

tickler for week of 27 Aug

(am5) 27 August

1

0830 hrs. Branch Chief's Meeting

1a

(at5) 28 August

2

(aw5) 29 August

3

0830 hrs. Branch Chief's Meeting.

3a

Laboratory Activity Reports are due tomorrow.

3b

(ath5) 30 August

4

Timecards are due today as Monday is Labor Day.

4a

0900 Officer's Commander Call - All Officers must attend

4b

Laboratory Activity Reports due today: Bucciero must have them by 1000, ISM must have them by 1100, and DOT must have them by 1600.

4c

(af5) 31 August

5

Newsbrief Items due in today to Becky

5a

For TB and Bobbie - Travel figures due in at 1200 hrs.

5b

form 2's (aemployee time expenditures) are due today.

5c

form 6's (aprojected nampower) are due today.

5d

18672 Distribution

Donna R. Robilotta, David L. Daughtry, Richard H. Thayer, Frank J. Tomaini, Mike A. Wingfield, Edmund J. Kennedy, Ray A. Liuczi, Richard Calicchia, John W. Johnson, Donald Van Alstine, Dean F. Bergstrom, William P. Bethke, Frank S. LaMonica, William E. Rzepka, Rocco F. Iuorno, Frank P. Sliwa, Thomas J. Bucciero, Robert E. Doane, David A. Luther, Roger B. Panara, John L. McNamara, Joe P. Cavano, Duane L. Stone, Marcelle D. Petell, Josephine R. Stellato, Robert K. Walker, Thomas F. Lawrence, James H. Bair,

tickler for week of 27 Aug

(J18672) 27-AUG-73 07:51; Title: Author(s): Frank J. Tomaini/FJT;
Distribution: /RADC; Sub-Collections: RADC; Clerk: FJT;

Some Thoughts on Usage of our Tickler File

I see some problems with our current use of some of our systems. Although this is not a definite solution paper it is intended to provoke the thoughts of others (hopefully).

Some Thoughts on Usage of our Tickler File

We have now implemented a number of systems designed to aid in the management of the branch. One is a data management system (IDS) that operates against a Personnel-Project ISI database. Another is a tickler file implemented under NLS. A lot of time and effort has been expended into making these two systems operational.

1

Besides just aiding in how the branch operates, these systems have a long range goal of changing the very nature of "how" the branch operates. Therefore, it is very important to determine what impact these relatively simple systems are having as the first step in this direction. So far, despite the fact that work is being done on them and with them, there does not appear to be much of an effect.

2

There are a number of examples that show either that the systems are not being used or are not being used correctly...

3

(a) A week or two ago we got the registration material for the Syracuse extension center. A few days after that the form 1152's were due. Yet nowhere was this advertised in the tickler file. The result was that everyone had to scurry around late on a Friday afternoon. The purpose of having a tickler file is to give branch personnel advance warnings for when items become due or events take place. So far this isn't happening yet.

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(b) Early in July a call for Jocas Cost Estimates reached the branch. Again this was never entered into the tickler file. In addition, we have available a projection by a two month period of branch personnel (where they expect to charge their time, when they will be on leave, etc.). This report should have given advance warning that D. Daughtry was going on leave at the end of this month. Since he is the one responsible for the ISI database, he should have been at the Jocas Cost meeting. The two systems should have been used together to avoid the last minute difficulties that we ran into. It is obvious that these systems are not being used as they should.

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(c) If we are going to have a tickler system, it should be the final central repository for everything that is happening in the branch. Instead it seems to be almost happenstance what gets into this file. Like anything else, if it is not accurate and current, we might as well not bother with it. Finally, everyone in the branch has access to it and should not disregard it because they already think they know what is happening.

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It would be premature to specify reasons for the apparent misuse of these systems at this time. They haven't been around long enough for people to adapt to them as they should. Still, an attempt should probably be made to ascertain something about the state of nature. Therefore, the following are not so much concrete explanations about

Some Thoughts on Usage of our Tickler File

what is happening but rather they are just likely candidates as the causes of some of our problems and should be given some thought.

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(1) failure of some people in higher management to become actively involved in using these systems. Although there might be a valid point that as long as he has someone else get on the system for him he can get what he wants done, I think there are more serious repercussions. By not participating actively in using the system, he sets an example for other key people to try to work around the system too. And the motivation for these people to use the system drops considerably.

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(2) since we have not converted completely to the on-line systems to do our work, many times what is done with them is just done as extra work. In effect, we are trying to maintain two opposing systems. The old way is tried and proved and is still relied on when something really has to be done. The new way is done in addition to the old and so is looked on by many as just more work to do the same job. I imagine this will always be a problem when two systems are run in parallel with each other but combined with the idea above, it gives you a pretty good idea of the morale of the people directly involved in these projects.

4b

(3) not everyone in the branch has direct access to these systems. This necessitates that some things must still be done the old way and this compounds the problem even more. However, the contents of the system are available to everyone (Bobbie usually sees to that) and so this should not be a valid reason that what is in the system shouldn't be considered as the official word for the branch. This correlates to the problem of maintaining two parallel systems -- somethings will not be in both and so people who try to use them won't know which way to turn.

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(4) the last contributing cause is similar to the first except that it goes much further-- the general reluctance of people to change their ways of doing things (especially when something like the computer is involved). The remedy to this may well be the slowest of all but that doesn't mean that we must wait for present personnel to be replaced with new people.

4d

4e

18673 Distribution

Edmund J. Kennedy, Duane L. Stone, Frank J. Tomaini, James H. Bair,
John L. McNamara, Rocco F. Iuorno,

Some Thoughts on Usage of our Tickler File

(J18673) 27-AUG-73 08:12; Title: Author(s): Joe P. Cavano/JPC;
Distribution: /EJK DLS FJT JHB JLM RFI; Sub-Collections: RADDC; Clerk:
JPC;
Origin: <CAVANO>TICK-USE.NLS;1, 27-AUG-73 07:55 JPC ;

Step-daughter maybe? response to (18642,)

Dirk--

Thanks for your pointer to ILA's message (journal,17838,). It does make sense but is not related to the problem Bair is experiencing. When the load average is high, the NCP is slow to respond to incoming RFC's (requests for connection). The TIP has a timeout of about 30 seconds (to receive a response to the RFC) and if it doesn't come by then, it times out and aborts the login attempt. Most hosts have longer timeout periods in their user Telnets, and the connection attempt is often successful there. The TIP timeout is sufficient for most hosts at most times, but a high load average on a TENEX can cause trouble. One way to get around this on a tip is to do a series of login attempts in a row, until one matches.

--Nancy

1

18674 Distribution

Dirk H. Van Nouhuys, I. Larry Avrunin, James H. Bair, Duane L. Stone,
Martin E. Hardy, Ferg R. Ferguson, James C. Norton,

Step-daughter maybe? response to (18642,)

(J18674) 27-AUG-73 08:30; Title: Author(s): Nancy J. Neigus/NJN;
Distribution: /DVN ILA JHB DLS MEH WRF JCN; Sub-Collections: NIC; Clerk:
NJN;

SEAS marketing (or beyond)

Doug, Was reading your memo MJOURNAL 15375. Sounds very interesting. A couple of groups that came to my mind that would be prime candidates for a knowledge workshop approach are the following: lawyers (who could use such a system beautifully for patent applications, briefs, case searches, etc.) and non-profit fund-raising societies such as the American Cancer Society (who have tremendous amounts of correspondence concerning fund raising and volunteer programs). Another area (but probably one without much money) would be the whole interlibrary loan system used by libraries. There are some inroads here, but it is still largely a matter of letters and telephones. Anyway, these are not 'software' groups per se, but they are groups that might be interested greatly in our approach so thought I'd mention them to you. JAKE

1

18675 Distribution
Douglas C. Engelbart,

SEAS marketing (or beyond)

(J18675) 27-AUG-73 09:02; Title: Author(s): Elizabeth J. (Jake)
Feinler/JAKE; Distribution: /DCE; Sub-Collections: SRI-ARC; Clerk: JAKE;

MACSYMA report

John, Just saw a reference to a report on MACSYMA done by Wm. Parrish in the journal. If you have not already done so (per our previous conversation) could you send me a copy of this? Would be much obliged. Thanks. JAKE Feinler (NIC)

18676 Distribution
John R. Pickens,

MACSYMA report

(J18676) 27-AUG-73 09:14; Title: Author(s): Elizabeth J. (Jake)
Feinler/JAKE; Distribution: /JRP; Sub-Collections: SRI-ARC; Clerk: JAKE;

UCLA-CCBS PDP-10

Jean -- Finally got the info you requested on the UCLA PDP-10 (Shure's group). They are in the final stages of debugging their Server Telnet. Should be up very soon. Reg Martin is the one you want to talk with concerning that stuff. He is skeptical about how available their system will be to general Net use.

--Dave

1

18677 Distribution
Jean Iseli,

UCLA-CCBS PDP-10

(J18677) 27-AUG-73 11:42; Title: Author(s): David H. Crocker/DHC;
Distribution: /JI; Sub-Collections: NIC; Clerk: DHC;

Output Processor suggestions

In order to make processed output better fit the device it is being printed on (or formatted for) I suggest the following:

1. Have the Output Processor (during Output device Teletype) use the Terminal specs (line width, page size, form feed, etc) as limits, which embedded directives CANNOT exceed.

2. Allow run-time specified directives. The author of a file has certain formatting ideas. The printer of the file may want something different. The printer's directives should take precedence. This saves the printer from having to copy the file and change embedded directives.

3. Allow the concatenation of files, at run time. This, too, saves having to do copying.

18678 Distribution

Nps Np, N. Dean Meyer,

Output Processor suggestions

(J18678) 27-AUG-73 11:48; Title: Author(s): David H. Crocker/DHC;
Distribution: /NPS NDM; Sub-Collections: NIC; Clerk: DHC;

YOUR DRAFT OF RFC 561 LOOKS GOOD. A SUGGESTION ABOUT HAVING MULTIPLE AUTHORS IS TO HAVE SEVERAL USER AT HOSTS SEPARATED BY COMMAS AND ENDED BY CRLF. I ALSO ACKNOWLEDGE COMMENTS BY KEN POGAN AND YOUR REPLY.

MORE FOOD FOR THOUGHT: THERE IS A SERIOUS PROBLEM WITH LINE-LENGTH AND FORMATTING. SHOULD IT BE THE SENDER'S OR THE RECEIVER'S (OR PRINTING PROGRAM) RESPONSIBILITY TO PROVIDE CRLF'S IN TEXT AT "APPROPRIATE PLACES". ALSO DO WE USE MAIL OR MLFL COMMANDS - IS YOUR RFC APPLICABLE TO BOTH. PLEASE REFER TO CLEMENTS RECENT MEMO ON THIS SUBJECT (NIC # 18621) -- PROBLEMS LIKE MAXM LIINE LENGTH AND THAT EDITING CHARACTERS SUCH AS # AND @ IN MULTICS WILL DELETE PREVIOUS CHARACTER AND LINE WHEN MAIL COMMAND IS USED.

AN ADVANTAGE OF THE APPROACH SUGGESTED IN RFC 561 FOR A STANDARD NETWORK MAIL PROTOCOL IS THAT IT WILL ALSO WORK WITH "PRIMITIVE" FTP AND MAIL SERVERS. IT IS NOT INTERACTIVE, BUT I BELIEVE THAT FOR ITEMS SUCH AS DATE, SUBJECT, FROM, ETC, WE DONT NEED INTERACTION BETWEEN SERVER AND USER. MOST OF THE COMMENTS I GOT FROM PEOPLE HERE ABOUT YOUR MAIL PROTOCOL MEMO WERE THAT IT WAS TOO COMPLEX. THE APPROACH OF USING HEADERS IN A STANDARD FORM MAKES THE PROTOCOL SIMPLER. PLEASE GIVE ME YOUR REACTIONS ON THIS LAST COMMENT.

18679 Distribution

James E. (Jim) White, Kenneth T. Pogran, Ray S. Tomlinson,

(J18679) 27-AUG-73 12:02; Title: Author(s): Abhay K. Bhushan/AKB;
Distribution: /JEW KP RST; Sub-Collections: NIC KP; Clerk: AKB;

Dear Mr Sandum:

I am scheduled to meet Mr Foster on Sept. 27 at 10 AM in my office. Please come to Room 208, 545 Technology Square (2nd Floor, Project MAC), Cambridge, Mass. Don't hesitate to call me at 617-253-1428 if you have any questions or problems (or use the NIC). I look forward to seeing you unless I hear from you otherwise.

Sincerely,
Abhay Bhushan.

18680 Distribution
Keith N. Sandum,

(J18680) 27-AUG-73 13:26; Title: Author(s): Abhay K. Bhushan/AKB;
Distribution: /KNS; Sub-Collections: NIC; Clerk: AKB;

request for meeting on HELP documentation status

Dirk ...

1

I would like to meet with you and DSK [and whoever else you think should be there] to discuss the present status of the HELP system documentation effort. [I have read (18222,) (18329,) (18294,) (18344,) (18363,) (18519,) (18526,). There may be others I'm not aware of.]

2

The reason for the meeting is to give me an opportunity to be brought up to date, and to review and offer constructive criticisms at this time.

3

Principal points that should be covered include

4

- syntax conventions, and other notation conventions;
- HELP system data-base organization;
- what has been written to date (examples).

4a

I suggest Tuesday (28-Aug) PM or Wednesday AM; at any rate, sometime this week, but not Friday PM. When would be convenient?

5

... Mike Kudlick

6

18681 Distribution

Dirk H. Van Nouhuys, Diane S. Kaye,

MDK 27-AUG-73 17:01 18681

request for meeting on HELP documentation status

(J18681) 27-AUG-73 17:01; Title: Author(s): Michael D. Kudlick/MDK;
Distribution: /DVN DSK; Sub-Collections: SRI-ARC; Clerk: MDK;
Origin: <KUDLICK>DIRK.NLS;2, 27-AUG-73 16:53 MDK ;

Book Needed

Please returnn the book "Psychology of Computer Programming".
Urgently needed. Thank you. Mil.

1

18682 Distribution

Jeanne M. Leavitt, Rodney A. Bondurant, Jeanne M. Beck, Mark Alexander Beach, Judy D. Cooke, Marcia Lynn Keeney, Carol B. Guilbault, Susan R. Lee, Elizabeth K. Michael, Charles F. Dornbush, Elizabeth J. (Jake) Feinler, Kirk E. Kelley, N. Dean Meyer, James E. (Jim) White, Diane S. Kaye, Paul Rech, Michael D. Kudlick, Ferg R. Ferguson, Douglas C. Engelbart, Beauregard A. Hardeman, Martin E. Hardy, J. D. Hopper, Charles H. Irby, Mil E. Jernigan, Harvey G. Lehtman, Jeanne B. North, James C. Norton, Jeffrey C. Peters, Jake Ratliff, Edwin K. Van De Riet, Dirk H. Van Nouhuys, Kenneth E. (Ken) Victor, Donald C. (Smokey) Wallace, Richard W. Watson, Don I. Andrews

Book Needed

(J18682) 27-AUG-73 17:34; Title: Author(s): Mil E. Jernigan/MEJ;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: MEJ;

Recommendation regarding Joe Brunon and SRI employment

Active consideration requested by those who met Joe.

Recommendation regarding Joe Brunon and SRI employment

This is a recommendation that ISE and/or other divisions within SRI give some serious, coordinated consideration to hiring Joe Brunon. I am asking Bart Cox to consider the matter, and establish a position for ISE. This memo is being circulated to the people who attended Joe's 17 Aug presentation; please communicate to Bob Wing or Bart Cox if you have any special interest. I am sending the appropriate file of records (including a filled-out application form) to Bob Wing. I will be out of town for three weeks, I'll be happy to discuss the matter further after Sept. 21).

A bit of background:

Joseph Brunon
 Department of Psychiatry
 Social and Community Psychiatry Program
 UCLA
 Los Angeles, California 90024
 Office (213) 825-0018
 Home (213) 478-6274

Joe has had prior acquaintance, and some working relations, with Hew Crane, who recommended to him that he visit us at ARC (see Jim Norton's note arranging Joe's visit -- 18317,). Joe then visited several hours with me (see my notes from that visit -- 18481,), and we set up a sort of "public talk" for him in ARC's conference room for Friday, 17 Aug 73. Hew Crane brought a number of people, and several from ARC attended. (see attendance list at end of this memo). I think Joe's presentation was well received; it certainly interested me. Afterwards, Joe and I discussed employment possibilities along the lines laid out below.

In (18481,4:gebt) are listed some hard-copy reference material describing Joe's work, some prior applications of his technique, etc. -- XDOC items (16608,) (16609,) (16610,) (16611,) and (16612,) -- copies will be in his file, with Bob Wing.

I gave Joe an SRI application form; he filled it out and returned it. I am forwarding it to Bob Wing.

Here are some of the direct and indirect activities that I can foresee being developed at SRI with Joe's capabilities and interests:

CONFERENCE LEADERSHIP AND PRESENTATION DESIGN

The skills that Joe has developed could have direct application within SRI's many project and planning teams. He could develop an in-house business (experimental at first, admittedly, but I think there is strong likelihood that the

Recommendation regarding Joe Brunon and SRI employment

value would prove high enough that he would have a steady in-house business built up within six months).

3a1

I think that as a service to outside organization, his type of facilitation can evolve into a valuable service that SRI could provide. (SRI could begin evolving this kind of support service on a slow, trial basis.)

3a2

Suppose that the internal and external business expanded beyond what one man could supply -- a likely surmise: To learn how to expand the internal-SRI capability for doing this sort of facilitation would be an important sort of R&D or experimental problem in its own right -- determining if and by what means the capability can be taught to others; Our social-science, management-technique, and augmentation-systems R&D staff would all be interested in this question and its resolution.

3a2a

This could be followed (or accompanied) by a service SRI could offer of teaching people in other organizations to do this kind of facilitation.

3a3

GRAPHIC COMMUNICATION

3b

There is a clear possibility that, for documents communicating material that is difficult to understand, a supplementary kind of hard-copy, graphic portrayal could be published, to accompany it as an appendix, as an optional supplement, or as an integral part. I speak of a different sort of graphics from what is normally used -- something looser, something supplementary and evocative rather than formal and directly representative -- one perhaps needs to see the examples of Joe's supplementary portrayals to envision what I mean.

3b1

Development of this capability, growing out of Joe's experiences and with his participation, is something that I would consider using in some of ARC's documentation. We would likely be interested in a bit of exploring of such possibilities early on; perhaps within a year coming to counting on such supplemental communication media as a regular part of some of our expository, instructional and reference documentation -- we seem to have unusual, chronic difficulties in getting across the total nature of what we are trying to communicate..

3b1a

A supplemental aspect would be the possibilities for special movies and videotapes, utilizing special graphic support as learned from Joe's techniques, that also could provide valuable new communication media.

3b2

Recommendation regarding Joe Brunon and SRI employment

And also, we are interested in a multi-media "programmed presentation" technique involving film strips (stepped through one at a time, as one does with slides) and an associated audio cassette that provides usually a lecture, and signals as to when to step to the next graphic (photo or drawing) film frame. The freer kind of graphics stemming from Joe's type of work, perhas as evolved partially during the working sessions in which part of the communicated material was developed, could provide newly powerful ways to communicate oherwise difficult material.

3b3

(NOTE: It may be that our Illustration department already has people that can match Joe's flair here??)

3b4

I propose that ISE give this serious thought. It may be that if the Urban and Social Systems, or Management Sciences were interested, one of these divisions would make a more logical home for Joe, and if so, I wouldn't quibble -- I would just like to see SRI launch something along the above schemes, and to have ARC be able to have Joe's talents available to it, and be able to develop some collaborative R&D with him.

4

Attendees for Joe Brunon's Presentation in L2077, Friday, 17 Aug 73:

5

Joseph Carrier	LRPS	5a
Bonnar Cox	ISE	5b
Hew Crane	ISE	5c
Doug Engelbart	ARC	5d
Jack Goldberg	CSG	5e
Joe Grippo	MSD	5f
Dave Hopper	ARC	5g
Charles Irby	ARC	5h
Diane Kaye	ARC	5i
Joe McPherson	MSD	5j
N. Dean Meyer	ARC	5k
Jeanne North	ARC	5l
Sylvan Rubin	ISG	5m
Abraham Waksman	CSG	5n
Dirk Van Nouhuys	ARC	5o
Dick Watson	ARC	5p

18684 Distribution

Richard W. Watson, Bonnar Cox, J. D. Hopper, Charles H. Irby, Diane
S. Kaye, N. Dean Meyer, Jeanne B. North, Dirk H. Van Nouhuys,

Recommendation regarding Joe Brunon and SRI employment

(J18684) 27-AUG-73 19:11; Title: Author(s): Douglas C. Engelbart/DCE
; Distribution: /rww bc jdh chi dsk ndm jbn dvn ;
Sub-Collections: SRI-ARC; Clerk: DCE ;

BBN/BPO MEETING

FOSTER WILL VISIT BBN THE DAY OF 26 SEPT. IT'S OK WITH ME IF YOU
COME AT THE SAME TIME AS FOSTER IF IT'S OK WITH FOSTER. PLEASE NOTIFY
HIM OF YOUR INTENTION TO VISIT SIMULTANEOUSLY.

1

18685 Distribution
Keith N. Sandum,

BBN/BPO MEETING

(J18685) 27-AUG-73 19:30; Title: Author(s): David C. Walden/DCW3;
Distribution: /KNS; Sub-Collections: NIC; Clerk: DCW3;

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18686 Distribution

John L. McNamara, Edmund J. Kennedy, Duane L. Stone, Roger B. Panara,
Rocco F. Iuorno, Frank J. Tomaini,

Some Thoughts on the Use of the Tickler File

(J18686) 28-AUG-73 06:52; Title: Author(s): Joe P. Cavano/JPC;
Distribution: /JLM EJK DLS RBP RFI FJT(copies to tom, becky & frank);
Sub-Collections: RADDC; Clerk: JPC;
Origin: <CAVANO>TICK-USE.NLS;1, 27-AUG-73 07:55 JPC ;

NDM 28-AUG-73 08:48 18687

COORDINATED INFORMATION SERVICES

for a

DISCIPLINE- OR MISSION-ORIENTED COMMUNITY

by

Douglas C. Engelbart
AUGMENTATION RESEARCH CENTER
Stanford Research Institute
Menlo Park, California 94025

ARC Journal Accession Number: 12445
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Paper presented at the Second Annual Computer Communications Conference
in San Jose, California, on Jan 24, 1973

NDM 28-AUG-73 08:48 18687

COM print file: CCC Paper Intro

TWO-LEVEL, ONE-LINE, CONTENT VIEW

COM print file: CCC Paper Intro

INTRODUCTION	1
Generally, adoption of a multi-access computer network	1a
In particular, the Knowledge Workshop services	1b
THE KNOWLEDGE WORKSHOP	2
In using the term knowledge workshop, I build directly	2a
The knowledge workshop is the specially provided	2b
Basic workshop functions must serve the daily handling	2c
For the past ten years in the Augmentation Research	2d
Our focus all along has been toward supporting R&D	2e
Besides giving constant, pragmatic attention to the	2f
Technology has reached a state warranting much more	2g
PROTOTYPE COMMUNITY-WORKSHOP SUPPORT	3
We aren't ignoring exploratory use within localized	3a
Following is a brief description of community-Workshop	3b
COLLABORATIVE DIALOGUE	4
Then to support real-time remote dialogue	4a
DOCUMENT DEVELOPMENT, PRODUCTION, AND CONTROL	5
RESEARCH INTELLIGENCE	6
The Community could choose to operate a special	6a

COM print file: CCC Paper Intro

COMMUNITY HANDBOOK DEVELOPMENT	7
The Handbook would include: principles, working	7a
COMPUTER-BASED INSTRUCTION	8
Even though CBI has more visibility and momentum as a	8a
It is also very probable (to my mind) that communities	8b
MEETINGS AND CONFERENCES	9
With this projector setup, we use our regular Workshop	9a
Any Workshop user at the gathering can call on part of	9b
COMMUNITY MANAGEMENT AND ORGANIZATION	10
But also, with the probable increase in the amount and	10a
SPECIAL KNOWLEDGE WORK BY INDIVIDUALS AND TEAMS	11
Then further, the particular set of disciplines and	11a
In any of this special work, there is basic advantage in	11b
CONCLUSION	12
The full sense of what computer networks offer in the	12a
For another thing, the vocabulary and procedural skill	12b
If exploration of Workshop use were to occur only where	12c
Finally, the digital-packet transportation system	12d

NDM 28-AUG-73 08:48 18687

COM print file: CCC Paper Intro

REFERENCES

13

18687 Distribution

NDM 28-AUG-73 08:48 18687

COM print file: CCC Paper Intro

(J18687) 28-AUG-73 08:48; Title: Author(s): N. Dean Meyer/NDM;
Distribution: /; Sub-Collections: COM ; Clerk: NDM;
Origin: <MEYER>CCCINTRO.NLS;14, 2-AUG-73 16:58 NDM ;

Coordinated Information Services for a Discipline- Or
Mission-Oriented Community

COORDINATED INFORMATION SERVICES
for a
DISCIPLINE- OR MISSION-ORIENTED COMMUNITY

Coordinated Information Services for a Discipline- Or
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INTRODUCTION

1

Generally, adoption of a multi-access computer network is promoted on the basis of increased accessibility and economy of computational and data-bank resources for a distributed community of users. But visualize this resource-sharing computer network as a general-purpose digital-packet transportation system linking resources, processors, vendors, brokers, customers, etc.; then consider that the existence of such a transportation system will inevitably stimulate growth of an information market involving many processes, products, and services. A distributed community availing itself of such a transportation system should rightfully count on such market development for much of its payoff from its early investment.

1a

In particular, the Knowledge Workshop services described below will grow to become very important to network-coupled communities that are involved with a common discipline or mission -- my judgement is that this use of computer networks will come to dominate over the purely computational use in scale and generally perceived social worth, with today's type of computer services being seen as but a special subset of the tools integrated into a coherent knowledge workshop.

1b

THE KNOWLEDGE WORKSHOP

2

In using the term knowledge workshop, I build directly upon terms knowledge work and knowledge worker, whose special use I first came across in reading Peter Drucker (Reference 1). He develops a much larger theme about these concepts in Reference 2, adding terms such as knowledge technologies, knowledge economy, and knowledge society, and pointing out that the growing level and importance of knowledge-work activity in our society will produce a discontinuity in our cultural evolution of a scale commensurate with that of the industrial revolution.

2a

The knowledge workshop is the specially provided environment in which knowledge workers do their knowledge work. We can talk about a small knowledge workshop for an individual, or a large knowledge workshop for an organization. Knowledge workshops have existed for centuries, but here we consider maximizing their effectiveness by systematically evolving tools, methods, etc., with heavy dependence upon the new technologies of computer time

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sharing and networking. (In the text below, read knowledge workshop for Workshop.)

2b

Basic workshop functions must serve the daily handling of the users' working information -- of their notes, things-to-do lists, memos, letters, designs, plans, budgets, announcements, commentary, proposals, reports, programs, documentation, item-control catalogs, etc. And before it can sensibly be of much value, we believe that a Workshop has to provide for the grubby cut-and-try detail involved in the minute-by-minute, day-after-day worker's handling of this information: in its composition, studying, commenting upon, arguing about, modifying, communicating, publishing, presenting, etc. There are many exciting, elegant tools in the offing -- superlative graphics, artificial-intelligence services, etc. -- but their serious application will only be sensible within an integrated Workshop, and in a manner whose associated conceptual and procedural skills are consistent with those of tools and techniques that support the basic Workshop functions.

2c

For the past ten years in the Augmentation Research Center (ARC), at Stanford Research Institute, we have concentrated in succession on exploring the computer augmentation of knowledge workshops, first for an individual, then as extended for a project team, and then for a network-coupled, distributed community (See Reference 3). Over the past three years we have developed a beginning set of prototype community-Workshop services on the ARPANET, as associated with our serving as the Network Information Center (NIC).*

2d

*The following agencies have contributed components of direct support to this ten-year development: The Information Processing Techniques Office (ARPA), Langley Research Center (NASA), Rome Air Development Center (USAF), and the Information Systems Branch (ONR).

2d1

Our focus all along has been toward supporting R&D workers, and we have followed the empirical, bootstrapping approach of doing as much of our own work as possible in our Workshop, continuously building, using, and evolving it. Our Workshop services are supplied by a large software system that we call NLS, running under TENEX on a PDP-10. It provides a large repertoire of functions to display terminals (DNLS), online typewriter terminals (TNLS), or via deferred-execution of commands and text from offline typewriters as accumulated on cassettes or other intermediate storage (DEX). Hardcopy output is available on

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typewriters, online printers, or through an offline phototypesetting device providing publication-grade quality for multi-font text, computer-directed graphic constructs, or scan-stored diagrams.

2e

Besides giving constant, pragmatic attention to the needs and possibilities for evolution of support functions and working methods, we have had to struggle with what is a soul-wrenching burden for people whose orientation is toward exploratory development -- trying to meet the absolutely necessary requirements of organizing, documenting, maintaining, and operating the hardware/software and clerical services towards being responsive and reliable, minute after minute and day after day.

2f

Technology has reached a state warranting much more activity explicitly applied toward the evolution both of better Workshops, and of a coherent discipline associated with Workshop-system development; for this to happen, it is obvious that more people must take on the challenge of becoming Workshop architects, and that more pilot-plant Workshops need to be set up for exploratory support of real knowledge-work activities. There are (will be many) approaches to be tried besides ours, of course; but to do our bit toward accelerating this process, we intend to share and extend our developments and knowledge by making our Workshop tools available for exploratory application in distributed, modular, pilot-Workshop sites, and by offering close collaboration with the pilot-Workshop architects. (Note below that an important Workshop feature being offered is designed to facilitate such distributed collaboration.)

2g

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PROTOTYPE COMMUNITY-WORKSHOP SUPPORT

3

We aren't ignoring exploratory use within localized organizations, but we are committing a substantial portion of our energy toward the early, exploratory use of knowledge-workshop services to support distributed, network-coupled communities. There are two special reasons for this commitment:

3a

The first reason concerns relative payoff: if a service facilitates hobnobbing via terminals, there is extra value when this supplants air fare and a two-day trip in contrast with supplanting a walk down the hall; there is more payoff from relatively costly augmentation services when they facilitate collaboration among participants who are distributed rather than among those who are already clustered. 3a1

The second reason concerns a wider awareness of the possibilities for augmenting knowledge workshops, and a wider interest and involvement in their accelerated evolution -- things we hope to enhance by facilitating community-Workshop exploration. We find that toward significant Workshop innovations a user needs a sort of warming-up process before gracefully giving something new a try. Thereafter, in the right environment, he will naturally adopt successive stages of significant new Workshop techniques. This process is noticeably facilitated by steady exposure to the products and conventions of Workshop services; and it helps considerably to have a variety of opportunities and materials to stimulate and support the giving it a try -- for instance, to try a little online dialogue with a distant, more-advanced colleague, dealing with materials already in the community data base. Also, if a new stage of service is available in this community way, a large number of people will benefit from the lower threshold of investment and determination needed to give it a try.

3a2

Following is a brief description of community-Workshop applications that special communities can consider exploring. The sequence represents an explicit progression, beginning with tested techniques whose cultural shock and financial investment are relatively low, and offering paced, open-ended evolution with time, experience, and perceived payoff. We are arranging for computer support of these services by a commercial-quality utility service connected to the ARPANET. We will provide this Workshop support (at cost) over the Network to selected subscribers for setting up and exploring prototype,

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augmented-Workshop applications. We expect the Workshop toolkit to be continually expanding and improving, and plan for much of the evolutionary energy and direction to come from the subscribers.

3b

COLLABORATIVE DIALOGUE: We offer computer aids for the composition of messages and for their subsequent reviewing, cross-referencing, modification, transmission, storage, indexing, and full-text retrieving. A message may be one word in length, or a hundred printed pages. In any message there may be formalized citations pointing to specific passages in prior messages, so that a group of related messages becomes a network of recorded-dialogue contributions. There is also: automatic delivery of messages; full cataloging and indexing; online accessibility both to message notification and to the full text of all messages; and open-ended storage of the dialogue records. These services enable a community of people who are distributed in space and time to maintain recorded, collaborative dialogue at a new degree of effectiveness.

4

Then to support real-time remote dialogue (teleconferencing), we have the following facility: Any two DNLS users can link up at any time, so that each party sees a common display view, including both his and the other person's cursor; either party is able to point or control, and they mutually have access to the full range of Workshop functions, over any of the online information. The responsiveness and bandwidth of the ARPANET provide remarkably good support of our highly interactive DNLS service to remote display users, so that when used to supplement a telephone conversation, the speed and flexibility of this shared, augmented blackboard brings a new quality to teleconferencing that is really quite dramatic.

4a

DOCUMENT DEVELOPMENT, PRODUCTION, AND CONTROL: We offer a rich set of computer aids for the composition, study, and modification of document drafts, and for automatically generating high-quality photocomposition output with flexible controls for font-designation and formatting, to enable the production of publication-grade hardcopy (printing masters, or microform masters). There are processes for collaboration between several writers, and with an editor, in the process of evolving a final draft. Included among such helpers can be experienced production people to help in laying out a finished document, in inserting proper designations for specifying font, size, and density of different character strings, and for managing footnotes, cross-references, tables of contents, indices, etc. There are

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also aids for the people who must keep control of changes, new-version distributions, etc., and provide the indexing to complex documents or sets of documents. Planned improvements include facility for handling complex graphic portrayals and extensive special symbols.

5

RESEARCH INTELLIGENCE: The provisions within the Dialogue Support System for cataloguing and indexing internally generated items also support the management of externally generated items -- bibliography, contact reports, clippings, notes, etc. With these centrally supplied (therefore uniformly available) services, a community can maintain a dynamic and highly useful intelligence data base to help it keep up to date on external happenings that particularly affect it. Microform distribution can provide for mass replication of this data base at remote sites, and computer-generated indexes or online retrieval can facilitate access. Citations of external items from within the internally-generated dialogue base -- in the form of annotations, miscellaneous commentary, or supportive references -- offer computer-sensible interlinking of the external information with the internal, and considerably facilitate browsing, retrieval, back-citation searching, etc.

6

The Community could choose to operate a special Information Analysis and Integration Center as a nucleus to this activity, but the notes and private-collection records of individual users, integrated into the recorded dialogue, could well add the more value. (Reference 4 describes some developments and possibilities for support of research intelligence.)

6a

COMMUNITY HANDBOOK DEVELOPMENT: We are extending the above services toward the coordinated handling of a very large and complex body of documentation and its associated external references. I use the term superdocument to refer to such material when integrated into a monolithic whole. There are a number of important applications for a system that facilitates the responsive development and evolution of a superdocument by many (distributed) individuals. In particular, for either a discipline- or project-oriented community, one very important application of a centrally available superdocumentation service would be to maintain The Community Handbook -- i.e., a uniform, complete, consistent, up-to-date integration of the special knowledge representing the current status of the Community.

7

The Handbook would include: principles, working hypotheses,

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practices, special-term glossaries, standards, goals, goal status, supportive arguments, techniques, observations, how-to-do-it items, etc. An active community would be constantly involved in dialogue bearing upon the contents of the last formal version of its Handbook -- comments, errata, suggestions, challenges, counter examples, altered designs, improved arguments, new experimental techniques and data, etc. Constant updating would provide a certified, community position structure about which the real evolutionary work would swarm; flexible aids for online navigation and view generation would be very important, as would the facility for automatic publication (especially into microform editions).

7a

COMPUTER-BASED INSTRUCTION: If relatively widespread applicability of Computer-Based Instruction (CBI) were suitable for the Community, then there would likely be advantage gained from pooling resources and utilizing a community-coordinated instructional service. For a community also utilizing other centrally managed Workshop services of the scope and power described here, there would be considerable overlap between them and their CBI processes and activities.

8

Even though CBI has more visibility and momentum as a discipline than does CBKW (Computer-Based Knowledge Workshop), it seems inevitable that the former will end up as being but a special, integrated component of the latter. One should expect CBI service anyway in his Workshop, and he won't expect to go to a different terminal or to learn a different set of interactive concepts and skills to get that service; and also, that service will often bear directly upon concepts and matters deeply embedded in the workaday domain of his Workshop system.

8a

It is also very probable (to my mind) that communities will ultimately integrate their Handbook and CBI techniques so that their monolithic, superdocument Handbook would contain the special tags, links and etc. required by the CBI computer processes so that a significant portion of the instructional services would be generated directly from the primary knowledge source, the Community Handbook.

8b

MEETINGS AND CONFERENCES: This refers to assemblies of people, which occurrences aren't likely for a long time yet to be supplanted in total effect by technological aids. In supporting our own ARC meetings, demonstrations, etc., we use TV-projector equipment that projects our regular work-terminal display images

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onto a movie screen, easily readable in a meeting room having enough ambient light for comfortably reading notes and seeing each other. Images from live TV-cameras or from video recorders can also be projected. We make use of commercial devices for controlling these various video signals -- switching, mixing, and frame-splitting. We can mix two signals to get image superposition, or split the video frame to get a computer-display picture on one part of the screen and a camera image on the other (for example, simultaneously showing the camera view of the user's controlling actions right along with the display responses from the computer).

9

With this projector setup, we use our regular Workshop techniques in meetings to present and explain material from the online data base. It is easy to review and change the agenda and the meeting notes; some meetings operate very profitably in a mode of collaborative position-statement development, with a facility that for many purposes is far superior to using a blackboard -- it is as though the blackboard now is very easily stretched to make room for new notes, edited, scrolled, folded, reorganized, or etc., and any available online material may be copied onto it for integration into the study, re-organization, re-wording, development process. A skilled Workshop user can operate this blackboard with enough speed and flexibility that these processes often don't seem to be what limits group progress (in the midst of questions, deliberations, etc.).

9a

Any Workshop user at the gathering can call on part of his own online notes, or use his familiarity with certain material, to bring special information before the assembly. Or, the whole assembly can see the display being controlled by another individual (or assembly) at a remote site, in shared-display dialogue. There are many further technical and procedural innovations to explore in improving the effectiveness of meetings -- e.g. computer-processed bio-feedback, radical changes in the rules of order, and giving each participant independent use of a private display terminal.

9b

COMMUNITY MANAGEMENT AND ORGANIZATION: Where the Community has conventional, project-management operations, their Workshop can include computer aids for such as PERT and CPM, plus the enriching services of dialogue support, document development, and a Handbook system. An extension of the Handbook could contain plans, commitments, schedules, specifications, current-state

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records of work in progress, etc., with special Workshop tools to support management analysis and control. 10

But also, with the probable increase in the amount and intensity of distributed collaboration within the Community, committee work would become more widespread, dynamic, and important. Thus there would be greater dependence upon better techniques for inter-communication and management within the committee-like structures by which a Community goes about its composite business. Harnessing these new techniques will lead to very different ways in which distributed communities can be organized and in which they can go about their business -- and the possibility of considerable improvement here, stemming from relatively modest innovative investments, is an important part of our motivation toward facilitating Community Workshop exploration. 10a

SPECIAL KNOWLEDGE WORK BY INDIVIDUALS AND TEAMS: Assumedly, Community members could avail themselves of the above types of Workshop service in support of their own daily work -- i.e., for other than their participating in community-oriented activities. There are obvious benefits to almost any knowledge worker from use of general Workshop facilities such as listed above; and for a team (or any close-working organizational unit) of augmented knowledge workers, there is yet another level of benefit to be gained by adopting new organizational structure and collaborative methods that harness better the new capabilities existing within the Workshop (as extended by a few special team-support tools). 11

Then further, the particular set of disciplines and pursuits which characterize the Community will generally have special computer-based processes and data that are important in its work -- i.e. unique functions and forms in its analytical programs, statistical processes, numerical data, conceptual/analytic models, graphic portrayals of subject matter, etc. Assuming that they are available within the same computer network that distributes the Community's Workshop-support services, then access to these special computer-based resources can be provided to a worker through the coordinated Workshop in which he does his other work -- and to a distinct advantage. 11a

In any of this special work, there is basic advantage in having a flexible, powerful facility for managing mixed text and graphics -- composing, studying, modifying, integrating

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new material into working notes and reports, publishing, doing collaborative dialogue, giving presentations, etc. When doing tasks of this sort in association with his special computer-based operations, it is an important advantage to the worker to do so within a familiar and consistent working environment. Our Workshop flexibly provides for special translation of information passing back and forth to any such external computer service, so that for access to a wide variety of such services the Workshop can provide users with consistent conventions and methods in whose use his other Workshop tools would be of maximum support.

11b

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CONCLUSION

12

The full sense of what computer networks offer in the way of resource sharing contains some special twists of significance here: For one thing, a truly complete Workshop will contain a very large repertoire of service functions, and the evolution, operation, and maintenance of these functions (and their support software) will require highly trained specialists. Any sort of widespread exploration of augmented-Workshop techniques will be very much facilitated by the network's capability for sharing the expertise of such specialists -- by enabling central computational resources that they develop and maintain to service distributed users. Note that specialists working from their home Workshop will be able to reach through the network to install and maintain software in remote hardware installations, which will be important, too; but note also that many already-present local computers and operating systems are inappropriate for supporting all of the important Workshop functions.

12a

For another thing, the vocabulary and procedural skill required to harness these functions effectively and smoothly into one's worklife will become very extensive and sophisticated (the pidgin-English approach won't provide the power, and full-statement natural language isn't fast enough), and again special expertise will be necessary to help people through the learning stages as their Workshop matures. Therefore, although the network can very much facilitate bringing into user reach these powerful Workshop tools, it requires the additional network-supported (Workshop) facilities such as teleconferencing to enable a limited number of Workshop specialists to give close support to these learning processes, without which the computer services would have much less value.

12b

If exploration of Workshop use were to occur only where there exists both an appropriate local computer system and trained specialists to maintain the software and train the users, there would be a very much slower evolution toward the increased-effectiveness possibilities offered by computer augmentation.

12c

Finally, the digital-packet transportation system aspect of a computer network seems quite essential to the practical, effective support of an augmented Community Knowledge Workshop -- which in turn seems to offer a really important and unique means for sharing among a community of humans the distributed nuclei of human resources represented by individuals with special

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knowledge, judgement, intuition, imagination, conceptual skills, etc. This human-resource sharing has explosive potential -- I look to it with a biological metaphor as providing a new evolutionary stage for the nervous system of social organisms, from which much more highly developed institutional forms may evolve that are much improved in: awareness of self and environment, situational cognizance and response, visualization of the future, problem-solving capability, etc. (See Reference 5 for expansion of this theme.)

12d

Coordinated Information Services for a Discipline- Or
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13

- (1) Peter F. Drucker. The Effective Executive. Harper & Row, New York. 1966 (XDOC -- 3074,)
- (2) Peter F. Drucker. Age of Discontinuity: Guidelines to Our Changing Society. Harper & Row, New York. 1969. (XDOC -- 4247,)
- (3) D. C. Engelbart and W. K. English. "A Research Center for Augmenting Human Intellect", AFIPS Proceedings, Fall Joint Computer Conference, 1968. Vol. 33, Part 1, p.395-420. Thompson Book Company, Washington, D.C. 1968. (XDOC -- 3954,)
- (4) D. C. Engelbart. Experimental Development of a Small Computer-Augmented Information System. Annual Report to Office of Naval Research, Covering Period 15 April 1971 through 15 April 1972. SRI-ARC 10045. April 1972. 13p. (Journal -- 10045,)
- (5) D. C. Engelbart. Intellectual Implications of Multi-Access Computer Networks. Paper presented at the Interdisciplinary Conference on Multi-Access Computer Networks, April 1970, Austin, Texas. To be published. (Journal -- 5255,)

This paper was written on-line in NLS and directly printed via
Computer Output to Microfilm

18688 Distribution

Coordinated Information Services for a Discipline- Or
Mission-Oriented Community

(J18688) 28-AUG-73 08:50; Title: Author(s): N. Dean Meyer/NDM;
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Information Services for a Discipline- Or Mission-Oriented
Community"; .H1Font=10p,6,Medium+Underlined; .H1P=J; .FSw=On;
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AAM 22-AUG-73 15:19 18618
Scheduled Network Changes and IMP Downs
Location: (MJOURNAL, 18618, 1:w)

18689 Distribution
Jeanne B. North,

(J18689) 28-AUG-73 09:47; Title: Author(s): Jean Iseli/JI;
Distribution: /JBN(jeanne,please update for arpanetnews);
Sub-Collections: NIC; Clerk: JI;

AAM 24-AUG-73 13:11 18650

Correction of the address of the second Host at Belvoir

Message: In my note of August 22 describing forthcoming Network changes, I erroneously gave the address of the second Host interface at Belvoir as 71. The correct address is 91.

18690 Distribution
Jeanne B. North,

(J18690) 28-AUG-73 09:49; Title: Author(s): Jean Iseli/JI;
Distribution: /JBN(jeanne, please update for arpanetnews and
incorporate); Sub-Collections: NIC; Clerk: JI;

quickie comments on Cavano's thoughts on the Tickler file

ref: jpc 27 aug 73 18673 Some thoughts on our tickler file.

1

When you receive the registration material for the syracuse u extension center or from anywhere else ie. u. mich. any rational individual knows the the form 1152's must follow in short order. Of course few of us are rational at all times. How were you finally notified that the 1152's were due? were you called when they were overdue? if this is so, and the 'they' that usually screw up our lives, did not let you know, in advance, that the 1152's were due as of a certain date - then perhaps that should be changed. If this cannot be changed, then it must be handled internally. Some procedure must be established whereby either the person who screens and distributes the mail must be aware that the 1152's are needed and puts a reminder into the tickler, or the person going to school must take some responsibility for his own behavior. Ideally of course the person who finally said that the 1152's were not in, if this was the case, should be tasked with letting people know in advance.

2

The call for JOCAS cost estimates should have been in the tickler. How did the information come in? If it came in through mail channels then ideally the first person to see and distribute should be responsible for seeing that an item was entered in the tickler . With reference to the projection that daughtry was to be on leave. A protocol must be established to insure that this information is entered into the tickler or someone should be tasked to compare the tickler against projected leave before sighning leave orders, or going on leave. depending on whether this should be done at the individua, or the managerial level and if so where.

3

Happenstance is the word for it. If an item is preprogrammed, it is in the tickler, if Frank asks Bobbie to put it in, ok, but there is no deliberate effort to do this and the value of a tickle, as with anything else is being degraded due to a poor data base and resultant poor utilization.

4

with respect to IDS - I don't use it, I don't know who uses it, I think the database has degraded badly since Lou left. What the solution is I know not.

5

18691 Distribution

Joe P. Cavano, John L. McNamara, Frank J. Tomaini, Duane L. Stone,

EJK 28-AUG-73 10:47 18691

quicke comments on Cavano's thoughts on the Tickler file

(J18691) 28-AUG-73 10:47; Title: Author(s): Edmund J. Kennedy/EJK;
Distribution: /JPC JLM FJT DLS; Sub-Collections: RADC; Clerk: EJK;

Network Mailbox Address -- Reply to (18493,)

The Network Mailbox for JEW is username=WHITE, host=SRI-ARC.

1

18692 Distribution
David H. Crocker,

Network Mailbox Address -- Reply to (18493,)

(J18692) 28-AUG-73 10:57; Title: Author(s): James E. (Jim)
White/JEW; Distribution: /DHC; Sub-Collections: SRI-ARC; Clerk: JEW;

Thanks for topology update

alex:: thanks for the topologymap. i take it that london will be marked as site 47 when the norway-london connection is in. see you in Sussex.Vint

Thanks for topology update

(J18693) 28-AUG-73 11:12; Title: Author(s): Vinton G. Cerf/VGC;
Distribution: /AAM; Sub-Collections: NIC; Clerk: VGC;

18693 Distribution
Alex A. McKenzie,

Mitre Useage of UCSB

Ernie---

I would be interested to know if you still use the programs 'INTEXP' and 'NASA' here, and the data sets 'FORMAN', 'FOR27.DAT', and 'NET.MITRE1' through 'NET.MITRE5'. If so, you are welcome to continue, otherwise I would like to delete them.

Mark Krilanovich
KRILANOV@UCSB,
or MCK in Journal

18694 Distribution
Ernest H. Forman,

Mitre Useage of UCSB

(J18694) 28-AUG-73 12:49; Title: Author(s): Mark C. Krilanovich/MCK;
Distribution: /EHF; Sub-Collections: NIC; Clerk: MCK;
Origin: <UCSB>EHFMSG.NLS;5, 28-AUG-73 12:47 MCK ;

trip report

trip report

1. edward f. la forge 1
2. 427m spo, hq esd, l.g.hanscom fld, bedford mass. 1a
3. 22 aug 73 to 24 aug 73 1b
- no. of days : 3 1c
4. to discuss specific support requirements by task for radc in fy 74 , with special emphasis on data processing and display. 1d
5. persons contacted: 1e
- leo genzler, esd, j luschiene,mitre; j mcmellon,esd 1f
6. no 1g
7. n/a 1h
8. n/a 1i
9. n/a 1j
10. no 1k
11. yes 1l
12. asap 1m
13. radc/la forge 1n
14. letter to esd 1o
15. with respect to the primary purpose of the tdy, the trip may be candidly considered as a failure on my part to get any significant statement from the spopersonnel to commit themselves in any positive fashion as to what events, activites or other time related efforts may be required of radc in fy 74. major roseman, esd, who is the responsible honcho on the overall hardware program for both the norad computer system and the space computation center was to have returned from tdy by thursday morning . he was attending a meeting at colorado springs on the development of a new lockdown console for the program, surely an area where radc expertise could have been used. radc was not requested to attend this meeting; mitre corporation is providing the technical inputs in this area. although he was then supposed to have returned on 23aug 73, his trip was extended to the next 1p

trip report

day. the program people i contacted were evasive about whether or not radc would be called upon to support the 427m spo except in the area of reliability and maintainability.

1q

i recommend that an official letter stating our position with respect to the program be forwarded to esd as soon as possible in order to determine what the real manpower requirements are for this fiscal year. my personal recommendation is for us to continue support in the r&m area (transferring lse responsibility to ir) and to be on an on call basis for only special technical problems raised during the course of the system acquisition.

1r

18695 Distribution
John L. McNamara,

trip report

(J18695) 28-AUG-73 13:23; Title: Author(s): Thomas F. Lawrence/TFL;
Distribution: /JLM(would you please ask marcelle to type this,please.);
Sub-Collections: RADC; Clerk: TFL;

test

this is atest.

18696 Distribution

Edmund J. Kennedy, Edward F. LaForge,

test

(J18696) 28-AUG-73 13:28; Title: Author(s): Thomas F. Lawrence/TFL;
Distribution: /EJK ELF; Sub-Collections: RADC; Clerk: TFL;

Form 30 for FY-74/75 Program Call

Bobbie--I need the space

Form 30 for FY-74/75 Program Call

<TOMAINI>FORM30.NLS;1, 3-JUL-73 09:14 FJT ;

FORM 30

01R's						1a
FY75 \$	title	task sec MY		FY74 \$	MY	1b
	Math Tech Anal & Des Comp	02 ISIM 127,959		.2 127,959	.2	1c
	Large Scale Info Sys	02 ISIM 96,763		.5		1d
	DM-1 Err Anal/Maint	02 ISIM 7,113		.2		1e
	Jovial Valid Sys (JCVS)	12 ISIS 23,210				1f
	Statistics on Jovial Lang	12 ISIS 6,728				1g
	Jovial Imple Tool (JOCIT)	02 ISIS 86,073				1h
	AKW Evaluation	02 ISIM 53,972		.1		1i
	Info Retr Res Support	02				
**ISM 25,000			1j			
	Modeling of Data Mang Sys	02 ISIM 62,623		.25		1k
	Comp Perform & Measure Sty	12 ISIS		63,550		1l
	GCOS/Multics File Tran Fac	02 ISIM		48,456	.2	1m
	Auto Verification Sys	02 ISIS 82,816		82,817		1n
	Proj 5581 TDR Funds	02 ISI 4,800		4,800		1o
	TDY (proj form & mgt)	02 ISI 40,000		40,000		1p
	Rental of BR-700	02 ISIM 17,388				1q
	Proj 5581 Hard Main	02 ISF 110,000		110,000		1r
	Computer Rental & Main	02 ISF 1,350,000		1,350,000		1s
	Leased Comm & Main	02 ISF 70,000		70,000		1t
	Computers Supp & Equip	02 ISF 37,000		37,000		1u
	Mod 300 Term Lease & Main	02 ISF 21,600		21,000		1v
	Auerbach Manual Update	02 ISF 2,640				1w

FORM 30

New Starts						1x
Computer Security Tech Sty	02	ISIM	23,500	.2		1y
Jovial Imple Tool (JOCIT)	02	ISIS	90,000			1z
AHI Line Printer	02	ISIM	24,000	.1		1a@
AKW LINE PRINTER						1a@1

This effort is for the procurement of a reliable medium speed, good quality line printer for outputting draft and final copies of documents created in NLS. It will be directly connected to the TIP, via a special hardware interface. 1a@1a

Beehive Terminals	02	ISIS	2,900			1aa
Ext Harvard Ecl Prog Sys	12	ISIS	50,000			1ab
Large Scale Info Sys	02	ISIM	125,000	.5	300,000	1.0 1ac
NLS Service	02	ISIM	150,000	.1	50,000	1ad
NLS SERVICE						1ad1

Program \$1.0 Million ReleasednT8b7y@20The approach will be to solicit NLS service from available sources. At this time it is expected to be SRI, who will subcontract (probably to Tymshare Inc.) for the basic computer time. Of partic 1adia

The approach will be to solicit NLS service from available sources. At this time it is expected to be SRI, who will subcontract (probably to Tymshare Inc.) for the basic computer time. Of particular interest will be the reliability and consistency of the service. It has been shown during initial use of NLS that the motivation to use the system and the speed with which one can learn to use the system is directly affected by the availability of the system. 1ad1b

FORM 30

	New Starts (Overceiling)				1ae
AKW Terminals	02 ISIM 50,000	.4			1af
AKW TERMINALS					1afi

This effort will continue to monitor the commercial developments in the terminal field as they apply to AKW technology. Of particular interest will be inexpensive CRTs and graphics output devices. SRI has constructed a terminal with all the textual capabilities of the IMLAC, and feels it should be commercially available for under \$5K. Since preliminary evaluation here at RADC has revealed the superiority of DNLS over TNLS, we will be purchasing a number of these units if it passes SRI's evaluation. 1afia

DM-1 Software Main	02 ISIM 45,000	20,000		1ag
Associative Tech for DM	02 ISIM 50,000	45,000		1ah
Secure Data Mang	02 ISIM 50,000			1ai
GCOS Investigations	02 ISIM 30,000	45,000		1aj
NLS/IDS Interface	02 ISIM 30,000	1.1 40,000		1ak
IDS/NLS INTERFACE				1aki

The objective of this effort will be to create a data management system accessible through NLS. 1akia

To complete the evaluation of AKW technology in an organizational environment, some reasonably sophisticated data management capability is needed to support the IS organization. The philosophy of the ARPANET and economics dictate that software/hardware facilities be used where they exist. Data management capabilities and expertise exist at RADC. Only elementary data management capability exists under NLS at SRI. By FY-74 protocol should be available for shipping files over the ARPANET. Therefore, data management capabilities will not be replicated at SRI, but interface packages will be constructed between NLS and RADC's data management software to allow easy transfer of files and data between SRI and RADC over the ARPANET. This will allow economic access to a data management system and also test the ability of the ARPANET to facilitate data transfer between two dissimilar hard/software facilities. 1akib

Software Modeling Studies	14 ISIS 136,000	136,000		1al
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Semanol J-73	12	ISIS	99,000			1am
Compiler Optimization Sty	02	ISIS	90,000			1an
Auto Jovial Converter	02	ISIS	30,000	60,000		1ao
Software Reliability Study 60,000	02	ISIS		86,600		1ap
Semanol/Cobol, Fortran	12	ISIS	-	150,000		1aq
S/W Relia Data Repository	02	ISIS	-	100,000		1ar
Impl Jovial Stat Coll	12	ISIS	30,000	60,000		1as
Distributed Data Bases	02	ISIM		80,000	.2	1at
Data Structure Facility	02	ISIM		90,000	.2	1au
Graphics Interface for DMS .2	02	ISIM			75,000	1av
Automated Test Tools	02	ISIM		95,000	.2	1aw
O/S Enhancements for DMS	02	ISIM		90,000	.2	1ax

FORM 30

In-house						
Data Mgt Sys (DMS) Dev	02	ISIM				1ay
MULTICS DMS	02	ISIM	1.5		1.5	1az
GCOS Investigation for DMS 1.5	02	ISIM		1.5		1ba
Assoc Proc/DMS Experiments 1.0	02	ISIM		1.0		1bb
AKW Training	02	ISIM	.2			1bc
Adv Manag Techniques	02	ISIM	.8			1bd
AKW Evaluation	02	ISIM	1.1			1be

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*****PROJECT 9339*****

1bf

Data Hand Sup Air Staff 01 ISIM

.2

.2

1bg

*****PROJECT 0967*****

1bh

01R's

1bi

Net Info Ctr & Comp Aug 01 ISIM 817,484 .2

1bj

New Starts

1bk

Net Info Ctr & Comp Aug 01 ISIM 750,000 .1 1,8000,000
.4

1bl

NLS Utility 01 ISIM 400,000 .2 480,000 .2

1bm

FORM 30

*****PROJECT 5550*****

					1bn
Program \$1.0 Million Released					1bo
63728F	Advanced Computer Technology				1bp
OIR's					1bq
Large Scale Info Sys	01 ISC	91,377	0.1		1br
Syr U (F30602-72-C-0281)					
Maint Concept for Assoc Proc	01 ISC	71,000	0.1		1bs
WW Gaertner(F30602-72-C-0462)					
SIMDA Procurement	01 ISC	25,000	0.1		1bt
TI Inc.					
DM-1 Remote Query	04 ISI	147,800	0.6		1bu
Auerbach(F30602-73-C-0165)					
DMS Eval Methodology	04 ISI	15,215	0.2		1bv
Sys Architects, Inc(F30602-73-C-0250)					
DMS Test Methods	04 ISI	- - -	0.2		1bw
(F30602-73-C-0223)					
Imbedded S/W Monitors	04 ISI	- - -	0.2		1bx
(F30602-73-C-0198)					
	TOTAL		350,392		1by
NEW STARTS					1bz
Terminal Rentals for Assoc Proc	01	ISC	2,472		1c@
Spares & Test Equip for Assoc Proc	01	ISC	36,136		1ca
0.1					
Assoc Proc Applications Sty	01	ISC	73,000	0.3	1cb
20,000	0.2				
(Boeing)					
S/W Cert Rel & Timeliness	08 ISI	195,000	0.3		1cc
(MITRE)					
S/W First Design Concept	08 ISC	50,000	0.5		1cd
(MITRE)					
Project Travel		12,000			1ce

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TDRs		1,000					1cf
ADP Sys Security(PD to ESD)	09		280,000		(ESD)		1cg
		TOTAL		649,608			1ch
		GRAND TOTAL		1,000,000			1ci

PROGRAM WITH ADDITIONAL \$1.9 MILLION FY-74 FUND RELEASED ON
1 JAN 74 1cj

NEW STARTS

Assoc Proc Display Interface	04	ISC	40,000		0.3		1ck
50,000		0.3					1cl
S/W Error Data Collection	08	ISI	40,000		0.1		1cm
(Aerospace)							
Structured Prog Sys	08	ISI	190,000	1.0	150,000	1.0	1cn
J-73 Compiler	08	ISI	250,000	1.0	600,000	2.5	1co
ADP Sys Sec (PD to ESD)	09		620,000		(ESD)		1cp
Rad Hard Comp(PD to AFAL)	11		335,000		(AFAL)		1cq
Airborne C&C Display Con	14	ISC	50,000	0.5	180,000	0.5	1cr
(DF 74-1-5550)							
Transferability Aids(PD to ESD)				*ISI		375,000	1cs
(ESD)							

Additional FY-74 TOTAL 1,900,000
980,000 FY-75 OIRs 1ct

IN-HOUSE EFFORTS

A.P. Cost Study	01	ISC		8.6		8.6	1cv
DMS for RAC	04	ISI		2.0		0.5	1cw
WWMCCS Software Support	04	ISI		1.5		1.7	1cx

*Area of possible RADC participation 1cy

FY-74 OVERCEILING

Assoc Proc Sig Processing Sty	01	ISC	90,000				1d@
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Assoc Proc Library Routines	01	ISC	50,000		1da
Assoc Proc Applications (MITRE)	03	ISC	160,000		1db
S/W Relia Error Anal (MITRE)	08	ISI	50,000		1dc
S/W Error Data Coll (Aerospace)	08	ISI	35,000		1dd
S/W First Des Concept (MITRE)	08	ISC	40,000		1de
ADP Sys Security (PD to ESD)	09		130,000	(ESD)	1df
Secure DMS Sty	09	ISI	100,000		1dg
Simulation Tools Eval (PD to ESD)	09		100,000	(ESD)	1dh
Fusion Usage Sty	11		50,000	RADC/IR	50,000 1di
CDC 6600 Netting (PD to ESD)		*ISC	100,000	(ESD)	1dj
Auto Reqmt's Anal (PD to ESD)			150,000	(ESD)	1dk
Eng Stds Develop (PD to ESD)			108,000	(ESD)	1dl
FY-75 PROGRAM					1dm
OIRs				1,000,000 4.5	1dn
New Starts					1do
Term Rent for Assoc Proc	01	ISC	2,500	0.5	1dp
Assoc Proc Data Manipulator 0.5	01	ISC		147,500	1dq
DMS Modeling	04	ISI	355,000	2.5	1dr
S/W Reliability (MITRE)	08	ISI	75,000	0.1	1ds

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S/W Structure Testing (MITRE)	08 ISI	75,000	0.1	1dt
S/W First Imple	08 ISC	600,000	1.5	1du
ADP Sys Security (PD to ESD)	09 ESD	1,600,000		1dv
Reqt's Analysis (PD to ESD)	10 ESD	420,000		1dw
Rad Hard Comp (PD to AFAL)	11 AFAL	525,000		1dx
		4,800,000		1dy
				1dz
FY-75 OVERCEILING				
Assoc Proc Sig Proc Demo	01 ISC	90,000		1e@
AWACS Appl Sty(II)	01 ISC	180,000		1ea
Large Scale Info Proc (Syracuse Univ)	01 ISC	100,000		1eb
Wired Organization	06 ISI	500,000		1ec
Secure DMS Imple	04 ISI	200,000		1ed
Assoc Proc Applications	01 ISC	160,000		1ee
.138				1ef
				1eg
Large Scale Info Proc (Syracuse Univ)	01 ISC	100,000		1eh
Secure DMS Imple	04 ISC	200,000		1ei
Assoc Proc Applications (MITRE)	01 ISC			1ej

18697 Distribution
Frank J. Tomaini,

Form 30 for FY-74/75 Program Call

(J18697) 28-AUG-73 15:35; Title: Author(s): Duane L. Stone/DLS;
Distribution: /FJT; Sub-Collections: RADC; Clerk: DLS;
Origin: <STONE>FORM30.NLS;2, 28-AUG-73 15:32 DLS ;

Visit Log: 23 Aug 73, Mario Grignetti and Joe Passafiume, BBN, about
NLS and SCHOLAR

Charles or Dick to contact Collins regarding implementation plans
for their "Modified NLS" (see -- 4c2)

Visit Log: 23 Aug 73, Mario Grignetti and Joe Passafiume, BBN, about NLS and SCHOLAR

Mario Grignetti heads the BBN SCHOLAR project, and Joe Passafiume is in the BBN Artificial Intelligence group. 1

BACKGROUND: BBN has been developing their SCHOLAR system for many years. 2

To apply SCHOLAR to a certain subject-matter domain involves putting together a specially-structured data base on the subject, rather than writing an instructional program; then the SCHOLAR run-time system provides artful interaction between the learner and this data base to give him a very flexible tutoring experience. 2a

The SCHOLAR run-time system must evolve hand in hand with the structuring conventions for the data base, and also with some of the characteristics of the subject matter and with the sophistication for interpreting user input statements, guiding his exposure in cycles of ever-greater depth, etc. 2a1

SCHOLAR's early test application was on the subject of South American geography. 2b

They have become interested in extending their technique to include "active" subjects (involving procedures, with questions about the verbs and application procedures). They have developed a step in that direction with a data base for NET-SCHOLAR, applying SCHOLAR for teaching people about the ARPANET and about the TENEX exec. 2b1

They recently have been granted a contract from ESD to extend their work by a specific thrust toward teaching novice NLS users. See their proposal (our XDOC -- 16617,). 2b2

Previous Contact: 2c

Sylvia Mayer, of ESD, who supports some of the SCHOLAR research, visited us on 2 May 73 (16273,), and told us of her hopes for funding an applicaton of SCHOLAR for teaching NLS. She had been sent one letter by us before the visit (14951,), and one several weeks later (telling her of the Boston course -- 14997,). 2c1

Then Dirk van Nouhuys met Both Mario and Joe when he was teaching TNLS in Boston in July. Joe was in the TNLS class (18633,) and Mario had monitored the class to learn about the process of trying to teach NLS (17511,4a). 2c2

In Boston Mario and Dirk discussed BBN's plans for using

Visit Log: 23 Aug 73, Mario Grignetti and Joe Passafiume, BBN, about NLS and SCHOLAR

SCHOLAR to teach NLS as they then stood. Dirk was already acquainted with the matter through meeting with Sylvia Mayer (16273,). These discussions led Dirk to send Mario various ARC documents bearing on teaching NLS, command language, and documentation e.g. (journal,17447,). 2c3

Note that a member of Sylvia Mayer's group at ESD, Diane Shaw, was also in the class. 2c4

(18169,) gives a recent account of this project from the point of view of RADC. 2c5

Laura Gould (BBN) has been participating in their NLS-SCHOLAR project by learning TNLS, by studying the problems and processes through which learners go, etc. Dirk and Mike got acquainted when they gave a TNLS class at BBN; see Dirk's memo about that meeting, suggesting that we invite her to ARC (17576,). She subsequently visited us. Some of the questions and possibilities posed to her by us were deferred to be dealt with in the future by the BBN SCHOLAR project leader, Mario Grignetti -- this visit is our first subsequent meeting with him. 2c6

List of topics generated before visit: 3

Possibility for our collaboration in their "Modified-NLS Project", a special project and contract with ONR, for them to build a special version of NLS that will enable them to collect useful data for improving their teaching of NLS. (Cf. p. 26 of their 30 May 73 ESD proposal, XDOC -- 16617,) 3a

Since we anyway will want to have the means for flexible and extensive monitoring and analysis of usage of NLS, there seems a real possibility that their needs could be met within a common system of measurement and analysis that is built into the standard, evolving NLS. 3a1

It would seem advantageous to both them and us to have a common measurement/analysis system (with special extensions for their special needs). 3a2

When will NET-SCHOLAR be up -- for trial? for useful application to novice teaching? 3b

What arrangements are possible in the future for our Community to have access to NET-SCHOLAR, NLS-SCHOLAR...? 3b1

What kind of arrangements might the BBN SCHOLAR group be

Visit Log: 23 Aug 73, Mario Grignetti and Joe Passafiume, BBN, about NLS and SCHOLAR

interested in making with people who would like to make exploratory application of SCHOLAR within "Special, Operational Applications" (SOA) of their own?

3b2

E.g., would BBN like to support such special SOA architects and their user groups, as a means for improving the evolutionary process of SCHOLAR knowhow, in a manner similar to our plan for the Core Workshop?

3b2a

If so, then it seems indicated that they might want to plan for developing a SCHOLAR-SCHOLAR data base (i.e. for teaching people how to develop SCHOLAR data bases by means of a special teaching base on SCHOLAR).

3b2b

I imagine that the operational support of SCHOLAR users would likely want a special TENEX environment, different from that for NLS; therefore, I'd picture BBN running their own CSO Utility for the SCHOLAR Subsystem of our AKW Utility, if there were to grow such a collaboration. This is entirely consistent with the plan for tying the Core AKW in with other special application systems, such as for data-base management, heavy calculation, symbolic mathematical manipulation, special graphic-design aids, modeling, etc.

3b2c

What consideration have they given to using NLS (AKW) for helping their work? For documentation, for building and examining their SCHOLAR data bases, etc.?

3c

It would be extremely gratifying, in the sense of seeing a Bootstrapping Community take shape, if they would want to work toward as extensive an application of the AKW System as practicable, and to join seriously the AKW Bootstrapping Community as contributors on an extremely important AKW Subsystem.

3c1

And further, suppose their group evolved a relationship within the AKW community, as supporters of SCHOLAR CAI System, whereby they support application-oriented people in a manner similar to what we are aiming to do for over-all AKW (i.e. a replicated arrangement for a key AKW Subsystem).

3c2

Dicussion with Dirk

4

Information for the SCHOLAR project.

4a

Dirk spent some time bringing the visitors up do date on the state of our plans for changing the command language. They

Visit Log: 23 Aug 73, Mario Grignetti and Joe Passafiume, BBN, about NLS and SCHOLAR

were concerned that SCHOLAR plan to teach the version of NLS that people will really see. He gave them copies of the document distributed to the network explaining our planned changes <journal,18408,> and of the upcoming command systax. <userguides,command>. He promised them copies of the HELP system data base, which will explain commands in more detail, when it is ready.

4a1

Teletype Teaching Protocols

4b

Mil Jernigan has been answering questions on TNLS from network users semi-formally. We went to her as a possible source of teletype teaching protocols. She promised to send copies if she had anything useful in the future. Mario emphasized that it didn't mater if the dialogs were polished....They want the real questions and answers of people.

4b1

The SCHOLAR Project and the Modified NLS.

4c

Mario explained that a modified NLS is being developed under a separate contract, Office of Naval Research Contract number N00014-71-C-0228, as part of a study of how to teach procedures.

4c1

The distinction between these programs appears clearly on page 26 of BBN's proposal to ESD, XDOC #16616.

4c1a

This proposal was written online in NLS. It could be journalized from dumps if everyone thought it would be useful.

4c1a1

The leader of the project involving a modified NLS is a psychologist, Allan Collins, who also attended the TNLS class in Boston. George Lucas who monitored the classes (18633,) is doing the programming.

4c2

Dick Watson, Charles Irby, Dirk and I had lunch with them. We dug a little further into the queston of their "Modified NLS." It will be up to Dick Watson (or Charles) to follow up by communicating with the responsible men at BBN (Collins and Lucas).

5

Visit Log: 23 Aug 73, Mario Grignetti and Joe Passafiume, BBN, about
NLS and SCHOLAR

(J18698) 28-AUG-73 17:05; Title: Author(s): Douglas C. Engelbart/DCE
; Distribution: /jcn rww bc drb dls mcg to chi dvn mej ;
Sub-Collections: SRI-ARC; Clerk: DCE ;

18698 Distribution

James C. Norton, Richard W. Watson, Bonnar Cox, David R. Brown, Duane
L. Stone, Mario C. Grignetti, Thomas O'Sullivan, Charles H. Irby,
Dirk H. Van Nouhuys, Mil E. Jernigan,

Login bug

I logged in Tues. evening at home using a TI and coupler and found some wierd things such as - system would not accept my password 'JAKE' on login, kept giving me the '@' leading me to believe I was already logged in or doing something wrong although I got no messages that stated either of these were happening. Did systat and did not see my name. Did nls and got '*'. Typed 'Null file F: et' inadvertently then 'Load Control 0' as I decided to read my initial file before loading another. Did 'Print Statement a: .1' and ended up (apparently) in JIMB's file. When I logged out his job was terminated. Then I logged in as netinfo successfully, printed a file with many statements (Ames-67) and they all came out as statement 1 with or without substructure, i.e. 1,1a,1g2a,1i2f,etc. Have printout if anyone is interested.

JAKE

1

18699 Distribution

Diane S. Kaye, Harvey G. Lehtman, Charles H. Irby,

Login bug

(J18699) 28-AUG-73 20:42; Title: Author(s): Elizabeth J. (Jake)
Feinler/JAKE; Distribution: /BUGS; Sub-Collections: SRI-ARC BUGS; Clerk:
JAKE;

Current State of HELP Data Base

This responds to (18681,) which cites references.

Current State of HELP Data Base

A first draft of the data base for HELP is something like 2/3 complete. You can look at it in (userguides,help,) which is about 50 pages. It depends on links to the command syntax in (userguides,commands,).

1

Time is short. I imagine the DIRT working team (Dean, Kirk, Jeannie, and Dirk) finishing this draft of the data base, and then moving on to the userguide until such time as there is an experimental running HELP system and a running NLS with the new commands so we can debug the data base.

2

There are a lot of possibilities for haggling about syntax, data base format, etc. As much as possible I want to spend my time writing and not haggling.

3

If you want a briefing, I imagine Diane and I can do it. If you want a discussion, Dean, Jeanie, Harvey Jake, and Charles, and Chuck Dornbush might want to attend. Assuming you want a briefing, I am free as of now until one tomorrow and all day Thursday.

4

For the userguides, by the way, I propose following an outline very much like the TNLS course outline...<mjournal,18532,> is the most recent version.

5

18700 Distribution

Michael D. Kudlick, Elizabeth J. (Jake) Feinler, Harvey G. Lehtman,
Kirk E. Kelley, Laura E. Gould, N. Dean Meyer, Jeanne M. Beck,
Charles F. Dornbush, Dirk H. Van Nouhuys, Michael D. Kudlick, Diane
S. Kaye, James C. Norton, Richard W. Watson,

Current State of HELP Data Base

(J18700) 28-AUG-73 21:13; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /MDK DIRT(for your information) RWW(for your information);
Sub-Collections: SRI-ARC DIRT; Clerk: DVN;