

## Applied Data Research Inc. (ADR)

### Company Details

**Name:** Applied Data Research, Inc. (ADR)  
**Sector:** [Systems and Utilities Software](#)

### Description

Founded in Princeton, NJ in 1959 as a contract programming firm by a group of Univac programmers, ADR initially contracted to provide systems software for computer manufacturers such as RCA and Honeywell. ADR released its first software product, AUTOFLOW, a program which produced program flowcharts, in 1965 and became one of the first software companies to set up a product-oriented marketing and support organization. One of ADR's founders, Martin A. Goetz, received the first patent issued on a software product in 1968. Other software products sold by ADR were The Librarian, MetaCOBOL, ROSCOE and VOLLIE.

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**Facilitators** Luanne Johnson

### Statistics

Contributors (0), Events (0), Stories (1), Documents (5), References (3), Discussions (0 threads, 0 posts)

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**Entered By:** Luanne Johnson  
February 26, 2010

### Contributors

**Contributor** Luanne Johnson

**Date Joined** February 2010

### Job Description

Luanne Johnson is the Co-Chair of the Software Industry Special Industry Group at the Computer History Museum.

### Statistics

Stories (1) , Documents (5) , References (3)

**Date Entered** February 26, 2010

### Timeline

**There are no events for this company in the collection**

### Stories

**Title: How ADR Got Into the Software Products Business and Found Itself Competing Against IBM**

Author: Martin A. Goetz

Created: 1998

Cataloguer:

Copyright: Martin A. Goetz

Story:

How ADR Got Into the Software Products Business and Found Itself Competing Against IBM

In the mid-1960s, when software was still bundled with hardware, several independent contract programming firms attempted to license a generalized program to multiple users for a standard fee. Applied Data Research (ADR) was one of those companies. I was the project manager responsible for the completion, marketing, legal protection, and success or failure of our program, called AUTOFLOW.

It all started quite innocently. Originally ADR had no intention of marketing software products in a bundled environment. All software at that time was given away free by the hardware manufacturers. Users were freely exchanging programs through SHARE, GUIDE and the like. There was no cry from the users for priced software.

At that time, ADR was building system software under contract to RCA, Bendix, Sperry Rand, the U.S. Government and others. Most contracts were fixed price, competitively bid and had little profit potential. We bid against Computer Science Corporation, Computer Usage, and several other companies.

RCA was an up and coming computer manufacturer at that time and approached ADR about building an automatic flowcharting system. On speculation we designed a semi-automatic flowcharting system and submitted it to RCA in 1964. The output was crude and required a one-character code in the comments section on each line of assembly language code to be flowcharted. After RCA showed little interest, we submitted an unsolicited proposal to several manufacturers, who all showed a uniform lack of interest.

At that time ADR had the free nighttime use of an RCA 501 and decided to develop a prototype of the design to prove the feasibility of the flowcharting system. A young programmer, Mike Guzik, who had just joined ADR from RCA, was assigned the task. Mike wrote the program in 4-6 months. In addition to producing extremely readable flowcharts, he produced several cross-reference listings that proved to be very helpful during the debugging stage. We showed the completed prototype program to RCA, and again found little interest.

Having completed the program with perhaps a \$5,000 to \$10,000 investment, ADR decided to try to license it to RCA's base of about 100 RCA 501 users. We prepared some descriptive marketing literature and wrote to all 100 users. We priced the program, called AUTOFLOW, at \$2,400 and licensed two copies. To protect our intellectual property rights in the program, our attorney suggested we "lease" the program for three years at a time and call the program "equipment" because contract law was very clear on the limited rights of a party when they leased equipment.

It was now 1965. Although the IBM 360 had been announced, there were still thousands of IBM 1401s and 1410s in use. The market was ripe for a flowcharting system. We quickly decided to target the AUTOFLOW system for the IBM 1400 marketplace. Within ten months, with a team of one, we produced a 1401 autocoder version of AUTOFLOW and quickly hit the streets. There were lots of 1401 autocoder programs written by the 1401 user community. Most did not have flowcharts, which were required as documentation by most data processing organizations.

However, our system required those one-character chart codes to trigger the flowchart box. There was a high interest in the 1401 AUTOFLOW system, but only if it could automatically process

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existing autocoder programs. The programmer on the ADR flowcharting project quickly concluded that the operation code could indicate to AUTOFLOW the type of flowchart box that was required. The number of flowchart symbols would be greater than those produced manually or under the control of the one-digit chart code. Nevertheless it would produce completely accurate flowcharts on a printer and was useful when the 1401 program had to be maintained and changed. Additionally, it filled a documentation need and satisfied a corporate need.

During the marketing of AUTOFLOW for the IBM 1400s, we became aware of the IBM Flowcharter, an IBM-field developed program (FDP) that was distributed free by IBM. The IBM Flowcharter was not automatic and the flowchart it produced was based on separate input prepared by the programmer. It did not use the assembly language program as input. However, the IBM Flowcharter became one of the major reasons for a delayed or lost AUTOFLOW sale. Our prospects went to IBM and asked for improvements to the free IBM program and it was widely believed that IBM would develop a similar type of program and provide it to their customers for free.

We wrote to IBM complaining that they were misrepresenting their product when they called it "automatic". We said they were hurting our market by giving the software away. Our efforts were to no avail.

ADR had submitted a patent application for AUTOFLOW in 1965 so we put IBM on notice that they might be violating our patent application if they produced an automatic flowcharting program. These early skirmishes with IBM were the first of a long series of confrontations on the subject of tie-in sales, monopolies and patent protection for software.

With some success in the 1401 marketplace and with the emergence of COBOL as the recommended commercial language, ADR embarked on a major IBM 360 effort to develop AUTOFLOW for the IBM 360 assembly, COBOL and FORTRAN language. From 1967 to 1970 ADR licensed over 2000 AUTOFLOW systems. IBM reprogrammed its flowchart program for the IBM 360 and continued to be a major competitive factor with their free program.

Based on the success of AUTOFLOW and growing user acceptance of software products, ADR began investing in four additional products: the LIBRARIAN, ROSCOE, MetaCOBOL, and SAM. Everything looked promising. ADR's stock rose and a huge marketplace for software evolved.

Meanwhile, having been burned by IBM's flowcharting program, ADR complained to the U.S. Justice Department that IBM was monopolizing the software industry. I remember many meetings in 1967 and 1968 with Justice Department attorneys who were concerned about IBM's dominance of the mainframe hardware field. During 1968, the Justice Department spoke to many independent software companies and, in January 1969, brought suit against IBM. The complaint, which covered IBM's dominance of hardware, also alleged that "starting in the early 1960s IBM inhibited the growth of the software products industry through its bundling of hardware and software."

IBM, meanwhile, continued to deliver and announce products. During ADR's development of ROSCOE, IBM began delivery of CRBE, a Conversational Remote Batch Entry program, which was a direct competitor to ROSCOE. ADR's strategy was to avoid direct competition with IBM; we focused on niches in technology areas that IBM had avoided. But there was no way to know what IBM was developing for the future, or what field-developed programs might be submitted by IBM field personnel. ADR could not effectively plan for its future or compete against IBM if IBM was allowed to continue to bundle programs with its hardware.

In April 1969, ADR sued IBM for monopolizing the software products industry. ADR was attempting to protect its future and, at the same time, collect damages for its reduced revenues in the flowchart market during the 1960s.

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In June 1969, two months after ADR's suit and six months after the Justice Department suit, IBM announced it would unbundle all of its systems software, except operating systems, starting in January 1970.

Nevertheless, ADR refused to drop its suit. In late 1969, IBM added insult to injury by announcing TSO, a ROSCOE-competitor, which was to be free and delivered in 1971. ADR was now fighting a two-front war. Not only would TSO be free, it would not be able to be benchmarked for about 18 months.

Although there was great interest in ROSCOE, few sales were consummated. All our prospects were contacted by IBM and told about CRJE and IBM's forthcoming TSO.

In January 1970, ADR decided to seek a temporary restraining order against CRJE, which IBM distributed free and which was crippling ROSCOE's potential market penetration. In July 1970, ADR won a restraining order against IBM for a 60-day period.

In August 1970, ADR settled its antitrust suit with IBM with an out-of-court settlement of \$2 million. The struggle was worth it. We were well on our way to success.

(The above anecdote was submitted to the Software History Center website by Martin A. Goetz in 1998.)

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Entered By: Luanne Johnson  
March 9, 2010

## **Documents**

**Title: Oral History of Martin A. Goetz**

Author: Burt Grad and Luanne Johnson

Created: December 10, 1985

Publisher: Computer History Museum

Donated By:

Filename: doc-4cb36bf27ec35.pdf (Size: 11 KB)

Pages: 32

Cataloguer:

Copyright: Computer History Museum

Description:

In this interview, Marty Goetz, a founder of ADR (Applied Data Research) discusses the suit ADR brought against IBM in 1969 because of the unfair competitive environment created because IBM bundled software with their hardware. He describes the difficulty of convincing customers to pay for software as long as they believed that IBM would provide it to them at no cost and how the risk of ending up in a competitive situation with IBM made it difficult to decide to invest in the development of new software products. He discusses the difference between competing with IBM on applications products, where they were not strong, and competing with them on systems software and utilities. He describes ADR's financial ups and downs resulting from the competitive environment and the recession in 1970-71 and their success in the 1970s and 1980s resulting from the expansion of their product line.

Accession: 102658239

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Entered By: Luanne Johnson  
October 11, 2010

**Title: ADR and Ashton-Tate Join Forces to Offer Micro/Mainframe Solution**

**Report to the Computer History Museum on the Information Technology Corporate Histories Project  
Systems and Utilities Software Sector**

Author: Bob Gordon  
Created: March 18, 1986  
Publisher: ADR  
Donated By: Ed Esber  
Filename: doc-4cb377124e243.pdf (Size: 926 KB)  
Pages: 3  
Cataloguer:  
Copyright: ADR  
Description:

Press Release from Applied Data Research, Inc. reporting that ADR and Ashton-Tate had announced a complementary development agreement that will provide for direct information exchange between ADR's DATACOM/DB mainframe database system and Ashton-Tate's dBASE and Framework product families through ADR/PC DATACOM, ADR's PC-based query and report writing facility. The agreement also allowed the companies to consider new product development that would increase compatibility between their respective products.

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Entered By: Luanne Johnson  
October 11, 2010

**Title: Oral History of Martin A. Goetz**

Author: Luanne Johnson  
Created: March 28, 1996  
Publisher: Computer History Museum  
Donated By:  
Filename: doc-4cb36ccd17ddf.pdf (Size: 11 KB)  
Pages: 20  
Cataloguer:  
Copyright: Computer History Museum  
Description:

In this interview, Marty Goetz, one of the founders of ADR (Applied Data Research), discusses his background prior to ADR, the transition of ADR from a professional services company to a software products company, and the challenges of selling software products in an era when IBM bundled software with the price of the hardware. He describes the challenge of selling ADR's initial products where it was necessary to create a market for products the customers didn't know they needed and how that changed with the acquisition of Datacomm/DB in the 1970s which put ADR into competition with other vendors selling database management systems. Intellectual property protection issues for software companies and the reason that ADR chose to lease and license their products is also covered.

Accession: 102658240

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Entered By: Luanne Johnson  
October 11, 2010

**Title: "One for the History Books" Workshop**

Author:  
Created: September 24, 2000  
Publisher: Software History Center  
Donated By:  
Filename: doc-4cb36e1c01280.pdf (Size: 286 KB)  
Pages: 48  
Cataloguer:  
Copyright: Computer History Museum  
Description:

**Report to the Computer History Museum on the Information Technology Corporate Histories Project  
Systems and Utilities Software Sector**

On September 22 and 23, 2000, The Charles Babbage Institute sponsored a conference in Palo Alto, CA, on the impact of IBM's decision in 1969 to unbundle the price of software from the price of hardware on the emergence of companies selling software as a product. Many of the attendees at the conference were people who had founded software companies in the 1960s and early 1970s, so The Software History Center decided to take advantage of the congregation of so many people who had participated in the early software industry to organize a workshop for the following day. The purpose of the workshop was to ask people to recollect their experiences in founding their companies and especially to discuss factors other than unbundling which affected the early growth of their companies. Conference reporters were on hand to transcribe the conversations that took place. The following is a transcript of that meeting.

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Entered By: Luanne Johnson  
October 11, 2010

**Title: An Interview with Martin Goetz**

Author: Jeffrey R. Yost

Created: May 3, 2002

Publisher: Charles Babbage Institute, University of Minnesota

Donated By:

Filename: doc-4cb368bf20de6.pdf (Size: 11 KB)

Pages: 19

Cataloguer:

Copyright: Charles Babbage Institute, University of Minnesota

Description:

Martin A. Goetz, a software industry pioneer, was a founder and past president of Applied Data Research (ADR). He was awarded the first software patent in 1968 for his sorting system program and was a longtime spokesperson for protecting software as intellectual property. In this interview Goetz discusses aspects of his early career as a programmer at Remington Rand, his founding of ADR, his management of ADR's Software Division, ADR's competition and litigation against IBM, IBM's unbundling, his work with ADAPSO, and his leadership on the issue of the intellectual protection of software. He concludes with some remarks on the relationship between anti-trust issues with IBM in 1960s and 1970s, and the Justice Department's case against Microsoft this past decade. This oral history was co-sponsored by CBI, through a National Science Foundation grant project, "Building a Future for Software History," and the Software History Center in conjunction with the Center's ADAPSO reunion (3 May 2002).

Citation: Martin A. Goetz, OH 334. Oral history interview by Jeffrey R. Yost, 3 May 2002, Washington, DC. Charles Babbage Institute, University of Minnesota, Minneapolis.

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Entered By: Luanne Johnson  
October 11, 2010

## References

**Title: A View from the Sixties: How the Software Industry Began**

**Author: Luanne Johnson**

Created: January 1998

Publisher: IEEE Annals of the History of Computing

Cataloguer:

Copyright:

Reference:

Johnson, Luanne. "A View from the Sixties: How the Software Industry Began." IEEE Annals of the History of Computing, Vol. 20, No. 1 (January-March 1998): 36-41.

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Entered By: Luanne Johnson  
October 11, 2010

**Title: Memoirs of a Software Pioneer: Part 1**

Author: Martin Goetz

Created: January 2002

Publisher: IEEE Annals of the History of Computing

Cataloguer:

Copyright:

Reference:

Goetz, Martin. "Memoirs of a Software Pioneer: Part 1." IEEE Annals of the History of Computing, Vol. 24, No. 1 (January-March 2002): 43-56.

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Entered By: Luanne Johnson  
October 11, 2010

**Title: Memoirs of a Software Pioneer: Part 2**

Author: Martin Goetz

Created: October 2002

Publisher: IEEE Annals of the History of Computing

Cataloguer:

Copyright:

Reference:

Goetz, Martin. "Memoirs of a Software Pioneer: Part 2." IEEE Annals of the History of Computing, Vol. 24, No. 4 (October-December 2002): 14-31.

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Entered By: Luanne Johnson  
October 11, 2010

## Discussions

**There are no discussions for this company in the collection**

## Boole and Babbage

### Company Details

**Name:** Boole & Babbage  
**Sector:** [Systems and Utilities Software](#)

### Description

Boole and Babbage was founded by David Katch and Kenneth Kolence in Palo Alto, CA in May 1967 as K & K Associates, consultants in system design methodology. Within a few months, they saw a potential for software products that measured the efficiency of program execution and computer utilization and sought venture capital funding to develop their first software products PPE (Problem Program Evaluator) and CUE (Configuration Utilization Evaluator). The company changed its name to Boole & Babbage in October 1967 and was the first systems software house in Silicon Valley to receive venture capital funding.

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**Facilitators** Luanne Johnson

### Statistics

Contributors (0), Events (0), Stories (1), Documents (5), References (1), Discussions (0 threads, 0 posts)

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**Entered By:** Luanne Johnson  
February 25, 2010

### Contributors

**There are no contributors for this company in the collection**

### Timeline

**There are no events for this company in the collection**

### Stories

**Title:** How IBM Killed the Market for Boole & Babbage's CUE Product

Author: Ken Kolence

Created: 1998

Cataloguer:

Copyright:

Story:

How IBM Killed the Market for Boole & Babbage's CUE Product  
by Ken Kolence (as told to Luanne Johnson)

Boole & Babbage was founded in September, 1967. It was the successor to K & K Associates which Dave Katch and I started in May of that year. We had both previously worked for Control Data and were pioneers in developing engineering approaches to software development, which



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was a new concept at the time. As a matter of fact, I coined the term "software engineering" to describe what we were doing although I later learned that the term was also being used elsewhere. To the best of my knowledge, though, this was the first use of the term in Silicon Valley.

I had also specialized in developing software that would measure computer performance and we thought that there would be a big market for that kind of software product in the rapidly-growing IBM 360 customer base. So the plan was to sell our services as software engineering consultants and get the money together to be able to develop some performance measurement products for the IBM 360 market.

It didn't take us long to figure out that we were going to need substantial funds to be able to develop the software products so we began looking for a venture capitalist to back us. Software product companies were a really unknown concept so we had a hard time finding a venture capitalist who would listen to us. But through some contacts I had, we met Franklin Pitcher (Pitch) Johnson who was active in Silicon Valley investments. He liked our concept, put together a group of investors, told us to come up with a new name, and Boole & Babbage was born.

The first product we released was PPE, the Problem Program Evaluator. It was designed to analyze the performance of a computer program and detect ways in which the code could be changed to improve the run time, that is, make the program run more efficiently.

PPE was a big success. Our marketing strategy was to say, OK, sign a contract and we'll come out and run PPE on any three programs you give us. Then within 24 hours we'll give you the corrections you need to make and rerun PPE and if we haven't saved you at least 20% of the run time, you can keep the changes we recommended and there's no obligation. Well, we sold the program everytime we did the demo because, in most cases, the run time improvement was anywhere from 30% to 50%.

Now, the last thing we wanted was to have a run-in with IBM, so we deliberately crippled PPE so that it wouldn't process compilers or IBM system software or utilities. It was designed to process the programs that had been written in-house by the customer's staff and wouldn't work if they tried to use it to analyze the efficiency of the IBM software.

It was our second product, CUE, Configuration Utilization Evaluator, that got IBM pissed at us. CUE was designed to analyze the performance of the hardware, including all the peripherals and the channels between the CPU and the various I/O devices. And CUE gave the IBM account reps major heartburn.

In those days, IBM had various levels of account control. Level 1 meant that the IBM account representative, the salesman, did all of the equipment planning for the customer. Literally. Customers were spending a lot of money on computer systems and the performance was horrible. So the salesmen were selling faster and faster CPUs, which were expensive, and not upgrading the I/O, which was a lot cheaper. And with CUE you instantly found out where the bottlenecks were, which often meant that the system performance could be greatly improved just by upgrading the I/O without replacing the CPU.

Well, after this had been going on awhile, IBM invited us to do a demo of CUE for them, which we rather naively did. They were impressed with how effectively the program could identify constraints on performance. So impressed, in fact, that they assigned several of their field engineers to write programs which would do the same thing. And then they put their programs into COSMIC, the NASA system for redistributing program code, and told their customers that they could get performance measurement software from COSMIC for only a couple of hundred dollars, compared to the \$5,000 we were charging.

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We protested to IBM and to the SLAC (Stanford Linear Accelerator Center), which was responsible for maintaining COSMIC, but it didn't do any good. This was when software was routinely given away free by hardware manufacturers and commonly exchanged between computer users at prices that just covered the cost of reproducing and shipping the source code. Freely distributing software written by IBM field engineers was accepted practice and they didn't see any reason why they shouldn't proceed to do that with a product that competed with CUE.

This was a very deliberate decision on IBM's part. Within the same month, virtually every IBM account rep went to his customers and told them of the availability of the product through COSMIC. Naturally, it killed the market for CUE because we couldn't compete at the price charged by COSMIC which only covered their distribution costs since the development costs were absorbed by IBM.

Boole & Babbage survived that setback and is still thriving today. As a matter of fact, it just celebrated its thirtieth anniversary and is one of the very few software companies started in the 1960s that is still surviving today (ed. note: Boole & Babbage was acquired by BMC Software in November, 1998). But I think the story of how IBM killed the market for CUE illustrates very well what fledgling software companies were up against in the early days of the software industry.

(This anecdote was submitted to the Software History Center website in 1998.)

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Entered By: Luanne Johnson  
February 25, 2010

## Documents

**Title: Oral History of Kenneth (Ken) Kolence**

Author: Luanne Johnson

Created: September 16, 1996

Publisher: Computer History Museum

Donated By:

Filename: doc-4cb36574837aa.pdf (Size: 11 KB)

Pages: 23

Cataloguer:

Copyright: Computer History Museum

Description:

Kenneth Kolence, one of the founders of Boole & Babbage, the first software products company in Silicon Valley, talks about his life-long interest in software engineering and management of the software design process. He describes his introduction to computers at the University of Illinois, his work as a computer programmer and operations manager while in the U.S. Navy and his subsequent career as a manager of the software development process at North American Aviation and Control Data Corporation. He talks about his early and on-going interest in measuring computer performance, which led to Boole & Babbage's successful products, Problem Program Evaluator and Configuration Utilization Evaluator. He describes the challenges in marketing software in the early days of the industry and the impact of IBM on competitive markets for independent software vendors.

Accession: 102702064

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Entered By: Luanne Johnson  
October 11, 2010

**Title: Oral History of Franklin Pitcher (Pitch) Johnson**

Report to the Computer History Museum on the Information Technology Corporate Histories Project  
Systems and Utilities Software Sector

Author: Luanne Johnson  
Created: December 10, 1997  
Publisher: Computer History Museum  
Donated By:  
Filename: doc-4cb363afa2de1.pdf (Size: 10 KB)  
Pages: 12  
Cataloguer:  
Copyright: Computer History Museum  
Description:

Franklin Pitcher ("Pitch") Johnson, one of the earliest venture capitalists in Silicon Valley, discusses investing in Boole & Babbage, one of the earliest software products companies, in 1967. He describes some of the problems that Boole & Babbage faced in selling their products into a market dominated by IBM and how IBM initially coached its sales staff to persuade its customers not to buy Boole & Babbage's products but later changed its policy to be supportive of the increased efficiency that the Boole & Babbage products brought to their customer base. He talks about the growth difficulties that Boole & Babbage encountered in the 1980s until their business strategy was refocused toward client/server platforms in the 1990s and the challenges of creating a start-up company in a new industry.

Accession: 102702043

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Entered By: Luanne Johnson  
October 11, 2010

**Title: BMC Software Completes Merger with Boole & Babbage**

Author:  
Created: March 30, 1999  
Publisher: BMC Software  
Donated By:  
Filename: doc-4b86fdb96e898.pdf (Size: 77 KB)  
Pages: 1  
Cataloguer:  
Copyright: BMC Software  
Description:

Press release announcing the merger of BMC Software and Boole & Babbage downloaded from the BMC Software website.

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Entered By: Luanne Johnson  
February 25, 2010

**Title: "One for the History Books" Workshop**

Author:  
Created: September 24, 2000  
Publisher: Software History Center  
Donated By:  
Filename: doc-4b86f99b6f99b.pdf (Size: 286 KB)  
Pages: 48  
Cataloguer:  
Copyright: Computer History Museum  
Description:

On September 22 and 23, 2000, The Charles Babbage Institute sponsored a conference in Palo Alto, CA, on the impact of IBM's decision in 1969 to unbundle the price of software from the price of hardware on the emergence of companies selling software as a product. Many of the attendees at the conference were people who had founded software companies in the 1960s and early 1970s, so The Software History Center decided to take advantage of the congregation of so

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many people who had participated in the early software industry to organize a workshop for the following day. The purpose of the workshop was to ask people to recollect their experiences in founding their companies and especially to discuss factors other than unbundling which affected the early growth of their companies. Conference reporters were on hand to transcribe the conversations that took place. The following is a transcript of that meeting.

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Entered By: Luanne Johnson  
February 25, 2010

**Title: An Interview with Kenneth W. Kolence**

Author: Jeffrey Yost

Created: October 3, 2001

Publisher: Charles Babbage Institute, University of Minnesota

Donated By:

Filename: doc-4b86f54f38aaa.pdf (Size: 15 KB)

Pages: 84

Cataloguer:

Copyright: Charles Babbage Institute, University of Minnesota

Description:

Software industry pioneer Kenneth W. Kolence begins by discussing his time as maintenance and operations head on the UNIVAC for the Navy; his work setting up the operations organization and scheduling procedures for the engineering programming efforts at RCA; his tenure at North American Aviation developing process design and instrumentation time; and his joining Control Data Corporation to work on integrated management and design processes, SW product concepts, and performance measurement tool prototyping. Much of the interview concentrates on Kolence's co-founding of K & K Associates, which was soon renamed Boole & Babbage, the first software company in Silicon Valley. Other topics include Boole & Babbage's competition with IBM, and the founding 1968 NATO Software Engineering Conference.

Citation: Kenneth W. Kolence, OH 348. Oral history interview by Jeffrey R. Yost, 3 October 2001, San Francisco, California. Charles Babbage Institute, University of Minnesota, Minneapolis.

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Entered By: Luanne Johnson  
February 25, 2010

## References

**Title: Kolence, Kenneth W. "Boole & Babbage"**

Author: Luanne Johnson

Created: January 2002

Publisher: IEEE Annals of the History of Computing

Cataloguer:

Copyright: IEEE Annals of the History of Computing

Reference:

Kolence, Kenneth W. "Boole & Babbage." IEEE Annals of the History of Computing, Vol. 24, No. 1 (January-March 2002): 28-31.

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Entered By: Luanne Johnson  
February 25, 2010

## Discussions

**There are no discussions for this company in the collection**

## Dykalor

### Company Details

**Name:** Dylakor Software  
**Sector:** [Systems and Utilities Software](#)

#### Description

Dylakor was founded by Bill Newcomer and Jim Case. The company initially had a three-pronged strategy: develop software services, and run a service bureau. Their initial software program called DYL-250 which they marketed under the name of \$1.00 a day. Case left the company in the mid-1970s to focus on software utility products. The company was

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#### Facilitators

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#### Statistics

Contributors (0), Events (0), Stories (0),  
Documents (0), References (1), Discussions (0  
threads, 0 posts)

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**Entered By:** Luanne Johnson  
March 2, 2010

### Contributors

**There are no contributors for this company in the collection**

### Timeline

**There are no events for this company in the collection**

### Stories

**There are no stories for this company in the collection**

### Documents

**There are no documents for this company in the collection**

### References

**Title:** Newcomer, William. "Dylakor"  
**Author:** Luanne Johnson  
**Created:** January 2002

**Report to the Computer History Museum on the Information Technology Corporate Histories Project  
Systems and Utilities Software Sector**

Publisher: IEEE Annals of the History of Computing

Cataloguer:

Copyright:

Reference:

Newcomer, William. "Dylakor." IEEE Annals of the History of Computing, Vol. 24, No. 1 (January-March 2002): 34-37.

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Entered By: Luanne Johnson

July 26, 2011

**Discussions**

**There are no discussions for this company in the collection**

## Pansophic Systems

### Company Details

**Name:** Pansophic Systems, Inc.  
**Sector:** [Systems and Utilities Software](#)

#### Description

Joseph A. Piscopo started Pansophic in Chicago, IL in 1969 with \$150,000 in funding from his family and friends. The company struggled for several months before focusing on the software products business. Pansophic's major products were PANVALET, a source program and change management system, and EASYTRIEVE, a report writer and data retrieval system. Each product was installed at more than 10,000 mainframe computer sites. Pansophic was sold to Computer Associates in 1991 for \$300 million.

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#### Facilitators

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#### Statistics

Contributors (0), Events (0), Stories (1),  
Documents (0), References (1), Discussions (0  
threads, 0 posts)

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**Entered By:** Luanne Johnson  
February 26, 2010

### Contributors

**There are no contributors for this company in the collection**

### Timeline

**There are no events for this company in the collection**

### Stories

**Title:** Pansophic: A Typical 1960s Start-Up

Author: Joe Piscopo

Created: 1998

Cataloguer:

Copyright: Luanne Johnson

Story:

Pansophic: A Typical 1960s Start-up  
by Joe Piscopo (as told to Luanne Johnson)



**Report to the Computer History Museum on the Information Technology Corporate Histories Project  
Systems and Utilities Software Sector**

I think the way that Pansophic was started was pretty typical of the process that software entrepreneurs went through in the 1960s. We had a lot of confidence that the computer field was full of opportunities, a little financing from private sources, and not much sense, at the beginning, of how to define a good market for ourselves.

I graduated in 1965 from the University of Illinois with a computer science degree and got a couple of years experience as a programmer working in civil service for a little while, then for Montgomery Ward in downtown Chicago. It didn't take me long to figure out that in a big organization like Montgomery Ward, my compensation increases were going to be determined by a schedule that applied to all kinds of office workers, not to the increase in responsibility I was taking on as a programmer, so I started thinking about going back to school and getting an MBA.

Then I attended some kind of family get-together -- a wedding or something -- and started talking to my uncle Emil about the computer business. He got really interested and asked me to put together a presentation on what kind of opportunities I saw in the computer field. I put together a list of twenty different kinds of business opportunities: time sharing services, computer processing services, consulting, feasibility studies, hardware analysis, etc. etc., and gave a presentation to my uncle and some of his business associates at a country club near Chicago. They were impressed enough to give me \$150,000 in seed money to start a new company. I called it Pansophic, hired my younger brother, Anthony, and another guy I knew and we were off and running. This was in April of 1969. I was 24 years old at the time.

That \$150,000 sounded like a lot of money at the beginning but it didn't take me long to realize that we were running through it pretty fast. We were naive enough to believe that the business leads provided to us by our backers would result in a lot of big contracts but we just ended up thrashing around among our 20 different business possibilities and didn't have any real focus.

After about three months, I came to the conclusion that we better learn how to do something and do it on purpose rather than wait around for something to happen. What we ended up doing since none of the three of us had any marketing or sales experience was to sign up an executive recruiter to find us a vice president of marketing.

The person we brought in had a background in chemical engineering and a lot of sales and marketing experience with chemical type products but he knew nothing about computers. We sat down with him and went through my list of 20 items in great detail, covering the pluses and minuses on every item because, frankly, we didn't have anything else to do. When we got to the end of the list, he said he'd like to hear more about No. 13, which was software packages. We talked some more about that and he said he thought it was a really appealing idea to be able to invent something that you could sell over and over again without ever having to build factories or create inventories.

So we said, OK, what can we come up with to invent? I thought back to my job at Montgomery Ward and how I had to cart around huge trays of punched cards, which were the source decks of my programs, and how I had once spend hours getting them back in sequence when I dropped the trays. So I came up with the idea of creating a program which would let you keep the program source decks on a disk and let you edit, update and compile the program directly from the library on disk so that you never had to physically handle the punched cards. We named the program Panvalet. It was our first software product and an instant success.

Pansophic went on to develop a whole line of products that helped our customers' programmers to be more productive. It became one of the world's largest independent software companies with offices throughout the U.S. and in 27 countries around the globe until it was acquired by Computer Associates in the late 1980s.

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(The above anecdote was submitted to The Software History Center website by Burt Grad in 1997.)

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Entered By: Luanne Johnson  
March 9, 2010

### **Documents**

**There are no documents for this company in the collection**

### **References**

**Title: Piscopo, Joseph A. "Pansophic Systems."**

Author: Luanne Johnson

Created: January 2002

Publisher: IEEE Annals of the History of Computing

Cataloguer:

Copyright:

Reference:

Piscopo, Joseph A. "Pansophic Systems." IEEE Annals of the History of Computing, Vol. 24, No. 1 (January-March 2002): 39-41.

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Entered By: Luanne Johnson  
July 26, 2011

### **Discussions**

**There are no discussions for this company in the collection**

# Syncsort

## Company Details

**Name:** Syncsort  
**Sector:** [Systems and Utilities Software](#)

### Description

Syncsort was founded on September 1, 1968, as Whitlow Computer Systems by Duane Whitlow and Stan Rintell. Their initial objective was to provide contract system design and programming services. However, an opportunity to review a sort manual led Whitlow to realize that he could write a much more efficient sort, Syncsort, which became the company's primary focus and led to changing the company's name. Syncsort, because it was much more efficient than the sorts provided by IBM, became one of the first non-IBM software products to be accepted by a large number of IBM users and led the way for greater acceptance of non-IBM software and hardware products in what had previously been exclusively IBM data processing shops. Syncsort is one of the very few software companies founded in the 1960s which has adapted to changes in technology and the marketplace and which is still successfully operating today.

[Syncsort website](#)

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### Facilitators

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### Statistics

Contributors (0), Events (0), Stories (0), Documents (0), References (0), Discussions (0 threads, 0 posts)

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**Entered By:** Luanne Johnson  
March 9, 2010

### Contributors

**There are no contributors for this company in the collection**

### Timeline

**There are no events for this company in the collection**

### Stories

**There are no stories for this company in the collection**

### Documents

**There are no documents for this company in the collection**

**References**

**There are no references for this company in the collection**

**Discussions**

**There are no discussions for this company in the collection**

## turnkey systems, inc. (TSI)

### Company Details

**Name:** turnkey systems, inc. (TSI)  
**Sector:** [Systems and Utilities Software](#)

### Description

TSI was founded by Ernest E. (Lee) Keet and Howard G. (Tod) Pontius in Norwalk, CT in 1967 as a contract programming firm specializing in developing large online systems. Gaps in the functionality provided by the software supplied by IBM led the founders to see an opportunity to market software products that would fill those gaps. In January, 1970, TSI released Task/Master, the first commercial telecommunications monitor that was launched on a full worldwide basis. TSI was sold to Dun & Bradstreet in late 1978 and formed part of the Software Products Group that Keet ran until 1983. In 1985, the venture firm founded by Keet and others bought the assets formerly owned by TSI and other D&B divisions, reconstituting TSI International Software and four other companies. In 1999, TSI Software changed its name to Mercator Software and it is still operating successfully today under that name.

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### Facilitators

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### Statistics

Contributors (0), Events (0), Stories (1),  
Documents (0), References (1), Discussions (0  
threads, 0 posts)

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**Entered By:** Luanne Johnson  
February 26, 2010

### Contributors

**There are no contributors for this company in the collection**

### Timeline

**There are no events for this company in the collection**

### Stories

**Title: Getting Hooked on Software**

Author: Lee Keet

Created: 1998

Cataloguer:

Copyright: Luanne Johnson

Story:

Getting Hooked on Software

by Lee Keet (as told to Luanne Johnson)

In 1967, I was working for IBM in sales and decided that IBM's track record with the System 360 provided a opportunity to go out on my own. I started originally with IBM as a systems engineer and was assigned to a project to develop a bill-of-materials processor for manufacturing companies. This was part of IBM's strategy to create software that would help to sell the hardware in various vertical markets and which would be given away free to the customers.

After working as a systems engineer for awhile, I decided to get into sales because there was more money to be made there. I had to fight my way into a sales territory because I was looked at as a heavy hitting engineer and not a guy who could ever sell anything. They initially gave me a sales territory that didn't have anything to do with my experience with manufacturing systems but once I had proved myself as a salesman, they gave me back the manufacturing territory and I made it my expertise to sell the manufacturing software products along with the hardware to large manufacturing accounts. And that's how I got really interested in software as an entity.

The 360 was such a success from a hardware sales standpoint and such a disaster from an installation standpoint that another IBMer and I decided that we really needed to go into the software business to help customers get their 360s installed. We started turnkey systems, inc. in April, 1967, and our original goal was custom development contracts, not software packages. We were reasonably successful doing large custom development work and were one of the first developers of online systems in the Northeast.

IBM brought out their first display terminal, the 2260, which had an obvious application for online order entry and online activity. But we discovered that good software in between the application program and the hardware was non-existent. IBM had some programs that had been developed by systems engineers in the field for various IBM customers, included one called CICS, but we looked at it and thought, boy, that's a piece of junk. So we said, why do not we develop our own software package to interface IBM systems to 2260 environments?

This was in 1969. Initially the idea was to write a product that would help us deliver the custom programming contracts for our customers but we ended up getting hooked on it. There's no other way to put it. We saw that what we were selling to Company A led to enhancements that could be used for Company A and induce a sale to Company B. I guess if I went back I would say that we couldn't get out of it because we were always running to meet our commitments. With the optimism of youth, we were always selling the system with a few more features than it actually had at the time and then rushing to upgrade it in time to make the delivery.

In the early days, it was a daily process. Because the people that were developing the product were the same people who were writing the documentation and designing the advertising campaigns and the marketing brochures. The same people who were getting on the phones and saying can I come see you and tell you about this wonderful product and then going out and selling and installing it.

One of the guys who worked for us in the early days was Joe Farrelly who later was Vice President of Research and Development at ADR. I sent him off to Atlantic National Bank in Florida to install our product, which was called Taskmaster, under a contract that included several

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features that hadn't been developed yet. So he would install the system during the day and develop the new features at night. He'd be on the phone to me and the other guys in Oxford, Connecticut, telling us that we need this or the customer needs that and we would develop along side of him and rush him code, sometimes reading it to him over the phone. I do not think the man slept for five weeks.

But that's the way that a software product got developed in those days. We sold one of the early versions of Taskmaster to American Tobacco. We had announced it as a multi-tasking system but in actual fact we were using a much simpler technology we had invented that subsequently became known as pseudoconversationality. Which was actually fine for American Tobacco's purposes because true multi-tasking isn't necessary unless you're running 20 transactions a second through the thing and they weren't even running two transactions a second through it.

But one day I got a call from the manager and he said we did a test and it's not truly multi-tasking. I said, oh, didn't you get the memo on that? And he said, no, I didn't. So I wrote up and sent him a backdated technical memo that said multi-tasking in this version had been disabled because of a serious design flaw and that it would be repaired in the next release of the product. Then I assembled my entire crew and we went up to Oxford, Connecticut, where we rented computer time from Uniroyal. And we invented the first multi-tasking system in the history of this business and shipped it to American Tobacco among others.

And that's the way you get hooked on this commitment to vaporware and fighting to keep up. I'm very pleased to say that I do not think we ever disappointed a customer and we never announced anything that we didn't deliver. But those were hairy days.

(The above anecdote was submitted to The Software History Center website in 1998.)

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Entered By: Luanne Johnson  
March 9, 2010

## **Documents**

**There are no documents for this company in the collection**

## **References**

**There are no references for this company in the collection**

## **Discussions**

**There are no discussions for this company in the collection**