of the tech-- I mean industry, in general, is all about networking and just who you know.

William Adams: Yup.

Hsu: And it's part of because of that that maybe perpetuates some of the white dominance in corporate America, but if you can get black people in there, and they can build that network out, that could help to remedy some of that.

Stephan Adams: Well, it helps to a point, and I'll defer to William. It helps to a point. It's not just knowing [people]. I'm always amazed when you-- you're a technical person. So, you understand what William is talking about. It's like have you ever come across a black person who has that breadth and depth of

knowledge about technology? There's no one. So, the fact that he has that, and no one in the industry knows it, that he has that depth, that breadth on so many platforms. It's one thing when you're doing these interviews about the history of NeXT. It's just like okay, you've got one developer, one app, and they are one and done, right? With us, you got three, four different platforms, going commercial, going international, going with packaged software, and doing it again and again, and nobody knows about it, right? So, we toil in silence, but we're also toiling to help others come behind us. So, when we get an opportunity to expose someone else like, "This is how you do it." It's not only, "Let me call the three people that I know that might be helpful to you." Yes, that's part of mentoring, but another part of mentoring is okay, how are you going to be cunning or how are you going to be strategic to be able to get your product into the marketplace because you're late or you're early and how do you do that. So, we actually bring the skill set of what is it like to commercialize something. So, that's hard, to commercialize a product, to take it from concept to actually ship it.

Hsu: Yeah. Right. So, after KANA, were you doing venture capital for a little bit?

Stephan Adams: I played around. I played around with it a little bit. I helped a minority company, a woman company. She had a Kids 1-2-- no, that's not it. It was Everloop. That was it. We helped Everloop raise some seed capital, and I talked to some venture people that I had known, and I just couldn't break into it, and I just-- so I dabbled in it for a little bit, and I raised capital for a couple of seed rounds for some companies, some women-owned-- led companies, but it just-- I wasn't getting traction, and I didn't have anything else on the side to do. So, I was just like, eh, this is not going to go anywhere.

Hsu: Right.

Stephan Adams: So, yeah, Valencia Ventures, that's what it was called.

Hsu: Right, right.

Stephan Adams: The high school we went to.

Hsu: Oh, okay. So, then in 2012, you decided to re-launch Adamation as a 3D printing company. Can you talk about that?

Stephan Adams: Yeah, and that was a-- I was-- after KANA, Mike Fields-- we sold KANA, and then after we sold it, Mike Fields got-- he got leukemia. He was diagnosed with leukemia the same day as the day they sold it.

Hsu: Wow.

Stephan Adams: And so, in the morning, it was like this big deal. We closed the deal at eleven-- ten o'clock in morning I think it was, and then he has a routine exam over at Stanford at noon. At two, he's diagnosed with leukemia, and six that night, they said you're going to live one year.

Hsu: Oh, my god.

Stephan Adams: That all happened in one day.

Hsu: Wow.

Stephan Adams: And so, that year, the next year, his whole year of life, I spent-- I dedicated myself to taking care of him. So, I was-- he had done much for me, so I shepherded him through his passing.

Hsu: Wow.

Stephan Adams: So, then after that, I was really in a deep despair, and William was dabbling in 3D printing, and I would go up-- and I was so out of it. I went up to visit him in Washington, and he's telling me all these things about 3D printing, and it was like Adamation all over again. It was really exciting, and he was telling me all this and showing me it, and I said, "Oh yeah, I can do that," and what I liked about 3D printing was it wasn't as much technical stuff. It was-- but it had this media component, right, and the thing that I also loved about 3D printing, and still do to this day, is that it's the marriage of digital to the physical world. You do all this digital design, and then you send the file to the printer, and then, boop, up comes a product, and I loved it. It suited me well because it's stuff that I could do on my own. I thought up the business plan, and William gave me the seed capital. He was doing well enough to do that, and then I got some friends and family to invest some money, and I started a 3D printing company for a while. It was fun.

Hsu: Yeah, and so that lasted until 2018?

Stephan Adams: Yeah, it lasted four years too long.

<laughter>

Hsu: Oh, really?

William Adams: Nah, maybe only two years too long.

Stephan Adams: Yeah, maybe two years. William is being generous, but it was just-- it was destined to fail from when it started, but I just didn't know how to get out of it because I had already-- we had this implosion with Adamation. So, I'm like, "I can't do another one of these," but oh, well. I learned a lot from 3D printing, a lot.

Hsu: So, what happened with the market? Why did it not turn out as a viable business?

Stephan Adams: Well 3D printing is turning out. It just-- but it's on the-- we were on the wrong side of it. We came at it from the consumer side of it, and the consumer side of it never-- still hasn't really taken-- it never got past the hobbyist early adopter phase, but in the industrial phase, 3D printers is-- that's the thing. You look at companies like Carbon in Mountain View, I think they're in. You look at companies like Carbon, they're knocking the ball out of the park, or your 3D Systems. You have Stratus. They're doing some pretty fascinating stuff in manufacturing. So, 3D printing is transforming manufacturing, but we weren't on the manufacturing side because the cost of entry is so high. On the 3D printing side that we

were on, a couple thousand dollars, or sixty thousand dollars, you're in. On the manufacturing side, it's more like a hundred and fifty thousand dollars, and that's just half of the system that you have to buy, and the materials are like crazy expensive. So, we took the low-lying entry point, hoping that the consumer market would take off, and it didn't. At the high end of the marketplace where metal is at, aerospace and the automotive industry, 3D printing really has a strong foothold there. And then you have companies like Carbon on the polymer side, and they're doing some great stuff. So...

William Adams: It was an exploration. It was an exploration. The market wasn't defined. Everyone and their brother was creating 3D printers. It was looking-- you know, Thingiverse, all these designs. It wasn't clear how you could make money, so we tried several different things to do it. It just turns out there just wasn't money to be made.

Hsu: Right. So, would you say that the consumer side of the industry, has it just gone away, or is it just sort of existing at a very low level that it's not really profitable?

Stephan Adams: It's existing at the hobby level.

Hsu: Yeah.

Stephan Adams: It's existing at the hobby level.

William Adams: Yeah, people are buying 3D printers. No one's buying, at least not in mass volume, the trinkets of 3D printing.

Stephan Adams: Right.

William Adams: It's like-- and that's what we were trying to sell was the end product, not the machines themselves.

Hsu: Oh, I see.

William Adams: So, if you look at the Artiful site, or you look at the Adamation site, you see figurines and medallions and trinkets and stuff like that. It's like people aren't buying that, even if it's customized. So, we tried lots of different things like maybe customization, maybe building cartoon characters. If it was much more heavily-- if we had spent millions of dollars on it rather than hundreds of thousands of dollars, we may have been able to turn it into something like, "Oh, we need a videogame, and these are just the characters from the video game." You had to create a whole ecosystem, but we didn't invest that far into it. So, we ended up with just an albatross. It was like eh, you just can't make it work, right?

Hsu: Right. So, Adamation 2.0 was you guys got back together as a partnership again, or--

William Adams: No, not exactly, I was primarily an investor and perhaps a technical leader because I was the one who was into 3D printing, but mostly it was Stephan doing all the work, mostly on his own.

Hsu: Uh huh.

Stephan Adams: And what was good about that was that it was technical. So, I actually-- what was positive about the whole 3D printing experience is that I had always kind of deferred to William on technical things, and it's like ah, I don't know about this or that or about technical, but when you have these-- we weren't in the FDM part of 3D printing or at the plastic stuff. We're in the powder 3D printing, and powder 3D printing is a total different kettle of fish, and it's very expensive, but what you can do with it is pretty wild, but these machines are very temperamental, and we didn't have enough-- we had hundreds of thousands invested in it, but we didn't have millions. So, these powder machines, it was like five thousand dollars for a service call. So, I had to learn how to manage and troubleshoot these machines myself. I became good at taking a 3D Systems powder printer apart to the bare bones, rebuilding it to get it to work again, and I would never have thought in my wildest dreams I'd be able to do something like that. So, for me, it gave me-- it brought my confidence back because I had lost so much confidence over those years. Then I was like, "Oh, I can do this." And the business, I couldn't make the business work. I was toiling in it by myself, but even though I was in it by myself, I did learn a lot, and it regained my confidence, and it then got me thinking again about what's the next emerging markets. So, that-- it's been very fruitful for me from that perspective.

Hsu: Okay, let's talk about what you've been doing since then and why you moved to the Virgin Islands.

Stephan Adams: So, going back to Mike Fields again-- so, Mike Fields and I had started a venture a ways back called Crucian [ph?] Global. And Crucian Global was a company that-- we came out to-- he has family in the Virgin Islands, and our mother had lived in the Virgin Islands, and the United States Virgin Islands is a very unique place in that it is a U.S. territory, but it has tax incentives like nowhere else in the United States. So, you can-- basically, it works like the Cayman Islands, but it's under the U.S. flag. And on the island of St. Croix, the one that I live on, it has the largest concentration of bandwidth-- second largest concentration of bandwidth in the Northern hemisphere.

Hsu: Woah.

Stephan Adams: So, from that perspective, it's like you got all the bandwidth coming in here, we wanted to build data centers on top of it, take advantage of the tax credits, and blahdy-, blah, blah. And we even talked to Apple about this stuff, but we never really got traction with that, but to speed up to now, there was a change in the administration here. And there's the local fiber optic network that the federal government had put like a hundred million dollars to build out fiber to be able to try to close the digital divide in the Caribbean, or in the territory. So, they needed a new CEO. I happened to know someone that knew the governor. It's just like I want that job. And I came to him and told him the vision of what I have for the Virgin Islands. And so, my first duty is to make sure that the fiber optic network is running, and we are-- we don't sell to end customers. We sell to ISPs. So, the ISPs are our customers. And so, I'm learning about fiber optic networks, but my vision is to be able to expand the fiber optic network to Africa and connect Africa to the United States.

Hsu: Wow.

Stephan Adams: And that's what I'm doing. So, William and I, when William talks about LEAP, it will be funny because we're now-- we kind of-- we started together. We kind of went off on this divergent path.

And now, we're coming back together again because the types of things that he wants to do and what I want to do is actually on the very same trajectory now. But now, we're much wiser and have much different networks than we had before. So, my vision is to be able to run a fiber optic cable from Ghana-- Nigeria and Ghana to the United States Virgin Islands and then to the mainland and then be able to connect the continents. Right now, if you're going to get out of Africa, you either have to go north to France or the U.K. and Portugal over to New York, or you go south to South Africa, and then you come across at Venezuela or Brazil and then come up to the Americas, but there's no direct connection. And the U.S. Virgin Islands is the most logical way of doing that connection. So, I'm now taking all my skill sets, and they're all kind of coming to a head now to be able to that. So, there's geopolitical issues involved here, which goes to my White House days, right, Conference on White House Small Business. It also is a lot of technology, which I'm not afraid of. Even though it's a new platform, it's just a new platform. And I don't think this platform's going to crash.

<laughter>

Stephan Adams: So, I think we're going to be okay on that side, right, and then there's-- it's about how you drive technical teams, and I know how to do that. So, all the skills that I've learned over the years have now come-- and raising money, right? To build this fiber optic network, it's north of three hundred million dollars. And people here are like, "Oh my god, it's three hundred million dollars." It's like pssh, that's nothing, man, there's kids coming out of Stanford that are raising half of that for a startup for an app.

<laughter>

Stephan Adams: So, you know, the things that are daunting to some people are not to me because I've been exposed to this world, and it's going to take someone with my type of skill set to be able to make something like this happen.

Hsu: Right, wow. All right, so we spent a lot of time with you. Let's come back to William and talk about how you started at Microsoft.

William Adams: Okay, bio break.

Hsu: Bio break? Okay, good.

<laughter>

William Adams: I was just waiting for my entrée so I could say bio break.

Hsu: Okay, let's go.

William Adams: Take five.

Hsu: You guys want to take a break?

William Adams: Yeah <laughs>.

Hsu: Okay, I'll see you in five.

<break in audio 01:56:25>

Hsu: Okay, all right, start. Okay, okay, so the website for the 3D printing, how is that still up?

William Adams: Somebody's paying some bill <laughs>.

Stephan Adams: I'm paying it. I pay to keep it up just so I can tell people that yes, I was in 3D printing, and they can see proof of it.

<laughter>

Stephan Adams: Don't try to order anything. It won't come, and I don't want you to cuss me out.

Hsu: Okay. So, the website exists, but you can't actually order anything? Okay.

Stephan Adams: No, but so what's interesting about the website, and going back to William and I's philosophy about development is like we even developed a shopping cart. So, not only did we code all of it, but when you go through the site, we actually even coded the shopping cart from scratch, and I used some Russian developers to do it. So, let me see.

William Adams: What site are you looking for?

Stephan Adams: My Keepsake.

William Adams: Oh.

Stephan Adams: Because I'm paying for it, I'm wondering if it's still--

Hsu: Could you tell us the URL again?

Stephan Adams: For My Keepsake?

Hsu: Mm-hmm.

Stephan Adams: I thought it was mykeepsake.xyz, but--

Hsu: So, is that-- that's a different one than the other one that you mentioned?

Stephan Adams: Yeah, we had three sites. There was Adamation. So, we kept the regular Adamation site, and-- yeah, okay, so that one works, too. So, the Adamation site, those are the characters. These were-- I had these, going back to media, man, this site is so cool.

William Adams: It makes me want to buy something.

Stephan Adams: Yeah, dang. So, this was the first thing we developed were these characters. So, if you go to adamation.com, all those are 3D printed characters. So, if you go on Shop, and then you pick one of the characters, and then it shows you what the poses are. So, it's the customization. And then when we went to-- and then from here, I decided to go to Artiful because I liked the art stuff. And so, on the artiful.net site, that site, you get to buy different things that are 3D printed. And then we had this one called My Keepsake. And My Keepsake was kind of a melding of both of them, and it was a place where you could buy a trinket and then have a photo custom printed on it because the printers that we were using were full color printers, so they could print images. So, we put images on Christmas ornaments. You upload your image, and then it 3D printed, not too different than Mediapolis, where you take any image, right, and there's lots of sites that do this, but there are sites you would do that on. You buy some-- a thousand products from China, and they're all the same, and then you can put your label or whatever you want on, your logo, but this was a 3D printed thing. So, you get to choose the object, and then you upload your image, and then it prints all of it into one. But that site's not running for some reason. That site's really cool. And then I got licensing deals with the Boy Scouts, with the Army, with the Navy. So, we had some real good licensing customers. The idea was to sell these trinkets to the licensing community. So, like Army, you would buy an Army tag, and then we would sell it to that community because we had a license. So, that's the 3D printing stuff. <02:01:19>

Hsu: Cool. Okay. So, William, should we come back to you?

William Adams: Yeah. Fire away.

Hsu: You joined Microsoft in '98, correct?

William Adams: Yeah.

Hsu: What was it like going to Microsoft from, before you had been kind of a die-hard Mac, NeXT, Be, Taligent, any platform that wasn't--

William Adams: Anything but Microsoft.

<laughter>

William Adams: Yeah, pretty much. I don't even think I had a Windows machine. I had Linux boxes and BeBoxes and all the rest. So, I didn't really know my way around the Windows stuff at all, but desperate times call for desperate measures. So, I had this friend, Chris Lovett, who I had met at Taligent. And we hit it off as friends, and he was impressed with me as a developer, so he had gone off and done his own company after the whole Taligent thing. And his company got acqui-hired into Microsoft. And he was working on this thing called XML. So that's the backdrop. Now, I was at Be Incorporated, doing the thing, and I actually left Be, because there was an incident that happened, that I was just like, oh no, I'm not sticking around here. So I left. So I was kind of sitting around, you know, looking for a job.

Hsu: Was it a racial incident or what?

William Adams: I don't want to call it racial, but it was certainly very uncomfortable, where someone was saying some violent things about me, you know. There's one guy. I forget his name, but there was this guy. He was clearly mentally unstable, you know. He would get really furious at things, and he had to keep little calming things in his office and he had an ax in his office, you know. And he said some stuff on an internal online forum about me, you know, violence against me. And I was like, uh... no, you know. So I was like, I'm out of here, so I left. So then I was casting about in the Valley, did a couple of interviews with a couple of companies.

Hsu: Did you ever think about going to Apple?

William Adams: Not really. I mean--

Hsu: Because this was after the acquisition, right? So you could have gone back to work on OS X or something.

William Adams: No, it was-- well, okay, NeXT got acquired by Apple, but Be was out in the wilderness, right?

Hsu: Right.

William Adams: We actually had, at Be, a conversation around the acquisitions, because they were considering buying Be.

Hsu: Right.

William Adams: And they were considering buying Apple-- I mean...

Hsu: NeXT.

William Adams: NeXT. And Jean-Louis [Gassée] actually asked me what I thought the odds were and blah, blah, blah. And I said, "They're probably going to go with NeXT because, you know, it's a Steve thing." So we lost.

Hsu: Yeah.

William Adams: And then after that, it was downhill.

Hsu: Okay, right.

William Adams: So eh. So anyway, I was-- oh, go ahead.

Hsu: You mentioned-- so what was your relationship with Jean-Louis Gassée?

William Adams: I was an employee, you know. I mean, it's not like we were buds and we hung out and drank beers. But I was an employee, I knew him. He knew me. It was just a regular relationship in a small company, right? Him, and I met Steve Sakoman at that time.

Hsu: Oh, cool.

William Adams: Hardware dude. Eric Ringwald, who was the head of engineering, and a few other people, none of whom I really keep in contact with today, but you know, it was fun. Shall I go on?

Hsu: Yeah, yeah, go ahead.

William Adams: Oh, okay. So yeah, I got this-- somehow, I think Chris just sent me an email saying, "Hey, what are you doing?" I so happen to be looking for a job and he said, "Hey, we're doing this XML thing. Maybe you want to come up and check it out," you know. So I did. And I went up and interviewed, and I think I talked to seven different people in a day. It was a pretty intense day. And they clearly wanted me, and they were just trying to figure out, well, are you a dev or are you a PM? PM is program manager, you know, or project manager, and dev is, you know, writing code. I think I said, "Well, I think I'm more of a dev," and they said, "Well, we think you're more of a PM."

Hsu: Hmm.

William Adams: So I came in as a dev, and the first thing I worked on, so it was in that XML team. And the first thing I worked on was the XSLT parser, and I think the first thing that happened was, there was some floating point bug that I had to debug, you know. So here I am, relatively new to Windows, never used a WIN DBG, you know, Windows debugger, you know. And there's this floating point error and I'm like, okay. Somehow I figured it out. And then the next thing I did was, I contributed some code. I sped up the parsing by 20 percent, by changing the size of a buffer, you know. It's like, oh, well, your I/O is too small here. It needs to be 4K instead of 1K, and suddenly it just got faster. So I did various little things like that, and this was the birthing of XML right. We were putting it into IE 3 or 4, was the first place that it showed up. So I'm new to Microsoft, new to being in a big corporation, you know, all that sort of stuff. But pretty soon-- and we shipped. Jean-Louis Gassée, who was one of the original authors of the XML spec, was our manager.

Hsu: Gassée?

William Adams: Yeah. You know that name? Not Jean-Louis Gassée. Sorry. Oh, what is his name? It's not Jean-Louis Gassée. Jean-- I'll find his name. Just look on the XML spec and we'll...

Hsu: Okay.

William Adams: Yeah, Jean. He's a French guy. Jean Paoli. Sorry.

Hsu: Okay.

William Adams: Yeah, so the original authors on the XML spec were Tim Bray, Jean Paoli, CM Sperberg-McQueen, Eve Maler and François Yergeau. So he was our boss, you know, and he was quite the slavedriver. I mean, he was like, "We cannot stop. We cannot have weekends. I will bring you dinner." And the team all kind of, at the end of shipping, we kind of mutinied. It's like, we were reorg'ed and he was going off to create this thing called Net Docs. He was like, "Are you with me?" and we all went "No! We're staying over here." So at that time, I became the manager, because I stood up. You know, it was like, I was a former head of my own engineering, right?

Hsu: Mm-hmm.

William Adams: So I stood up. It was like, "Oh, I know how to lead people, and you don't lead them like that."

Hsu: Mm-hmm.

William Adams: So this was the beginning of me getting a set of peers, that they're like, "Okay, we want to follow you," you know. So that's how I came into Microsoft. Within a year, I was a dev manager.

Hsu: Mm-hmm. And then, at some point, you moved to India for three years?

William Adams: Oh, hold on. Before we go to India, let me tell you what I did for the next five.

Hsu: Okay, good.

William Adams: Before that. So I became this dev manager, and rolling stone collects no moss, but we picked up things like the data access framework. So I owned, if you-- these are ancient technologies-- so ADO, OLE DB, ODBC. This was all our data access stuff.

Hsu: So this was all related to-- they grew out of the XML work?

William Adams: We merged some teams together.

Hsu: Okay.

William Adams: You know, it was like, oh, here's this XML-- at this point, we were part of SQL server. At least, we were under the SQL server management. So they got this XML thing, and then they said, "Well, we've got this data access stuff. Well, why don't you manage that?" right? So I managed all of that stuff. I managed a group that created the SOAP spec and toolkit. And then eventually, my mission with XML and data was, I want to make it so ubiquitous, that it just sinks into the woodwork, just like ASCII, right? Like you probably don't have any conversations these days about the nuances of ASCII, right? It's just there. So I wanted to do that for XML and data, because like, well, it's obvious. Everybody uses data. I mean, I always had this mantra that the whole world is a database. And XML at that time was a thing, you know. So I was given latitude to create this group, and I was able to pick my top five people,

out of all-- I had, at that time, 64 engineers that I managed, and I was allowed to take my top five and go off and do whatever I thought was useful. The only caveat my boss at the time, Dave Reid, gave me was, "Do something that Java can't do easily," right? So this is 2004, let's say, okay? So we brainstorm for a lot of stuff. We threw up a whole bunch of stuff on the whiteboard, tried a few things, you know, and we came up with this thing called Language Integrated Query. And it essentially-- you can go look it up. It's system.LINQ. It's part of the .Net frameworks these days. So it takes all the query stuff that you find in SQL, and it just bakes it into the language. So we have Select and For and Where and Sort and all that sort of stuff. It's just now part of the language. It's expressed as lambda expressions. But we introduced things like nullable types, right, which didn't exist before then. So you need nullable types if you're going to do SQL queries. You need to be able to distinguish between the value zero and the value null, right.

Hsu: Mm-hmm.

William Adams: So we did all that. So I spent about a year and a half on that. We generated a whole bunch of patents and we worked with Anders Hejlsberg, who is the original author of C# language and Typescript and Turbo C and all the rest, Delphi. So we worked on all this stuff, and from conception to actual deployment in product took about seven years.

Hsu: Wow.

William Adams: I wasn't there for all seven of those years. I was there until 2005, 2005, right. So there's your question about going to India. So in 2005, I had a choice to make. And this is--

Hsu: Before we go to that, I thought XML was like an open standard? I didn't know that Microsoft was such a heavy driver of it.

William Adams: Oh yeah, absolutely. Now, you have to understand how you work with standards, right? It's like, yeah, there's a standard, but you use standards-- standards are a strategic weapon, right? It's not just this thing that's for the good of humanity. It's how you slow up or speed down. So when you look at HTML for example, we were getting our clocks wiped by Netscape. So what do we do? We say, "Hey, the standard's really important. We should become standards compliant," so that stalls them. Because, "What? Standards compliant? What do you mean?" "Yeah, yeah, all this stuff over here, this is really important," right? So with XML, there's a strategic-- there's a pure value thing. It's like, well, XML's valuable. But how do I slow down my competitors? Well, I control the standard as much as I can. And one of the things we did was, we provided the biggest suite of XSLT tests to the standards committee. Yeah, standard's really important. Here you go. Here's 2,000 tests, or more, for XSLT. Well, that forces everyone to be conformant to that set of tests and we so happened to have the compiler that's 100 percent compliant with that, right?

Hsu: Mm.

William Adams: XQuery is another standard that everybody-- we and IBM went back and forth on this one for years, you know, and no one actually uses XQuery. But it was something that we used to either

speed up or slow down each other, right, based on our implementations of stuff. So yeah, it's an open standard, but the standard is used as a tool, primarily in a competitive way. And you still see this today with HTML, right?

Hsu: Mm-hmm.

William Adams: HTML is Chrome. And you know this, because we finally gave up our own browser to use a Chrome-based browser, right? Chromium based browser, because the standard. The standard is Google. They won, right? We lost. So now everything's Chromium. So yeah, I mean, that's kind of a sidetrack, but the standards. Like, yeah, it's a standard, but let's not kid ourselves. It's a tool.

Hsu: Right.

William Adams: So yeah, it was all standards and standards compliant and we were the most compliant, of course, because we gave all the tests. So there you go.

Hsu: Right.

William Adams: But still I had this desire to bake it into the language, such that anyone-- and you can see this today. As soon as you start up any C# app, almost by default, you get system XML and system.data, to this day, 20 years later.

Hsu: By language, meaning C#, meaning Microsoft's language?

William Adams: Well, yeah, but it's actually--

Hsu: Or the .Net framework.

William Adams: It's the .Net framework, so it's baked into the CLR itself. So yeah, it's surfaced through C# in a certain way, and it surfaces through VB a certain way.

Hsu: Okay.

William Adams: But it's baked into the CLR itself. The fact that you have nullable types, lambda expressions, the query support, all that is baked into the CLR, so any language can use it.

Hsu: Okay.

William Adams: So yeah, that's what I did with XML. Then I got to a point where it's like, okay, that's done. Now one thing about Microsoft is, there's constant reorgs. Just went through one. And this was one of those times where it's like, all right, I no longer have my big engineering team. Things are going a certain way. I'm not the favored son for the way things are going. What am I going to do?

Hsu: Mm-hmm.

William Adams: Right? And the choice I had to make was like, well, try to keep pursuing the dev manager sort of path, or do something completely different. And at that time-- and this is-- we had just gone through our first internet scale security issues. So things like Code Red, you know, which you can look it up how bad that was. It cost us a billion dollars. Slammer. Just all these things, where we were waking up to the fact that we can't just write stuff and throw it out the door. We now needed to have standards of engineering, right? We had to have better practices, repeatable practices, security. So we've taught ourselves. We were beginning to teach ourselves threat modeling, writing unit tests. It's like, what do you mean? Of course you write-- it's like, well, back then we didn't. So all these things. I thought, okay, I'm a pretty smart guy. I should be-- and in the future, I might want to be a teacher, right, once I retire. So why don't I get into teaching engineers how to be better engineers? So I zipped instead of zagged. I got into this group called Engineering Excellence. And the whole point of that group was to teach our engineering-- well, not just engineers, but everybody-- how to do our jobs better, right? And I taught everything from New to Role, like new engineers, fresh out of college, what their job was, how to do design, how to work in a team, all that sort of stuff. All the way up through architects, like what is your job? What do you do? How do you interact with a team? What value do you have? Stuff like that. So I started that journey in Redmond and I taught for a year and developed curriculum and stuff like that. And then this opportunity came, because we were starting Engineering Excellence in China and India. So I went to both. I went to China, I went to Beijing. I talked with people. It was like, okay, this is interesting. Then I went to India, did the same. Heard from a few people, like what they really wanted to do there to improve their engineering. I came back and I was like, all right, I want to go to China. I'm going to live in China for a while and set up Engineering Excellence. But the India group said, "We really want you to come here." So, you know, it's kind of a tossup. I'm 40-ish? Yeah, 40, 41, and at midlife. Just went through a divorce, you know. So it's like, all right, I'm up for anything. So off to India I went, and I literally went there with a backpack and that's it. Like, I left all my stuff at home, gave away all my books, sold off all my woodworking equipment. I literally went to India with nothing more than a backpack, you know, and a computer, maybe. No, I didn't even have that. I got a new one. So that was my, you could call it midlife crisis, whatever, but this was my, all right, I'm here, I'm naked. Let's remake myself anew, right? It was literally that. So I went off to India and I spent roughly three years building up Engineering Excellence. So I created, again, curriculum. I built classrooms, physical classrooms with remote cameras and desks and computers everywhere, and a rack of machines in the back room and all this stuff. I did this twice. And then I started teaching, and one year into it, I was asked to solve this problem of, we have 300 engineers coming from college every summer. And at the time, we had less than a thousand employees there already. So the new hires outnumber, certainly the number of managers you have that can handle them. So I had to come up with a clever program for dealing with all our new hires. And the college hires are like, 90 percent of what you hire. So it's most of your new hires. So I created a program called the Leap Engineering Acceleration Program. This was the first incarnation of LEAP.

Hsu: Oh, okay, so that started there.

William Adams: Yes. The later one is different, but this is where it started. So I created this program and I basically said, "All right, the program is basically your first five weeks on the job. You're going to be

with me." And we took them in batches of about 100, 120 at a time and we broke them up into groups of six or seven. And I would just teach them everything they needed to know in five weeks, from-- mind you, these are college students. They don't even know how to do source repositories, right, because they hadn't done that in college. They just sent emails to each other or whatever. C# was not a language they learned in college. Visual Studio, it's like, no. We know Java. We know the Eclipse IDE. We know Linux. They don't know Windows, they don't know C#, they don't know Visual Studio. So I had to teach them all of that, and teach them how to file a bug, how to give a presentation, everything, right?

Hsu: Mm.

William Adams: How to sit in a meeting. How to speak for yourself. And we did it in such a way that we created a community for them. Because one of the problems we had from exit interviews, before we did all this, was people would leave within a year, because they'd get in. It's thrown in the deep end. They don't have any friends. They flounder. Wipro or Satim [ph?] or Tata Consultancy comes along and says, "Hey, we'll give you 15 percent pay raise. Why don't you just get out of there?" And off they went. So we were losing, we were hemorrhaging people like crazy because of that. So that's why we partly decided to do this, to give them more of a grounding, so that they were on solid footing, so they'll stick around. So we did this, and after the first one, it's like, yep. People are happy. They're sticking around. They go five weeks with me, and then they go into their actual team. So we did this, cohort after cohort after cohort. So over three years, it was about a thousand people went through that program. And they came to me first, right? I was their first manager essentially, for five weeks. And it succeeded. So after a couple of years, you didn't find people leaving.

Hsu: Mm-hmm.

William Adams: The only reason people left was like, "Oh, I'm getting married. I've got to move away," or, "Oh, I'm going to go back to grad school," or stuff like that. But not like the revolving door we had before where they were just like, "Ah, they're offering 15 percent. I don't know anyone here anyway, so I'm out of here," right? So that's how I ended up in India. So I lived in Hyderabad, rented a house. That's where I met my second wife, my current wife, and yeah, so I lived in India.

Hsu: So your current wife is Indian?

William Adams: She is.

Hsu: Oh, okay, cool.

William Adams: My first wife was Indian.

Hsu: Oh, really?

William Adams: I think it was all that reading of the Indian texts when I was younger that put some bug in me that's like, I think I'm Indian, maybe.

Hsu: But you met your first wife in the States though?

William Adams: Yeah.

Hsu: Okay.

William Adams: Yeah, her origin was, she was from Goa, which is one state in India, and my current wife was from Hyderabad.

Hsu: Okay. So then talk about coming back.

William Adams: Yeah.

Hsu: How did you transition back?

William Adams: Yeah, by the skin of my teeth. So coming back was interesting. So I got married. My daughter from my first marriage was actually with me in India, and she stuck it out for a year, and then she came back. Now I was coming back because like, ah, she's hitting high school now. I want to be around. And this was a time when we were hitting the recession, right, 2008, 2009.

Hsu: Yeah.

William Adams: And Microsoft was actually going through a hiring freeze.

Hsu: Mm.

William Adams: So it's by the skin of my teeth that I was able to come back and land a job, working in this group that was creating some services, which I'll get to. But I barely made it under the door as it was slamming down. Otherwise, I could have been stuck in India, or fired, whatever, you know. So I came back. It was quite a transition, because India, living in India, it's a culture shift, right? I mean, I was in India for three years, so getting used to simple things like, wow, there's a lot of street lights here. There's stop signs and things, that people obey. It's other interesting things, like you go to the supermarket, go to Safeway, right, or whatever your big store is, and you walk down the aisle, and the aisles are ten feet apart and they're chock full, from floor to ten feet up of stuff, and there's choices galore, and you know, it's just overwhelming. In India, it's like, okay, the aisles are barely narrow enough for you to walk through. Your choices of milk is like, there's one brand, you know. It's just different. So I actually experienced culture shock coming back here.

Hsu: Wow.

William Adams: You know, everything from just how you drive on the street, to how few people you ever see when you're walking around. You know, you feel like you're in a ghost town when you're walking around in the US. You never feel like that in India. Just how lonely it is. And then just how expensive

everything was. It's like, you know, I've been using rupees all this time, so I come back and it's like, okay, let's go to lunch. Twenty-five dollars? It's like, what the? That can't be good. And then there's the recession, right?

Hsu: Mm.

William Adams: We're in the middle of it. I mean, luckily, I was at Microsoft because yeah, people got fired. I wasn't one of them. And we even got merit in pay raises in some cases. So it's like, yeah, I picked the right horse for a recession. So that was all-- that's how it was coming back. It was disorienting and it took me a while to figure out what my job was. But I took on this thing called ACS and this other thing called Service Bus, and these turned out to be the first services on Azure. Azure wasn't Azure yet. Azure was this other thing. It was becoming Azure, but it wasn't anything yet, and it was almost disappeared. But anyway, my engineering team was doing the-- ACS was the access control system. We now call it AAD, Azure Active Directory. So the whole control plane of how you log in, how you authenticate yourself and all that, that's what AAD is.

Hsu: Mm-hmm.

William Adams: And then Service Bus was just an early version of this low level communications stuff that collects, you know, nodes together. So those were the first two services on Azure. And then now Azure is what it is.

Hsu: Yeah. So you got on that train early as well.

William Adams: Yeah. The Azure train?

Hsu: Yeah, the Azure train.

William Adams: Yeah, and it hasn't crashed and burned yet.

Hsu: Right. It's doing very well now.

William Adams: It's doing all right, yeah.

Stephan Adams: Are you going to tell your-- the sad but true Xbox--?

William Adams: No, I'm not going to tell the Xbox story, Mr. Adams.

Stephan Adams: You know you're going to have to now.

William Adams: That's ancient history. No one cares about that.

Hsu: I'd like to hear it, but I mean, okay.

William Adams: So moving right along. No, so okay. So here's the story. So back when I joined in '98, okay, so shipped the XML thing. I met this guy who was actually our GM. His name was J. Allard, and he was quite the maverick at Microsoft, quite the entrepreneur, and the powers that be have decided we were going to get into gaming, right? So we're going to do this thing called Xbox, right? And as J. Allard's leaving to do that, he kind of comes by me because, you know, for whatever reason, he got impressed with me, you know, being new to that team and jumping into leadership as quickly as I did and all that. So on his way out, he's headed off to his sabbatical, whatever, before he starts this Xbox thing. He comes and says, "Hey, I'm going to be doing this thing. What do you think?" and I gave him some early technical advice on, "Oh, the OS should be this and your first graphics chip should be this Nvidia thing," and blah, blah, blah. He goes, "That's all great. I'm forming this team. Do you want to be part of it?" <laughs> And I said, "Well, I think I should stay with my current team, because I'm kind of loyal to these SQL guys, Paul Flessner," who was the VP at the time. And then that was it. It's like, okay, well, I guess you're not on the train. So he wanted me to come and be the head of the engineering for Xbox, you know.

Hsu: Wow.

William Adams: And it's like, oops. There goes Nathan Myhrvold again.

Stephan Adams: 2.0.

William Adams: Yeah, Nathan Myhrvold 2.0. So ah, but you know...

Stephan Adams: Is Silicon Valley a meritocracy? Yes, if you know how to pay attention to the--

William Adams: Yeah, if you pay attention to the signs. Don't be foolish. But, you know, I mean, the Lord works in mysterious ways. If I had gone that route, I would have been a something, you know. Again, it would be a different thing.

Hsu: Mm-hmm.

William Adams: I didn't. I went through various things. I ended up ultimately joining Engineering Excellence, doing that whole system.LINQ thing. If I had not done what I had done, we wouldn't actually have system.LINQ, you know, and it has been transformative for the Microsoft ecosystem, at least. I wouldn't have met my wife. I wouldn't have gone to India. I wouldn't, I wouldn't, I wouldn't, I wouldn't. So who knows, right?

Hsu: Yeah, right.

William Adams: I would probably be a VP. All my peers at that time are now running the company. I'm not. You know, I'm working for one of my peers from that time. But here we are, right?

Hsu: Yeah.

William Adams: It's like, I still get paid, so I'm not crying too much. So yeah, that's the Xbox thing. It's like, eh, I didn't do the Xbox thing. I went to India instead, ultimately.

Hsu: Right.

Stephan Adams: The reason why I wanted William to tell the story, he doesn't like telling it. The reason why I wanted him to tell it is because it's historic from the standpoint of what we've done in the past, right? You know, identifying new platforms and jumping on them. But here's a new platform--

William Adams: And I didn't jump on it.

Hsu: Right.

William Adams: And it's probably good I didn't, because if I did, it would have gone down the tubes. History has shown-- history has shown. So the company has to thank me for not going in the Xbox.

Hsu: So you just mentioned that you advised CTO Kevin Scott. So how did that--?

William Adams: Oh, that's way later. That's like--

Hsu: Well maybe, let's go--

William Adams: Do you want to do chronology, or I can jump into that?

Hsu: No, let's do chronological. Let's do chronological.

William Adams: I mean, I kind of did it. So okay, I did the XML thing. I built a large team. We did lots of stuff. I eventually went off to India, did the Engineering Excellence thing. The Engineering Excellence thing is pivotal in my personal growth, because it's the first time I step back and say, "It's not all about the-- it's not all about writing code yourself. It's not all about the money," because I'm essentially walking away from the CV-- the corporate vice president route, right? It's about people. This is the first time I'm saying to myself, I care about people.

Hsu: Right.

William Adams: And developing people. Before that, it was more about code. Now at this point, midlife crisis, introspection, you know. What's my legacy? Okay, I care about people, right? I come back, I do some more tech. We bopped around, a couple of orgs. I maintained my people for a while. We merged into a bigger team and I find myself in a position to say, all right, well what's next? Ha, ha, NeXT. Get it? Because-- anyway. So here I am, sitting at the-- I've just taken that whole Azure Active Directory thing. It's now been taken over by a larger group. I'm kind of sitting on the edge looking in again. I joined up with this-- I had a friend, John Shuchek [ph?], and he was doing some wild and crazy stuff. So I team up with him to do Remote Desktop on iPad, is the best way of saying it. Because at the time, we were trying

to figure out, oh how are we going to make money? Look, everyone's getting these stupid tablets, right? These iPads. And they want to run their Microsoft software on there, but they don't have a license for that. How can we get \$5 per iPad, right? For every office worker who wants to bring their iPad to work, right? So the answer was, run them on Remote Desktop on the iPad, and then we can justify going to the corporation and saying, "You should pay us \$5 per person for a license to extend your desktop to the iPad," right? Now just keep in mind, Remote Desktop didn't exist on the iPad. This was 2000-whatever, whenever the iPad came out, a year after.

Hsu: 2010.

William Adams: Yeah, okay.

Hsu: So, 2011.

William Adams: So 2011, there was no remote desktop apps for the iPad. So I created one of those with another guy, and it worked out and all that sort of stuff. And it's like, yeah, see, we can do this. We ended up not doing it, because the market kind of changed, and remote desktop is now a thing you can get pretty easily anyway. But that's what I did at that time. And then with that-- then John went off and did something else. I landed in another team where I met this guy, Garrett Fablani [ph?], who plays later in the later LEAP story. And I did this another start up project, which I called NSA in a Box. And it was basically, you know, solving the-- there's a challenge you have as you're bringing more and more of your own personal devices to work, is that the corporation, any corporation, is losing control of-- the control point of their own data, right?

Hsu: Mm.

William Adams: The boundary used to be the corporate network.

Hsu: Yeah.

William Adams: Once you've got your phones and you're walking round doing your email at a café, you no longer have that, right?

Hsu: Mm-hmm.

William Adams: So we were creating an application that allowed you to essentially, not hijack, but get in on all of the network traffic coming in and out of a machine, your laptop, and logging, you know, transactions. Like, okay, they downloaded this file. Here's packets that went by. And I'm not tracking actual content of emails, for example, but I'm tracking if you sent an attachment on an email, and it's a private file that shouldn't be going out, I can figure that out, right?

Hsu: Mm-hmm.

William Adams: So I call it NSA in the Box, because it's pretty sneaky shit, right? I mean, it gave me a new appreciation of how totally vulnerable we all are. You have no security whatsoever. That's the bottom line, you know. That's what I learned. And I did things like, I implemented a TLS. TLS is a low level network protocol, right? This is what secures the net. So I wrote a TLS implementation that allowed me to perform a man in the middle attack on any network connections. And it's like, yep. Yeah, this is some nasty shit. Okay, I'm done. Next. So that's what I did all the way up to a certain point.

Hsu: So you wrote that to see if it was possible?

William Adams: No, no, this was actually my job.

Hsu: Oh, yeah.

William Adams: I actually had a job to do this, and we were actually creating product. And it had to complete-- it was complete with you as a company could come buy this thing, set it up, install this little thing on all of your devices, and get a whole dashboard, seeing all of the stuff your people were doing, particularly-- you could even find like, unlicensed software, for example, and that's the way you could sell it to yourself, is to say, "Well, I just want to see if I'm in compliance with my licenses."

Hsu: Yeah.

William Adams: So it was pretty nasty stuff, but we didn't do it. We stepped away from the cliff.

Hsu: Okay.

William Adams: But that was my job and that's how I learned really deep about networking protocols.

Hsu: Yeah. I mean, so it's essentially kind of like corporate spyware--

William Adams: Yes.

Hsu: --on your computer.

William Adams: Yeah.

Hsu: Yeah, okay.

William Adams: So I was developing corporate spyware. But we didn't ship it.

Hsu: Okay.

Stephan Adams: We didn't ship it. Hey, okay, Mr. Adams, but you did it, didn't you?

William Adams: Yes, I did.

Stephan Adams: Are you sure it didn't ship?

William Adams: I can neither confirm nor deny.

Stephan Adams: Okay, that's what I thought.

William Adams: But, you know, once the cat's out of the bag, it's like, oh, is that how you do it? It's like, oh yeah.

Hsu: Mm-hmm.

William Adams: So anyway, that's what I did. Then what? So you wanted to get to-- you wanted to jump ahead to the CTO thing, right?--

Hsu: Oh no, I didn't. Not necessarily.

William Adams: We're almost there, we're almost there.

Hsu: Okay.

William Adams: We're only two steps away. So--

Hsu: There's also this-- did you do something in Kenya?

William Adams: Yeah. Let's-- okay, so let me do the chronology.

Hsu: Okay.

William Adams: So I did the whole spyware thing and then it's like, all right, let me take a bath. So then I jumped off to this other group, Linux on Azure.

Hsu: Oh.

William Adams: This is more wholesome, right?

Hsu: Yeah.

William Adams: It's like, yeah, okay, Linux. Now you're talking, brother. So at that point, Linux was still a bad word in our company. It wasn't quite the way it is today.

Hsu: Was this after Satya Nadella took over, or was this still--?

William Adams: Right before that, right before that.

Hsu: Right before, okay.

William Adams: Yeah. Yeah, it was probably about a year before he took over.

Hsu: Okay.

William Adams: So Linux on Azure was a group that was just there to promote Linux on Azure. That was the initial thing, and to help teams get on Linux, you know, if that's what they wanted to do. But it was also about helping people understand that open source was the way to go.

Hsu: Hmm.

William Adams: Right? It's like, look y'all. See that thing called Docker over there? We've got to do it.

Hsu: Yeah.

William Adams: See that other thing called Kubernetes? Yeah, we've got to do that too.

Hsu: Was that a tough sell, I mean, given the Microsoft culture?

William Adams: The market decided for us. I mean, you keep in mind that Steve Ballmer-- and he's on his way out now, right?-- Steve Ballmer is like, "Linux is a scourge. Let's sue the hell out of everybody. You know, you're unpatriotic if you believe in Linux." You know, slap that Linux laptop out of your hands.

Hsu: Yeah.

William Adams: He was that guy. Satya was way more enlightened and the market was way more enlightened. The market's like, yeah, whatever. Do you have Linux or not? No? Hey, AWS, what's up, right?

Hsu: Right.

William Adams: You can pose all you want, but when the market says, "I want Linux", you either get it or you don't make money, right?

Hsu: Right.

William Adams: So there was a lot of transformation going on at this time, in terms of our revenue models and everything. Satya came-- so we existed before Satya. Then Satya comes in and the most important thing he first did was to say, "Yeah, you got to get the numbers, but how we get the numbers is

important.” So he began this cultural change. Ballmer was like, “Numbers, numbers, numbers, numbers. Quarterly results. Everything else be damned.” Oh, shoot. My thingie stopped.

Hansen Hsu: Oh, the recording?

William Adams: It says “card full.” Let me switch cards.

Hansen Hsu: Oh, okay.

William Adams: I’ll put another card in there.

Hansen Hsu: All right.

William Adams: Hold on. Okay. Hm. Let’s see.

Stephan Adams: Did the device come with an extra card?

Hansen Hsu: I don’t know that they shipped with them. That’s something-- that’s good to keep in mind. My-- the one I have I think has plenty of space. I had like seventeen gigabytes when I started this morning, and so-- and I think the total from yesterday was about six. It could also depend on what else is on the card already.

Stephan Adams: Yes, there must have been something on this card, because there’s like-- it’s coming up on-- oh, I stopped and started. It’s forty-nine minutes because that’s when it started back up again. Okay.

Hansen Hsu: Okay.

William Adams: I think mine-- so I put a card in here. We’ll see how long that lasts. Maybe I’ll have to delete a file or something.

Hansen Hsu: Okay. All right.

Stephan Adams: I wish I had some popcorn, William.

William Adams: What’s that?

Stephan Adams: I wish I had some popcorn.

William Adams: Oh, yeah. Well, this is-- I mean, there’s lots of fun stories that go into this kind of stuff, you know. So Linux, yeah.

Stephan Williams: Are we starting? Are we starting up again?

William Adams: Oh, yeah.

Stephan Williams: Okay. All right. Okay.

<clapper>

William Adams: So there's the whole Linux thing, and we exist there, and then Satya comes in and he changes the culture and, as our sales are starting to pick up, it's like huh. People want Linux VMs. Okay. Linux on an Azure-- so we had SQL server for example, and there's some very smart engineers went, "We're going to get SQL server on Linux, but we're not going to port it per se. What we're going to do is-- to get it bootstrapped quickly, we're going to take the Windows Runtime libraries, package it up in such a way that we can run Windows apps on Linux.

Hansen Hsu: Oh, wow.

William Adams: That's how--

Hansen Hsu: So kind of like Wine.

William Adams: Yes, but even better, because we boil-- we had this technology within-- that Microsoft Research had created which-- we essentially trapped all the system-- the low-level system calls. And there's only like forty-three that you have to care about that have to do with memory management primarily and process creation and stuff like that. So we trap all those calls. We ship the libraries with it. And so the guys had to create kind of a little host app that knows how to read a PE file and execute in the Linux environment. So we did all that, and that's how a SQL server landed on Linux quickly. I mean, it was in a-- it was less than a year that the guys did that thing, and there it is. And then that shows the rest of the company. It was like, "Oh. Okay." And then we start using things like Kubernetes. Like we hire Brandon-- what's-his-name-- Mr. Kubernetes and a whole bunch of other Linux-friendly people, and so now internally you've got people who are like, "Yeah, yeah, Linux, Linux, Linux, Linux." Linux is probably, at this point, more than thirty percent of our overall usage, if not more. If not fifty percent. Whatever we report publicly. But it became significant. So then it's like, all right, we obviously can't just be a Windows shop anymore, right? And now you see in Windows even-- Windows is one of the best environments for doing Linux development, because we have this Linux subsystem within Windows itself, right? So we are Linux at this point. And the differentiator is like, "Well, no, we still have our graphics environment." It's like, "Yeah, whatever." At the end of the day, what matters is Node.js, NGINX, Kubernetes, Docker, all those frameworks. And all those frameworks are platform-agnostic. They don't care. Right? They don't care what the OS is. It works either way. So since we've lifted everything up to be those things, suddenly the OS itself really doesn't matter. There's no performance difference.

Hansen Hsu: Right.

William Adams: So, yeah, that was my journey on all that stuff.

Hansen Hsu: Right.

William Adams: While I was doing all that, being the restless soul that I am, I went to my--

Stephan Adams: <laughter> Your daughter's making--

Hansen Shu: Yeah.

Stephan Adams: She's sticking her tongue out in the interview.

William Adams: Yes, that's what working at home gets you. So while we were doing all that, I went to my CVP. His name is Girish Bablani. He now heads Azure Compute Storage and Network. He's Mr. Azure now. At that time, it was only Azure Compute that he had. And I said, "What's one of your big business challenges?" And he said, "Well, there's this whole diversity thing. Hiring diverse talent. Why don't you go figure that out." So I went, oh, okay. So I ran around the company. And there's a video on this, one of those links I sent you. And I was just looking for like "Well, what are we doing? What are our diverse talent hiring projects?" And it turns out there wasn't much, actually. This is 2015. We had-- we were spending-- like a lot of companies, we were spending a lot of money on "diversity," but it was all feel-good, checkbox, pipeline-ish sort of stuff, right? Like, "Oh, let's do K through 12 programs." But then it's like, well, forget all that. How about just hiring people? What are we doing to actually hire people? And it's like nothing. So I went, all right, well, where are the people? Where are these women and underrepresented minorities? They're clearly not at the top fifteen schools. We already got all of the ones that we were going to get from that. So where else are they? And it turns out there's a whole wealth of people out in the market that have STEM degrees, maybe even have CS degrees, like returning moms. They had a CS degree. They were in the thing. They stopped to raise the family. They now have no path back in because no one will look at their resume. It's like, "Seven years? No, thanks." And then we just move on. The whole industry does this.

Hansen Hsu: Right. Yes.

William Adams: So I thought, okay, where are these people? They're at coding academies. And, at that time, I had never actually heard of coding academies, but then I stumbled upon them because I saw some news article. It's like, "Oh. Well, look, this coding academy is nothing but women. And this coding academy is fifty percent blacks. And that one's all Hispanic." That's where the people are. They're not going back and getting a four-year degree. They've already got a degree. They're just switching careers and they're funneling through coding academies. So we put together this program called LEAP. It wasn't called LEAP at the time. It was called-- what was it called? Engineering Explorers or something like that. Anyway. I put together this program. I said, okay, what they need is an apprenticeship. They need a sixteen-week thing where they can-- the engineering managers can kind of kick the tires, see that the talent's actually good, see them in action. So the first five weeks of that program-- and this is familiar-- was about training. Training them how to be engineers at Microsoft. This is what I borrowed from India, what I had done in India. And I did that because I thought, well, any group of people that come in-- any minority group, whether it be fresh college hires coming into a majority seasoned group or women or

minorities or whatever-- any group is going to have the same feelings of loneliness. They need to be brought up to speed on the toolset of the environment. That's all the same. So I created this thing, and we later we called it LEAP. Engineering Explorers is what it was called. And so we started. We started with a group of eight ladies, and the powers-that-be said-- we only hired two out of that first eight, but they believed it was like, "Oh, this is good enough. Try again." So then we did another cohort, and that one had like twenty people in it. And then another cohort and another. And we just kept going. Did that for a few cohorts. After the first cohort, I told my manager-- who was not Girish; it was someone else-- "I'm going to do this full-time, because I can't do that and my day job. It's too much." So this is me jumping off. And he told me-- my manager told me, at the time, it was like, "Well, you realize you're no longer an engineer if you do this." Really? I've been programming for thirty years. Why am I suddenly not an engineer? And, by the way, when's the last time you checked in any code? It was just silly. It was like, all right, I get it. Nobody understands what it means to do this kind of thing from an engineering role, but it's needed. So I started that, and we got two or three cohorts in, and it's like, okay, this seems like it's going good. It was pretty much self-funded, meaning I didn't have a budget. It was-- I went to the engineering teams. They paid for it all. So it's like, "Look, it's going to cost you this much per person." And they're like, "Yeah, okay, we're in. I'm in for five. Here's your money." So we actually had enough money to have a surplus, and this will get to the Kenya thing. We had enough money to run the program and some discretionary income to do other stuff, innovative things. So while I was doing all that, I got an email from someone saying, "Hey, would you like to join the Office of the CTO?" And I was like, "Huh? Do we even have a CTO?" Because we didn't have a CTO for years. The last one was probably Ray Ozzie or someone like that, and it's like, eh, Microsoft doesn't really need a CTO and we usually didn't have one. So we had bought LinkedIn, and Kevin Scott, who was their head of engineering, became our CTO. And so this was his office essentially calling me to see if I wanted to join up as a technical advisor.

Hansen Hsu: Why you?

William Adams: Why not me?

Hansen Hsu: Good question.

William Adams: They had a vetting process. People nominated. Somehow I got on the list and I was the one at the top of the list.

Hansen Hsu: Okay.

William Adams: Come on. Look at my visage. How could you not select me? So I was selected. I was the first TA, Technical Advisor. We then got other ones, but I was the first one, and so I joined that group. And when I talked to Kevin as I was interviewing, I said, "Look, I'd love to join. I have one stipulation. I need to bring this LEAP program with me because it'll die if I leave it alone right now." Because it was fledgling, right? He said, "Yeah, that sounds great." Little did he know. So I was able to bring the LEAP program with me into the Office of the CTO. And while in the Office of the CTO-- I was only there for two years, but the purpose there was to help build the function of that office, define what it was. So I tackled various things. I had the LEAP program running. It had a couple of employees, at that point. And one of

the things I identified was, through various means and awakenings, is that our badges say our mission is to empower every person on the planet to achieve more. That's our company mission from Satya. And it was brought to my attention that we had zero engineering in the whole continent of Africa. Zero. We had sales, but we had zero engineering. Well, the continent of Africa is 1.2 billion people. So it just struck me. It's like how are you going to empower everyone-- I mean, "everyone" means everyone, right? How are you going to empower everyone on the planet if you completely ignore 1.2 billion of them? That doesn't seem right. So I just decided that we needed to have engineering in Africa. And I was looking at this like we've been in Africa for thirty years. Bill Gates has done stuff in Africa forever and so has Microsoft, but we never did engineering. And so I just said, okay, there's a problem here because the engineering teams-- if they think as far away as Africa, they just think, "Why don't I just go to India or China instead." Right? It's like, "They're right there. Why do I have to worry about Africa?" It's like, "No, no, no, no. You need to be in Africa." So I actually, with my LEAP money, created an engineering team in Kenya. That was the first real engineering-- and the reason we did that was just to show the rest of the company, it's like, "Look, we can do this. Here's the salary struc--" We didn't even know how much to pay people or even have any means to pay people engineering salaries in Africa. So we had to set all that up. But we put a team there, and I said, "Look. I'll build a team. They'll do some interesting stuff just to show it can be done." So I was in there. Microsoft Research was in there with us. Part of the Office team was in there with us and we started doing engineering. Within a year, various other teams who had also kind of-- mostly it was the Windows Core team-- they'd been kind of circling around Africa for a long time, but they hadn't committed engineering resources to it directly. So they finally jumped in and go, "All right. We're going to do this thing." So the Windows group came in, and they're like, "All right. Now we're the big dog, and we're going to make this thing happen." So they started building up in Kenya, primarily. We had a two-country strategy. It was Kenya and Nigeria. So they started building up in Kenya primarily and also in Nigeria, and then we had what we call a Cognitive Services Team that does AIML sort of stuff. They went into Nigeria, and they've built up teams. And then, later, other teams have come, like our Identity team, more of the Office team, the Xbox team. So now everyone's there. And we have probably a couple hundred engineers all up. While we're doing all that, we're also saying, well, you can't just show up like that. You also have to build up the ecosystem, because otherwise all you're going to do is pillage all the other local companies that have tech talent, and that's not good for anybody. So we have to build up and invest in tech training. So in Nigeria, for example, through LEAP, we have-- we train-- we create cohorts of-- all-female cohorts to go into tech. And we train them and they're sponsored by certain partner companies. And so we're getting ten, twenty, thirty women into tech jobs. Now, for Africa, that's super special, because the only differentiator there-- here we have like women, minorities, Pacific Islander, all these sorts of dimensions of diversity. There it's like: women. Right? If you can crack women, that's good enough. So we're cracking the woman thing in Nigeria and now in Kenya. So that was the whole Africa-- so I was in the Office of the CTO. I did various things. I did not do NSA in the Box. I started the Africa thing. LEAP continued to grow, and by the time I was leaving the Office of the CTO, LEAP was then moved into our HR department and now it's been corporatized. And that was our mission all along. I thought it would be a five-year mission to make that a corporate thing. It took more like four years, or three and a half. And now it's just the way we do hiring of women and minorities that wouldn't normally get in. So yes, that was the whole CTO thing.

Hansen Hsu: Wow.

William Adams: And the Africa thing.

Hansen Hsu: Yes. Wow. I guess so maybe just bring that up to the present then. Can you talk about what you're working on now?

William Adams: What do I do now?

Hansen Hsu: Is that something you can talk about? <03:02:52>

William Adams: Yeah, yeah. So after-- from leaving the Office of the CTO, or I was about to leave. I was thinking I was going to go run some stuff in Africa, but one of my colleagues that I met in India, actually, and one of the supporters of the LEAP program originally, he said, "Well, I've got a bigger job for you." He had-- Jason Zander is the head of Azure and a whole bunch of other stuff, so Jason is the one who actually gave the money for LEAP initially. Girish was the exec sponsor, and I actually made it happen. So Jason and his HR rep-- his name is Suga [ph?]- and that's the guy I met in India way back when-- they said, "Well, we want you to--" And this is going to sound really dumb. "We want you to make engineering great again." And what he meant by that-- now, Jason, I've known for like twenty years. He was an engineering manager peer way back when we were first creating the CLR. He was the Dev Manager for the CLR, and he was actually the Dev that created the original C#-- the Runtime. So that's his history. What they were trying to say is like, twenty years ago, we were really good at engineering to whatever extent you think that's true. And in today's world of cloud computing and all this we've gotten so big that it's really hard to maintain that same quality and it's hypercritical now, because if the cloud stuff goes down, you're really in bad shape across the world. So we need to reinstill a sense of pride, quality, craftsmanship, blah-blah-blah. And we had previously decimated our Engineering Excellence group, so we didn't have that training organization anymore to actually teach engineers how to be engineers, which was really dumb but, you know, that's the way it is. So we want to kind of get back. And I did point out to them-- it's like, look, when we were engineers all we needed to know is like C++, the Windows Debugger, three or four other things, and that's it. And then I gave them an eye chart, a laundry list of things that-- here's what the new programmers need to know. Right? Yes, C#, and that's about this much of what you have to know. There's all sorts of compliance things you have to do. There's security stuff you have to worry about. Performance is quite different. Distributed computing, log management, billing. The laundry list is just huge, so let's break from the notion of, "Let's go back to the good old days." We didn't have to learn a tenth of what they have to know now. But we can instill the same quality bars, desires, things like that. So we wanted to do that and we wanted to make Azure/Microsoft the preeminent destination for engineers around the world. We want you, out of college, going, "Man, I want to go to Microsoft because they're the bomb." And right now that's not the case. People coming out of colleges are like, "Oh, Facebook." Whoever's the darling of the day. They look at Microsoft and it's like, "Yeah, I don't think I want to go to my daddy's IBM." Right? So my job is essentially to change that. Show people that-- not that we're the coolest, necessarily, but we got it going on. We're pretty cool. So I created this document called The Four Pillars Document, and it lays out a strategy for how we're going to do that. This is a five-year journey. It's not something you can change overnight. But the document lays out-- it's like, well, we've got to hit how we recruit, how we mentor, how we onboard, how we do continuous learning, how we do entrepreneurship. We've got to hit all of these things, and here's the plan of how we're going to do it. So

that's what I'm doing today is essentially executing against that plan. And the one video I sent to you, the Keilani [ph?]- the Faces story-- that's an example of a communication channel that we're creating so that I can show people like, "Here's my authentic voice. Here's my authentic engineering--" I don't know if you've seen the video yet.

Hansen Hsu: Yeah, I watched it.

William Adams: Yes. So here is a-- this is not a corporate-messaged video. You look at this video and, if you're a black woman, you might look at that video and go, "Huh. Well, that's kind of like me. Maybe Microsoft is for me." Right? The next video's going to come out in another two or three weeks. It's this Japanese lady who immigrated and is a data scientist. The next one will be someone else interesting. I might go do an exposé in Africa. So it's just bringing out this voice of the engineers to speak to other engineers out in the world to say, "Look, we've got concerns just like you, and this is why I like Microsoft. This is what I don't like about Microsoft. This is what it could be for you."

Hansen Hsu: Right.

William Adams: So that's what I'm doing. And all sorts of other stuff internally about improving our mentoring and how we educate ourselves, particularly because we're all remote right now.

Hansen Hsu: Yes.

William Adams: So that's what I do. I'm brought in to do the stuff that everyone else goes, "Eh, that's career-limiting. That's impossible. And that's just not fun." Right? Here's the-- oh, where's my poster? Oh, here we go. I have this poster that my communications person created for me. It's like--

Hansen Hsu: Oh.

William Adams: It says, "I'm a cliff jumper. This looks dangerous and scary. Let's do it." That's my quote. So that's what I do, right? Because, at this point-- and I want to go back to LEAP, but, at this point, I get paid. I'm not scrapping by. I get paid. I just looked at my peers who are getting paid megabucks and just say, "Come on. There's no risk to you. Take a risk." It's like, "You're getting paid. It's incumbent upon you to explore and do really hard things, not just bread-and-butter things that are-- like you've been doing for the last twenty years." It's like, "Take a risk. You're in a position-- the company's invested in you. They expect you to take risks and do new and different things that accrue--"

Stephan Adams: Also, it's also like you have internalized that whole-- that it's your responsibility and obligation, and they need to do that, too.

William Adams: Yes. Yes, exactly. It's like, "Okay, you all are getting paid, but what are you doing? What are you doing other than just kind of sucking down that paycheck?"

Hansen Hsu: It's remarkable that you've been able to make such a difference from inside a pretty big company.

William Adams: Yes. Yes, and it goes to trust. And this goes back to the stuff that Stephan has said. I don't know. Sometimes-- we've just been lucky, but we've also been good. I mean, it's just by chance that you get certain opportunities, but you also have to be good. People don't hand you stuff out of the goodness of their heart. That's just not the way corporate works. You have to be good, and I've been good. So being able to do LEAP, that was a career-limiting move for most people. Most people wouldn't do it. I did it because it was challenging and, as I learned later, it was just really necessary and rewarding. Like Stephan said, we process a couple hundred people a year, so it's been about a thousand people that have gone through at this point. It's still going. And it's expanding to lots of different areas. And I get no end of emails from people like, "You changed my life. You made something possible that wasn't possible before. I can't thank you enough." And that single mom who's saying that is also saying, "And my kid gets to have a better education because of this." And therefore their children are going to be on a different path than they would have been otherwise. Or the battered wife who gets to escape her abusive husband because she's got a high-paying job that allows her to do that. It's just-- so we came to a point, as I was creating LEAP, me and my brother, where we had this conversation, and I just came-- from him, you know, it's like-- it's not only that I should do this. It's that I must do this, because I'm one of the few people who could do this. And that's not to say I'm the only black man in corporate tech that could possibly do anything like this, but you look at the statistics and no one else is doing this. So maybe it's true. Maybe I am the only guy who could have done this, right? And it takes a certain amount of trust from whoever's backing me and chutzpah on my own part. Like, damn it, we're doing this. I'm sorry. You can't hire like that anymore. You're going to hire these black people and these women. They're good enough. And I had enough credibility within our own organization that it's a, "Yes, sir, Mister A--. You're right." It's like, "I'm not going to take no for an answer. Sorry. And you're not going to fire me, either." I think it takes all of that combined to make something like this happen, and it's happened, and the people who pay my paycheck go, "Well, that turned out pretty good. Well, here, do another one. Here's another impossible task. Why don't you go do this?" It's like, all right, same credibility. They're just sitting there going, "You did pretty good with that one. Let's see how you do with this one." They're reinvesting.

Hansen Hsu: Right.

William Adams: And it's not just because I'm the black dude. It's [not] like, "Well, let's give the black dude some busy work so we can keep the checkbox." It's like, "No, we actually want this to happen."

Hansen Hsu: Yes.

William Adams: Sorry, I was rambling there.

Hansen Hsu: No, I mean, this is a good segue into just maybe zooming out and talking about-- getting back to sort of race and the tech industry at the meta level, again.

William Adams: Yes.

Hansen Hsu: So you've both talked about the challenges of diversity in the industry and you've done some things to try to mitigate these challenges. Maybe could you both comment on what are the biggest challenges? You mentioned it's not enough to just address the pipeline. You actually have to worry about the hiring and you have to worry about the retention and the culture, all of that.

William Adams: Yes, it's all that. I guess I can talk on it. It's all that, and you have to have-- you can't fall into the local minima or the local maxima. It's easy-- and you see this across tech-- every single company after George Floyd has said, "I am going to put a hundred million blah-blah-blah into diversity hiring blah-blah-blah." Every one of them. And they're all pipeline plays, almost every one of them. Not a single company-- well, I shouldn't say that. I'm being too strongly-worded. I have not seen as many companies say, "I am going to hire black people period." Right? And the way this happens at Microsoft, some enlightened managers are saying, "We already have on our books requirements for a diverse slate." That means you've got to have at least one token black and a token woman on your hiring slate, both on the interviewer side and the interviewee side. And invariably people get exceptions. They say, "I couldn't find a black person." "Oh, okay." Now people are saying, no exceptions. That still leaves us in a tokenized state, and I get people all the time that want me to be on an interview loop just so that they can check the box. It's like that's not very enlightened but okay. We're walking through the Valley of the Shadow of Death right now. But you have to deal with how you bring them in, because Microsoft and other companies do the same thing. It's like every single time a black person gets killed by police we say, "All right. Let's head out to the HBCUs. Let's get a bus and load up forty new hires and bring them on back to the farm." They dump them off and they say, "Ooh, there. We did it. Forty. Check." They don't say, "How are they doing? What jobs did they get in? Could they find a place to get their hair cut? Are they missing their family?" It's just this checkbox game, and we have to get beyond that. So Microsoft-- and other companies are better at this, actually, than we are-- we're doing things now where we're like, "All right. For various reasons, we need to go set up in Atlanta. There's a good business reason because a lot of our customers are on the East Coast, so we're closer to them. But darned if there aren't a whole bunch of black people in the Atlanta area." Okay. We've heard loud and clear that people don't want to just up pick up and leave and move to Redmond. So you have to have a spirit and a mentality and a mission that says, well, we will go wherever the engineering talent is. Newer companies are already there. Like Google or Facebook or even Amazon, they're much better at just being where the talent is. They're much more distributed than we are. We're now getting into it. So that's one thing. And then, once you have them in, you have to-- you have to pay attention. You have to make sure that-- you don't nurture them because they're children or babies. You nurture them because they're at a disadvantage. You have to help those people. So it's like if you don't do anything the system is against them. And it's so systemic that, if you're in the system, you don't even realize your unconscious bias, you know, all the buzz words, right? This is why you have to actually say, "You. black executive. I have a program for you to get in here and grow in your first year on the job. I want you to be an executive here," but I can't just throw you in and say, "Well, I hired a black guy. He just wasn't good enough to survive." It's like, well, you could at least give him a knife and show him how to use it for the fight that he's going to be in. You can't just say, "Good luck. I've done my job." So that's what has to happen across the industry is we have to realize stuff like that. And, at the same time, I go even a step further and say, for my black colleagues, let's stop chasing the taillights. We are never going to be equal to the Asians and whites that are already in entrenched positions. It's just an uphill fight the whole time. So I turn to ourselves and say, "What are our assets?" We

seem to-- everyone seems to love our cultural stuff. We are top entertainers. We are top sports figures. We have intelligent people. My brother's running a fiberoptic network in the Caribbean. We know how to do infrastructure. So maybe we should start doing for ourselves rather than chasing the taillights, and perhaps leapfrog. Go towards where the jobs are going to be in twenty years, rather than chasing the jobs from the last decade. This, I think, will our ultimate, because we're never going to catch up to where we are yesterday. Can't do it. It's not possible. No amount of bias training is going to get us there. So we have to, for ourselves, just go, "Okay, we can leapfrog." We need allies. We need those white people and their money to do it. We're not going to be able to do it completely on our own. Let's ask for the money for that rather than asking for the money to go and do the jobs of yesteryear. So that's my broad-stroke like ah, what does it take? It takes everything and it takes boldness and it takes for-- jumping ahead in time rather than jumping back.

Hansen Hsu: Yes. Yes.

Stephan Adams: What I would add to that-- yes, I'm not going to come with a divergent viewpoint, because I share everything that William was saying. We're of the same mind there. The one thing that I would add to it is that-- to take that same concept and apply it in entrepreneurial fashion. So William, everything that he said is very important at the corporate level, but it's equally important at the entrepreneurial level. And the whole idea of being able to take a risk and to be able to believe in yourself, that's what it takes. So we just have to-- we have to widen our perspective of where it's okay to take risks. We're okay taking risks with opening up a business that caters to ourselves. We're okay with the risk that's around our cultural heritage of entertainment and sport, which is of one. We're okay with those types of risks and chasing that glory, but if we apply our talents equally into something else-- it doesn't have to be tech. It could be pharmaceuticals. It could be something else. But it's like don't just show up at the typical places. It's okay to start businesses in the places people don't expect. There was a-- I've been working with some real industry giants in the cable submarine area to be able to do this audacious idea that I have of connecting the continents of Africa to the United States through the Virgin Islands. And I have these guys who have built networks, sold networks, done all this crazy stuff, and they're-- just like William, they believe in this vision, and so they're going to help me. And they're not asking for a dime of it. And one of them, he asked me-- he built and sold a network, and he said, "No one's ever done something like this, and the money's not looking for this idea. Why do you think it's going to work?" And I said, "Because no one's ever done it." And then I give him the-- I sent him a clip out of "The Matrix." If you remember "The Matrix," in the first episode where Neo shows up and asks for all the guns-- they ask him, "What do you need other than a miracle?" And he goes, "I need guns. Lots of guns." And all these guns come flying by and he picks up a gun and then Trinity says to him, "No one's ever done this." And he hits the gun and says, "And that's why it's going to work." It's 'cause no one's done it. You have to believe that what you're doing is going to work. At my company, just two weeks ago, I had an all-hands meeting because I was talking about this Africa strategy to a whole bunch of black people who didn't believe that it could happen, which was really interesting, because we've all been belayed that our audacious ideas aren't good enough. And I brought to them a sport analogy, and then I talked to them about Roger Bannister. Roger Bannister is the person who was the first one to break the four-minute barrier in the mile, and, of course, that's interesting to me, because I'm a runner. So I said, you know, "There's no way that Roger Bannister could have broken a four-minute barrier if he first didn't believe he could do it. Now,

of course, you can believe all you want you can break four minutes, but if you don't go do the training for the four-minute mile barrier, and you have to do training differently. You have to eat differently. You have to sleep differently. You have to do all kinds of things differently from the guy that ran a 4:10 mile. You can't do the things that the guy that ran a 4:10 mile did if you're going to run a 3:59 mile. So we, as a people, have to figure out the things that we want to do that's different, that can add value, and look at it differently, but we also have to train properly to attain those things. So the reason why we're going to eventually string a fiberoptic cable between Africa and the United States is, first of all, no one's done it, and no one's thought about it like this. No one's ever thought that the monetization that's actually there in Africa-- so, like one of employees said, it's just like you're actually going to Africa to connect people rather than to extract from people. That mentality is why it's going to work. So this time next year hopefully we're going to have this conversation and there will be a ship ready to sail-- or two years from now-- from Africa-- from New York-- convergent on the United States running that cable.

William Adams: And carrying-- and this is really a cool thing that we did in this thing we were doing for Atlanta. I pointed out that, by doing this, we're creating a Golden Triangle out of what used to be the slave triangle.

Hansen Hsu: Oh, wow, yes.

William Adams: Right? It's like we were coming over and-- the only thing that was coming in ships from Africa before was our bodies. Now what's coming is our technology. Right? And the engine of creation of economic growth and development is what we're bringing and not just our bodies.

Stephan Adams: And you can see this is where William and I--[our] paths come back at the bookends of our career is where we can--

Hansen Hsu: Yes.

Stephan Adams: Because the companies that are over there are Facebook, Microsoft, Google, and Amazon, and he's at one of those companies. And the people that are running Microsoft Africa are the types of people that I eventually needed to speak with to be able to get to this place. So we're calling this network the Diaspora Link.

Hansen Hsu: Oh wow.

Stephan Adams: And it's apropos for what William just said, the Golden Triangle. So we're not going to try to call it something else, something that's-- a pleasant name. We're going to call it exactly what it is.

William Adams: Call it what it is.

Stephan Adams: Call it what it is.

Hansen Hsu: Right.

Stephan Adams: There's enough white people that are out there that believe in it, too, and they just want to know how they can help, so we're giving them a vision of how they can help. Because it's like, for them it's exciting, too, right? There's plenty of white people who want to see black people succeed. They just don't know how to help us.

Hansen Hsu: Yes.

Stephan Adams: We're going to give them the vision of where they plug in to help us.

Hansen Hsu: Right.

Stephan Adams: Because they can't do it on their own. We have-- it's a whole community, but we have to set the vision first, and that's what we're doing.

Hansen Hsu: Right. What would you say to people-- possibly colleagues or whatever-- that a lot of these diversity programs are just a form of affirmative action and against the spirit of meritocracy?

William Adams: What's the question?

Hansen Hsu: Okay. So I guess the question is what would you say to the naysayers about-- that diversity programs are against the spirit of meritocracy and they don't believe in things like affirmative action?

William Adams: Can I? Can I?

Stephan Adams: You know you're going to steal something from me but go ahead.

William Adams: Maybe you should go first so I can steal it and rephrase it.

Stephan Adams: Okay, let me go first and then you can steal it.

William Adams: All right. Go ahead.

Stephan Adams: Okay. Because I know you are. So the thing is, when people say stuff like that, what they're not realizing is they themselves are in an affirmative action program, because when you come out of Stanford, you come out of MIT, you come out of Berkeley, you come out of Carnegie-Mellon-- when you come out of those schools, you come out with those networks and you help your friends. That's affirmative action in itself, and you left other people out. So then when we come along, it's like we have all the credentials, "Oh, but we have to make a special place for you." Right? It's not a meritocracy for them, so why is it all of a sudden it has to be for us? We have to be able to come in under the strict guidelines of "no help," but they come out and Biff asks Chuck to, "Hey, can you help me out?" Right?

Hansen Hsu: Right.

Stephan Adams: So I think when they-- when people say that, they have to look at how did they get to where they got? Okay, Mr. Adams, go ahead.

William Adams: Well, the-- I'm glad you said it as-- it's affirmative action for them, because that gave me an anchor point. So, in this country, we have four hundred years of affirmative action for white people. That's how I view it. And I'm just echoing what my brother just said. It's like, wait a minute. I mean, there's this same argument-- when people say, "You can't discriminate against white guys," that's "reverse discrimination." What do you mean, it's "reverse?" It's not reverse. It's just stopping-- it's kind of like-- I had this conversation with one of our VPs at Microsoft after the George Floyd stuff, and he said, "Oh, I feel so bad," blah-blah-blah and this, that, and the other thing. And he was voicing that he's so sorry and all this. And I said, "Actually, you shouldn't feel sorry for us. We're not experiencing anything we haven't been experiencing for the last four hundred years."

Stephan Adams: That's right.

William Adams: "You should feel sorry for yourselves, because you keep doing it. We understand our pain. And we understand what's oppressing us. All we need is the oppressor to stop oppressing us. That's what needs to happen." Right? So affirmative action is a red herring. I mean, it's one of those things that's like reverse discrimination. I mean, my retort is simply, "You white people have the pleasure of four hundred years of discrimination, affirmative action, all of the support you could-- isn't that enough? Isn't it time for you to allow people to just be who they are? How come you can't survive with this extreme advantage over your peers?" Put us on equal terms and let's see what happens. That's all we're asking for is equal terms. Now it takes the form that looks like we're getting an advantage because you put us down in the pit, right? All we're trying to do is climb up out of the pit. So you're filling the pit with dirt to help us climb up higher, but don't think you're taking any advantage. We're not getting an advantage. We're just not getting in the pit.

Hansen Hsu: Right.

William Adams: So that's my answer. It's like if you truly understand-- now, if people aren't enlightened enough to understand the history and the human dynamics and all that sort of stuff, it's a non-argument. If it's just this surface level, "Well, that's reverse discrimination, and I don't believe in affirmative action. It's unfair," you don't understand the history of slavery in this country. You don't understand the history of oppression and you don't understand what institutionalized racism is. You don't understand any of it. It's a non-conversation. I wouldn't even engage. If someone came to me with that argument, I'd be like, "Well, maybe so. Now I'm going to go help my people with programs like LEAP." Because if we can't even agree on the history and what it means to oppress a people and build on their backs and their blood for so long, such that it's baked into your very society to spit on those people and oppress them and not even think about it, to put your knee on someone's neck and kill them in nine minutes and not even think about it, to call the cops on a guy in a park because he told you to leash your dog and not even think about it-- there's a non-conversation.

Stephan Adams: I'm glad you asked this question because this question is--

William Adams: Now we're all energized.

Stephan Adams: You know, it's like-- one of the things that's important-- you'd better check out your ghost over there, William.

William Adams: Oh my God.

Stephan Adams: So the thing that's interesting about this conversation is like, you know, we're going on seven hours of talking about the glories of technology and what two black guys have come to do that people don't even know about, right? We are kind of the hidden figures of our own time. But that's not what's important, I don't think. I think the things that William just talked about now is our responsibility, and we're not-- we're not mad at white folks, because we're here because of them. They have helped us. There have been enlightened people who have looked at us as peers and have given us opportunities and have helped us along the way. But that's the same thing that they did for their Stanford friend, too. And that's the same thing they did for their Carnegie-Mellon friend, as well. We just so happen, as Stuart Grady [ph?] did-- he got us in. And that's what he said he would do, and we're taking advantage of that today. But this part of the conversation is just as important, of all those wonderful things that William has done technically that are easy to look at and say, "Wow, what a chronology of a career," right? And the fact that no one knows about it-- that's wonderful. But I would almost say that it's for naught if there's not a legacy left behind for it--

William Adams: LEAP. LEAP solidifies it.

Stephan Adams: Yes, LEAP solidi-- and that's why I think when William talks so passionately about LEAP, it's just like-- all the toils that we have done is for this moment right now. It's for LEAP. It's to connect Africa and America together through a fiberoptic cable. And it's taken our collective experience and pain and heartache to be able to be at this moment, right now. So then, twenty or thirty years from now, when there's brothers and sisters that are out there and their career is just booming, it's because there's been pathways opened up for them, just as the aristocracy of today that is inherited wealth didn't do anything for it but just be lucky to be born the first male child in a lot of cases. So we need to be able to be in a position that we can help our own. But not at the disadvantage-- I think that's what gets messed up in this country is that people that we're looking for advantages. We're just, as William said, just stop-- just stop the oppression and we'll figure the way forward.

William Adams: Yes, it's not a zero sum game. It's not like I get a dollar, therefore you lost a dollar. It's like, no, come on, let's expand. Let's create new markets. There's plenty of dollars out there.

Hansen Hsu: Right. How important is it for technology to make a social impact?

William Adams: How important is it? I don't view it like that. I was thinking of this other thought. It's important that we have ethics in technology, because it's going to have a social impact. It just does. Just like clean water and clean air. So technology is just one of those things. It's a force. It's a thing out there. So it's important that we have ethics in technology because, when you have things like an ML model

that's used to decide recidivism rates for prison and therefore decide whether someone gets paroled or not, well, I bet that model was trained on a bunch of black people in certain zip codes with certain educations and that's what's going to keep those people in prison. So it's important that whoever created that program is aware of the biases they're baking into that system and the impact that that's going to have. If I code this this way, if I get my data from this source, if I use this algorithm, more of these people are going to prison and staying there. That's important, right? Social impact beyond that, for me it comes down to ethics. Everything's about ethics and empathy. And I'm thinking about, well, what is fair in the world? Is it that I should run headlong into autonomous driving? Autonomous shooting? Autonomous war? Should I do that or should I maybe take a step back? Because if I get into autonomous warfare, where I let the drones that can already fly themselves, pick the targets, and those drones can't distinguish between a black man in a beard and a woman with a child, and it just indiscriminately kills all of them because they look like terrorists, wow. That could be problematic. So I'm concerned about the ethics that go into data gathering, machine model-building, deployment of systems, automation, all that sort of stuff. I'm concerned about jobs. I'm concerned about-- like when I was in India-- sorry this is a bit of a ramble. But when I was in India, you wake up early morning enough, and you see on the streets all these people hand-sweeping the street. And, as an American, I look and, oh my God, why don't they just buy a machine? They could be done in an hour. It's going to take these people three hours, and there's like five hundred crews across the city doing this. Sweeping the street with little hand brooms. But, if you take a step back, you say wait a minute. Why would you hire a truck to automate that process and put five hundred people out of a job? What else are you going to do with those people? Now what are you going to have them do? They're not highly-educated, so you're not going to say, "Oh, just get an education and get a real job." It's like, well, maybe--

Stephan Adams: Or program a sweeper, right? Or they'll go program the sweeper.

William Adams: Yes, I mean, maybe we should just leave well enough alone. Maybe that's not something that needs to be automated even though we can. So I think we have challenges like that ahead of us where we have to really think about, yes, we can do so much with technology. We need to do it carefully, and we need to have a humane perspective while we're doing it. And this is why I want to get philosophers, psychologists, biologists, sociologists into computing, because then it's not all about the code. I code less and less because the machine can do more and more. It's more about telling the machine what it needs to do to satisfy me as a human. If we don't do that-- this is my biggest concern. If we don't do that, the machine starts to satisfy what? I don't know. A profit motive. An optimization of the planet motive where it ends up killing off certain people and populations because like, well, you're kind of excessive, so we don't need you, so we're not going to get you any more food. So we have to be cognizant of that kind of stuff. I'm concerned about human evolution. So it's not so much about the social impact of technology as it is ensuring that, as we advance in technology, we imbue it with our humanity, or else we'll be left behind. That's what I'm concerned about.

Stephan Adams: And a different note about that is that there's-- we haven't talked about the current today elephant in the room which is COVID. But COVID is actually-- it's a scourge on humanity today, but there's also opportunity. Whenever there's a scourge, there's also opportunity. And all the things that William has talked about in this last part, about ethics and humanity, I think that there is hope. And the

hope is that the world is being forced to be connected for the first time. We are forced to be in Zoom chats. Who ever thought of some of the things [ph?] this time last year. We don't know you. You know our story. You're the first person who knows the Adams boys' story. But I think one of the things that's really encouraging is that as the planet gets smaller because it's been hyper-thrown together because of COVID, the things that are going to emerge are going to be the things that people want to consume most, which is culture and exploration. So black people, Latino people in the United States have a lot to offer to society. A lot of our American culture is built on the backs of those two ethnic groups, and women, of course, who have been second-class citizens, as well. So I think that the Internet of Things-- forget IoT. It's just the Internet of Everything. Is going to have voices come up that you can't stifle anymore. It's easy to put your boot on the neck of a black man, but that same black man now has this platform to be able to say anything and there's people who want to hear it. People are hungry for a different reality. We're seeing that playing out in the current election cycle. It's like the desperation of holding onto the past is just-- there's so much fear in our nation and throughout the world that we'll do anything to hold onto the past, no matter how damaging it is to our future. So those voices will come through. And COVID has presented an opportunity for the planet to get smaller. And when you get smaller, you get to hear more voices that you may not have heard before. That's all I have to add to what William has said.

Hansen Hsu: Yes, wow.

William Adams: Well said, Mr. Adams.

Stephan Adams: Thank you, thank you, Mr. Adams.

Hansen Hsu: What do you think are the biggest challenges facing the technology industry?

Stephan Adams: I think, from my perspective, a little bit off of what William was saying is, you know, we came in at a wonderful time. We came in in the golden years. All these behemoth companies today were all fledgling companies when we entered. So there was-- we entered the tech industry at the age of innocence. The industry was at the age of innocence, and now it's become the age of cynical-ness. And I think that's its danger. That the common person now has-- I keep raising this phone. I'm not sure why. I keep raising my iPhone because this is-- the power of this would put a man on the moon in the sixties. So I think that, if we don't think about what we're doing with this technology, and if you look at things like-- technology has enabled things like CRISPR. Extremely exciting technology, CRISPR is, but extremely frightening technology CRISPR is. And depending on-- which it is depends on what ethics and humanities you use to engage that technology. Technology has been democratized, and, since it's been democratized, anybody can do horrible things with it now. Whereas before, at the age of innocence, you wouldn't even think about doing bad things and harm other people with technology. You would never send a-- I remember when we first got the Internet in our office and the first time that I saw Netscape, a Netscape browser, was at Mills College in Oakland. And when I saw that it was just like, "Wow, that's the world. That's the future." You would never see somebody saying-- spamware, viruses, and all that stuff. No one ever thought like that. But now it's just like-- that's the norm. It's like how can I bring down the entire island. We had a ransomware attack that stole-- that took down all the police files for the entire territory.

Hansen Hsu: Wow.

Stephan Adams: And they just got them back. This was a year ago. Right? The bad actors. This technology can enable bad actors to do bad things, but it can also enable the unheard passionate voice to be able to be heard. But we, as humanity, have to make that decision of which way is it going to go. And it can't always be a particular mindset. And that's how it's been so far. I think you're going to hear more divergent voices that are going to make more sense.

William Adams: Yes, I think-- what was the-- say the original question again.

Hansen Hsu: It was the biggest challenges facing the technology industry.

William Adams: Yes, I think the biggest challenge is actually to humanity, not the tech industry. Because the tech industry is every industry. Technology is eating every industry. So really the challenge is to-- I'll pose the question as this. How is humanity going to integrate with its technological senses or attributes or whatever? If you think of humanity as gaining a new skill, just like we gained tools at some point, we figured out how to pick up a rock or a stick and crack something and kill something and eventually we figured out how to burn stuff and cook it. And we figured out how to do farming. So technology has the potential to be a human enhancer like the discovery of tools, period. And I think we're just at the beginning of that. So I think the danger to us as humanity is to figure out how to do that and remain human or decide what it means to be humane. That's why I look at things like the George Floyd thing-- that's not a technological thing at all, other than we all viewed it. But what was on display there was inhumane behavior, and technology makes inhumane behavior easier. I can push a button and kill a thousand people from a drone strike. Technology allows me to do that. And I can be at my table sipping tea while I do it. That's an inhumane act. So technology is this tool, and I think the danger to humanity is that we lose our humanity by blindly just stumbling from advance to advance without having a moral compass of any sort that says what we should and should not do. Like are we going to-- as we evolve our technology, are we going to be able to identify the moral equivalent of land mines and say, "You know what? Those are a bad idea for humanity. Let's stop doing that." Are we going to be able to identify the proper things in our technological tools that say, "Yeah, that whole recidivism rate auto calculation thing? That's a bad idea. We just shouldn't do that. It should be illegal." That's what I think the dangers are. It's the dangers to humanity.

Hansen Hsu: Right.

Stephan Adams: You see that in like "Minority Report." "Minority Report" is, I think, a great illustration of that. But one of the things that is interesting that I like about these last questions here is that, at the end of the day, William and I, we've had our careers. For better or for worse. But we could be under the boot. Any day.

William Adams: Yup.

Stephan Adams: We're not--

William Adams: We're not special enough.

Stephan Adams: We're not special enough. You know, you hear this unique story about what we have done in this wonderful industry that has blessed our lives. But we could step out after this interview and it's just like, "God, those were mavericks and pioneers of the tech industry," and they--

William Adams: Got shot by a cop.

Stephan Adams: Got shot by a cop. Because they jaywalked. Right? I almost got beat down by a cop in Oakland for jaywalking, so you know--

Hansen Hsu: Whoa.

Stephan Adams: And I was at the pinnacle of my career. So these things, the reason why we talk so passionate about it is because it could happen to us, regardless of how successful. Now, would any of these things happen to Mark Zuckerberg? No. Would it happen to any tech titan you can think of or anyone comparable at our level at any one of the companies that make up Silicon Valley? Absolutely not. But it could happen to us. That's why we think of these things a little bit differently, because we have to. It's not enough for us just to think about what's the next thing coming on the horizon of technology, but we have to think about, okay, how is this going to impact our people? And I think that's why, as we come to the bookend time of our careers, we now have to think about these human issues, because it's not about technology anymore.

Hansen Hsu: Yes.

Stephan Adams: You look at any film from Boston Dynamics and what they're doing with robots, and you're just like that should scare the shit out of anybody. Those robots by themselves can do backflips and somersaults. If they're unleashed on black people in a riot, they're not going to--

William Adams: They will be.

Stephan Adams: They're not going to release them on white folks.

William Adams: No.

Stephan Adams: They're going to release the backflipping robots on black folks. So when you look at Boston Dynamics-- I look at Boston Dynamics from a technical standpoint and say, "Wow, that is awesome." But then I look at that, it's like that's the future of policing.

Hansen Hsu: Wow. Yes.

William Adams: At least in black neighborhoods.

Stephan Adams: Yes, in black neighborhoods.

Hansen Hsu: Wow. Yes. What advice would you give to a young person today starting in the tech industry? And would your advice be different for a person of color versus a white person?

William Adams: Hm. Probably. I think for me, for a black person, I'm probably going to emphasize-- well, for anyone, I would-- and this is actually advice I do give to people as I'm onboarding them. For anyone, I'd say your network is the most important thing you can develop for your career, and it starts now. People that you meet in your onboarding program, you'll probably know them twenty years from now. So your network is the most important thing, no matter who you are. For the black people, I might go a step further and say make absolutely sure you get a mentor, because I think it affects you even more when you don't have one than it would someone else, because the system is designed for them to succeed anyway, but it's not designed for you to succeed. And your mentor's going to help you navigate. So that's the thing. And then, for people in general, I'm always telling them, spend the earliest part of your career-- you have to learn your skill. You have to learn your craft, your trade. Don't just hop job to job looking for the bigger paycheck because, six years out, ten years out, you're going to be stuck. And the latest college hire is hitting all the latest stuff and it's just going to pass you by. So make sure you spend enough time, have enough patience to actually sit down and learn your craft. That's important. And then the rest is just whatever.

Stephan Adams: The only thing that I would add to that is don't be afraid to take a risk. Regardless of race or gender, don't be afraid to take a risk. Yes, I tell this to entrepreneurs all the time. I talk to lots of entrepreneurs. And I say the worst possible thing that could happen if you fail is you're doing exactly what you're doing right now. That's the worst thing. We don't have debtor's prison, right? I lost twelve million dollars of white people's money, and they're still willing to give me more. Don't be afraid to take risks. As society has evolved, we've become fear-based and not willing to take risks. The younger you are, those are the biggest risks you take. So here we are. We're in our fifties, and we're still taking risks. That's where all the fun is. So.

Hansen Hsu: Yes. Okay. I guess my final question will be how important do you think is an institution like the Computer History Museum, and how can the Computer History Museum maybe help with some of these issues that we've talked about today?

Stephan Adams: I'd like to take that one first. William and I had a conversation last night where he was like, "Isn't that cool as shit?" I was like, "Yeah, this is so exciting." I wish I wouldn't have said that word, but anyway. I think the fact that you guys tell stories. Tell the stories of the Mark Hannahs out there, right? There's a lot of black people that came before us. There's a lot that-- or after us, already. There's a number of the current set that have far eclipsed us financially. So I think the museum should tell our story. But the one way I hope that you don't tell our story, and this would be detrimental, is if you tell it in the black lens of, "Over there in that corner is the black section, and you can learn about the black pioneers over there."

Hansen Hsu: Right.

Stephan Adams: The way that I hope that you tell our story is that, in this wonderful world that was NeXT Computers and its impact on the world, at the center of all that there were these two black guys. So if you tell our story and other people like us--our story-- there's a number of-- matter of fact, the chairman of Microsoft is a giant in the tech industry no one knows about. He's a black man. He's a giant. A lot of people. The number one venture fund in the country, Wilson Sonsini, one of its partners, one of its most celebrated partners was a black man who then went over to Google, the first general counsel for Google, and then started GV Ventures, Google's venture fund. So there are giants in our industry that nobody knows about, but they need to be told in the context of the story of where they are. So we're not sharecroppers. We've built some of these behemoth companies, and we were instrumental. And I hope that our story gets told in that light and not segregated into the black section of the museum.

Hansen Hsu: Right.

William Adams: I would say there's a couple of-- I have a story. So when I was at Be, we went off to Detroit to do some user group thingamajigger, and afterwards we took a trip to the Museum of Science and Industry or whatever it was. And there was one exhibit that had a train car and a train porter. And porters were black back in the day. That was one of the few jobs they could have on the railroad. So there was this, I don't know, wax figure. There was a figure of a train porter. He was just standing there, a black guy, just kind of resolute. And, for whatever reason, that moment in time when I looked at him, I just kind of got emotional and I said to the dummy, "I'm going to do right by you. Thank you for your effort." I just had this moment of seeing him in that setting and going, "Your life was hard, and you did it, and now I'm standing on your shoulders. I will do my part." So that was a museum. And like my brother said, you tell the story. You don't know who's going to have what effect on their life because they see that story. I can only hope that someone sees my story and goes, "That's inspiring. I feel like I'm standing on some shoulders. I'm going to do my next thing." And the other story I had was, I went to New York, and we went to Ellis Island. If you've ever been there, you're in this gigantic hall and you see all these stories of people who came through and had their names changed and went through all sorts of stuff. And I'm completely ignoring the black history museum in Washington, but Ellis Island. These are just regular white people that came into the country. Or all stripes of people. And that was a similar inspiration, where I just like, "You guys did it. I can do it. It's hard, but there's your story." If I didn't see their stories at all, I'd still live and I'd do what I do, but I think it's really inspiring to have those stories out there so that people can see. History's important. It's important to understand where we came from, what happened before, what worked, what didn't work, the struggles people had. So I think the role of the museum is critical in understanding how we move forward. So, like my brother, I would say if our story's out there-- I mean, I'm okay with it also being in the black corner as long as the black corner's as big as any other corner. But showing how we were integral to the growth of the thing is an even better story, like my brother said. It's like, yes, we weren't just-- and here's what was happening in the black community in tech, and it was this little, tiny blip on the landscape over here. No. We were in the shit. We were in the middle of it. We brought down several technologies. And we were the Patient Zero of technological destruction. So, yes, I think that would be a great story to have. As I say, look at these guys who were in the middle of it.

Stephan Adams: You know, we started this whole thread for the past hour or so about meritocracy and so forth, and one of the things I think is really enlightening about how you actually came to us-- the

publisher of NeXTWORLD Magazine had the foresight to say this platform is different and so are the developers, and I'm going to highlight that. The piece that she had written-- it was very interesting how that piece came along. She didn't assign a reporter to do the story on Adamation. She actually asked me. She goes, "Who do you want to write the story? We will edit it, but you get to pick the writer." And so I picked the writer. It was someone that I knew. It was a white guy. I picked Roger Durbin, I believe. I asked him to write the story because he knew about who we were, and he believed he could capture it. And what I appreciated about Janine, the publisher, is that she didn't do a feel good story in the back of-- suffering black guys in tech. She put it straight up in the first issue and if Steven Jobs was-- <inaudible 04:03:24> one more day we would have been on the cover of the most important technological advance of our time. At that time, NeXT Computer was an earthquake. And she captured it as this platform, these two guys are part of this platform and we're going to tell this story from the very beginning. She didn't segregate us. She just said this platform and these guys are important. So as the museum goes forward, it's like-- I hope you guys capture our story and you publish our story, but also there's other stories that are just like ours that-- you happened to circumstantially find ours. But I would encourage you and the rest of the museum to go look for the other stories that are like ours. Don't have them just be serendipitously told. Purposely go find them, because they're out there. There's a lot of us.

Hansen Hsu: Yes. Yes.

Stephan Adams: You guys just haven't found us yet. I'm glad you found us, because we feel comfortable to tell this story and we've been wanting to tell this story for years. It's great to hear someone who understands it and is sensitive, and we believe that you're going to treat it well.

Hansen Hsu: Well, thank you very much. Yes. And thank you for all the time that you spent with me over the last two days.

Stephan Adams: Yes, it's been great. We wanted to be here. So thank you. What are you guys going to do with all this now that--

Hansen Hsu: Okay, so the first thing is--

William Adams: Are we done? Should I turn off the mic?

Hansen Hsu: Yes, I guess-- yes, I think we can turn the mics off.

William Adams: Can we talk off-the-record now?

Hansen Hsu: We can talk off-the-record. All right. Let me stop the recording there.

END OF THE INTERVIEW