

gleissner visit

jim, thanks for your journal mail re gleissner visit. i spoke to him today (monday 30 july) and he is all set to be at sri-arc on the 9th.

1

could you give pertinent directions and some motel information? he would appreciate it; thank you. also, local phone numbers to get in touch if something comes up while he is at his meeting in san diego.

2

thanks for all your help.

3

robert

4

5

gleissner visit

(J18068) 30-JUL-73 09:42; Title: Author(s): Robert N. Lieberman/RLL;
Distribution: /JCN RWW; Sub-Collections: NIC; Clerk: RLL;

Attaching comments to a journal item

P.S. Who is the Journal king to whom I should really be sending this item?

Attaching comments to a journal item

Just now I tried sending a comment to a journal item by enclosing it in parentheses after the ident. I haven't done this since the new NLS came up in May, so I was somewhat surprised to see (or not see) that everything I typed after the left paren was not echoed. It did however appear when I did a status of my distribution. I presume this means that the comment will get delivered, but I thought I would let you know about the no-echo problem. It is slightly inconvenient; not a big hassle. --Nancy

1

Attaching comments to a journal item

(J18069) 30-JUL-73 09:43; Title: Author(s): Nancy J. Neigus/NJN;
Distribution: /CHI; Sub-Collections: NIC; Clerk: NJN;

NIC users

The following are some top-of-my-head comments on what I think a user of the ARPAnet would like to have by way of information from the NIC. They are based on comments from users, my own experience as a new user, and past experience with users of information centers.

1

1. Network users would like to see the NIC provide an online information system that allows them to search through up-to-date data bases to see what resources are available on the Network. This should be very simple minded system (as far as the user is concerned) but thorough. It should allow users to make subfiles of their searches, and it should have some built in file management capabilities.

1a

The proposed changes in query will supply some of these capabilities, but not all. However, we should keep aiming in this direction. Our machine will not be efficient enough for large data bases, so we need to consider how to interface with the larger machines on the Net. Also, sites that derive financial benefit from NIC activities by way of small projects or service accounts will probably be much more apt to support a network 'tax' for NIC support.

1a1

2. Users would like to see an online interactive catalog which would allow them to do their own literature searching.

1b

Actually one information system could overlay several NIC and networkwide data bases such as:

1b1

NIC users

1. Resources

1b1a

- A. Personnel
- B. Programs or Processes
- C. Operating Systems
- D. Data bases
- E. Special capabilities
- F. Etc.

1b1a1

2. Documentation

1b1b

- A. Programs documentation
- B. Functional documents
- C. System documentation
- D. RFC, Group notes, etc.
- E. Offline reference citations
- F. Journal

1b1b1

User's should be given a 'scratch pad' capability with respect to the data bases - that is, they should be able to easily contribute new data for old. An editor would need to clean this up and organize it properly for a given database, but the user should not be concerned with this operation.

1c

NIC users

Initial input to the catalog should be interactive online instead of offline as it now is. Again editing would be needed, and heavy connect time is implied to implement this feature.

1d

3. Users would like to see functional documents adopt a more usable format.

1e

A. The directory would be more useful as a periodical document instead of a continuously updated loose-leaf document. It should, in my opinion, be much smaller and more compact in size. This would make it much easier to use, cheaper to produce, and cheaper to mail.

1e1

B. The Resource Notebook would also be more useful as a periodical true handbook without continuous updating. It could be produced annually or semiannually in hardcopy with new information sent out as newsnotes or maintained only online. (Actually, it might be more useful to divide the Resource Notebook into several separates rather than one large volume - I'm not clear about this yet.) This would make it much easier for users to use and maintain, would make it cheaper to produce, and would keep us from being nickle-and-dimed to death by the maintenance problems of continuous updating. It would also allow us to apply some leverage to the sites with concern to getting information to us on time since the deadline would always be the same.

1e2

C. Perhaps we should reevaluate the need for the Protocol Handbook as a functional document. This may be heresy, but it

NIC users

appears to me that almost everything in the Protocol Notebook is published as a separate elsewhere, so the NIC could simply supply the user with these separates in hardcopy or tell him where they live online.

1e3

D. The NIC Userguide seems to be undergoing several iterations at present, so perhaps NIC needs only be responsible for Primers and new user aids such as the cue card and how to use the journal. Users who want an exhaustive NLS reference guide can either use it online or pay to obtain it in hardcopy. I would not be entirely happy with this arrangement personally, but it would cut costs while still supplying users with enough information to function online in NLS.

1e4

I think station agents and liaison should still get reference copies for their sites, but all others should have to pay for their copies - possibly with some degree of subsidy by the NIC.

1e5

4. I believe the NIC should have a Network User Guide that contains scenarios for how to interact across the net under different sets of circumstances. This type of information is now scattered to the four winds and needs to be easier for users to find. Such a guide would probably do much to stimulate more user interaction between sites, and would encourage users to make their own copies of online documents.

1f

5. We should continue contributing toward an RSEXEC concept of resource sharing since, again, this gives individual sites a

NIC users

vested interest in maintaining NIC activities and spreads system use over several sites.

1g

6. The NIC should maintain an information center that supplies general network information, reference, and literature searching. It could also perhaps publish special interest bibliographies, and other demand products for which users would be charged. It could provide help for users of the online catalog also.

1h

7. Users should be supplied with hardcopy or microfilm of documents on request, but should have to pay for this type of service. Such a service might even be subcontracted to another facility such as DDSI with the NIC supplying the original or a master microfilm copy.. If a document is online and the site requesting it has a printer, they should be encouraged to FTP a copy to their own site and print it themselves. The NIC should attempt to remove as many software obstacles as possible that interfere with this operation.

1i

8. Various publications that the NIC now sends out in hardcopy could be sold as hardcopy 'subscriptions'. Candidates for this might be:

1j

- A. Hardcopy journal
- B. RFC's (for people other than station agents and liaison)
- C. Group Notes (for other than immediate members of working group)
- D. Station Agent collection (for people other than station

NIC users

agents
and liaison)

1j1

9. An effort should be made to redesign data bases so that needed data is captured only once. This data can then be tailored to fit specific needs by additional programming.

1k

1l

1m

The problem of hardcopy vs online does not have a pat answer. Many users obviously prefer hardcopy (for a variety of reasons) and I admit to my own bias in that direction. It could be said that since we are a network all information should be handled online. Personally, I would like to see the Directory, Resource Notebook, and some user documentation maintained as hardcopy. If there were an information system that permitted easy online searching of the catalog and journal, I think we might be able to forego publishing these - or at any rate publish them much less often such as annually.

1n

These are strictly my own views of the world which others may not agree with at all. I'm sure several points of view will be

NIC users

considered before any drastic changes are made to NIC services.
and these ideas are presented in that vein.

1o

APPENDIX

1p

Here I have tried to outline a hypothetical user's thought process as
he approaches the network for information. Again, this is not
intended to be a thorough study, but is based primarily on comments
made by various network users.

2

HELLO OUT THERE

Mail

Setting up directories and idents

2a

WHAT CAN I USE ON THE NETWORK?

Network utilities

TELNET

FTP

RJS

2b

System access

NIC users

Interactive
Batch

2b1

Programs

2b2

Information data banks

2b3

Special services
NEW USERS HELP
NIC
NMC
NCC
Other?

2b4

WHERE IS IT
Site inventory

2c

HOW DO I USE IT
Online documentation
Online HELP

2d

NIC users

WHO CAN HELP ME

How do I start
What went wrong
What are the restrictions

2e

WHO'S WHO ON THE NET

Individuals
Working groups
Personnel by site
Personnel by interest
Personnel by function

2f

WHAT'S BEEN WRITTEN

Files
NIC AND ARC documetation
Network-WIDE documentation
System documentation
Specific process documentation
User documentation and scenarios
Site publications
Open literatureLiterature searching

2g

HOW DO I GET A COPY

Remote printing
Local printing
Original
Xerox COPY
Com

2h

NIC users

WHAT IS FREE

Experimental accounts
Mutual experiments
Other

2i

HOW MUCH IS THAT IN DOLLARS

How to set up an account
Cost estimates
Billing procedures

2j

WHAT DO I DO WITH ALL THIS STUFF

Personal management file
Local management information systems
Network management information systems

2k

NIC users

(J18074) 30-JUL-73 11:22; Title: Author(s): Elizabeth J. (Jake)
Feinler/JAKE(FOR THE RECORD); Distribution: /JAKE; Sub-Collections:
SRI-ARC; Clerk: JAKE;
Origin: <FEINLER>NIC-USER.NLS;4, 16-JUL-73 15:38 JAKE ;

JUL 15-21, 1973: A WEEK IN REVIEW

WEEKLY ANALYSIS REPORT:

WEEK: JUL 15 - 21, 1973 (24 HOURS/DAY)

TOTAL SYSTEM CPU: 72.469

(ARC)

IDENT	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU: 1
-------	---------	---------	---------	-------	------------

(STAFF)

(JMB)	.840	26.578	.032	1.159	31.640
(DCE)	.505	18.041	.028	.697	35.725
(SRL)	.110	5.215	.021	.152	47.409
(NDM)	1.609	28.680	.056	2.220	17.825
(JCN)	.641	14.504	.044	.885	22.627
(DVN)	.053	2.488	.021	.073	46.943
(PR)	.116	5.382	.022	.160	46.397
(RWW)	.019	.804	.024	.026	42.316

(TOTAL)	3.893	101.692		5.372	
---------	-------	---------	--	-------	--

(PSO)

(KFB)	.033	2.097	.016	.046	63.545
(BAH)	.675	22.146	.030	.931	32.809
(MEJ)	.714	79.731	.009	.985	111.738

JUL 15-21, 1973: A WEEK IN REVIEW

(KIRK)	1.160	35.186	.033	1.601	30.333	6a4d
	-----	-----		-----		6a4e
(TOTAL)	2.582	139.210		3.563		6a4f
						6a4g
(NIC)						6a5
(JDC)	.018	.571	.032	.025	31.722	6a5a
(EJF)	.336	23.458	.014	.464	69.815	6a5b
(CBG)	.003	.129	.023	.004	43.000	6a5c
(MDK)	.294	5.258	.056	.406	17.884	6a5d
(MLK)	.487	18.841	.026	.672	38.688	6a5e
(JBN)	.598	26.826	.022	.825	44.860	6a5f
	-----	-----		-----		6a5g
(TOTAL)	1.736	75.083		2.396		6a5h
						6a5i
(HARDWARE)						6a6
(MEH)	.015	.814	.018	.021	54.267	6a6a
(JR)	.002	.621	.003	.003	310.500	6a6b
(EKV)	0.000	0.000	0.000	0.000	0.000	6a6c
	-----	-----		-----		6a6d
(TOTAL)	.017	1.435		.024		6a6e
						6a6f
(TENEX)						6a7
(DIA)	1.319	45.961	.029	1.820	34.845	6a7a
(WRF)	.147	3.742	.039	.203	25.456	6a7b
(KEV)	.159	8.897	.018	.219	55.956	6a7c

JUL 15-21, 1973: A WEEK IN REVIEW

(DCW)	.948	14.061	.067	1.308	14.832	6a7d
	-----	-----		-----		6a7e
(TOTAL)	2.573	72.661		3.550		6a7f
						6a7g
(NLS)						6a8
(CFD)	.546	13.258	.041	.753	24.282	6a8a
(JDH)	.464	28.147	.016	.640	60.662	6a8b
(CHI)	1.108	17.617	.063	1.529	15.900	6a8c
(DSK)	.033	1.734	.019	.046	52.545	6a8d
(HGL)	.892	17.252	.052	1.231	19.341	6a8e
(EKM)	.039	3.006	.013	.054	77.077	6a8f
(JEW)	1.143	31.583	.036	1.577	27.632	6a8g
	-----	-----		-----		6a8h
(TOTAL)	4.225	112.597		5.830		6a8i
						6a8j
(GROUP) TOTALS						6b
GROUP	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU	6b1
						6b2
(STAFF)	3.894	101.725	.038	5.373	26.124	6b3
(PSO)	2.582	139.210	.019	3.563	53.916	6b4
(NIC)	1.736	75.033	.023	2.396	43.251	6b5
(HARDWARE)	.017	1.435	.012	.023	84.412	6b6
(TENEX)	2.573	72.661	.035	3.550	28.240	6b7
(NLS)	4.225	112.597	.038	5.830	26.650	6b8
	-----	-----		-----		6b9

JUL 15-21, 1973: A WEEK IN REVIEW

(TOT) 15.027 502.711 20.735 6b10

6b11

(STATS) 6c

HIGHEST CPU: NDM 1.609 hrs LOWEST CPU: JR .002 hrs 6c1

HIGHEST CON: MEJ 79.781 hrs LOWEST CON: CBG .129 hrs 6c2

HIGHEST CPU/CON: DCW .067 HIGHEST CON/CPU:1: JR 310 6c3

6c4

(OVERHEAD) 6d

(JCP) 1.842 42.054 .044 2.542 22.831 6d1

BACKGROUND 2.778 138.889 .020 3.833 49.996 6d2

CAT 28.944 53.016 .546 39.940 1.832 6d3

DOCB 0.000 0.000 0.000 0.000 0.000 6d4

DOCUMENTATION .027 .630 .043 .037 23.333 6d5

GILBERT .018 .101 .178 .025 5.611 6d6

NETINFO .605 19.593 .031 .835 32.385 6d7

NIC-WORK 0.000 0.000 0.000 0.000 0.000 6d8

OPERATOR .459 5.870 .078 .633 12.789 6d9

PRINTER 5.208 140.382 .037 7.187 26.955 6d10

SYSTEM 11.537 448.519 .026 15.920 38.877 6d11

----- 6d12

(TOTAL) 51.418 849.054 70.952 6d13

6d14

(XEROX) 6e

6e1

NAME CPU HRS CON HRS CPU/CON % SYS CON/CPU:1 6e2

JUL 15-21, 1973: A WEEK IN REVIEW

							6e3
(LPD)DEUTSCH	.128	4.331	.030	.177	33.836		6e4
(CMG)GESCHKE	0.000	0.000	0.000	0.000	0.000		6e5
(JGM)MITCHELL	.078	3.458	.023	.108	44.333		6e6
(WHP)PAXTON	0.000	0.000	0.000	0.000	0.000		6e7
(EHS)SAT-WTE	.542	13.808	.039	.748	25.476		6e8
(RES)SWEET	.100	7.908	.013	.138	79.080		6e9
	-----	-----		-----			6e10
(TOTAL)	.848	29.505		1.171			6e11
							6e12

(RADC)

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU:1	DIR	
BAIR	.234	17.135	.014	.323	73.226	195	6f1
BERGSTRM	.010	.779	.013	.014	77.900	24	6f2
BETHKE	.154	11.539	.013	.213	74.929	90	6f3
CAVANO	.099	11.373	.009	.137	114.879	126	6f4
IUORNO	.038	5.078	.007	.052	133.632	39	6f5
KENNEDY	.110	5.838	.019	.152	53.073	38	6f6
LAMONICA	.400	35.927	.011	.552	89.818	65	6f7
LAWRENCE	.050	10.981	.005	.069	219.620	36	6f8
MCNAMARA	.163	9.909	.016	.225	60.791	127	6f9
PANARA	.006	.638	.009	.008	106.333	121	6f10
RADC	.036	3.677	.010	.050	102.139	100	6f11
							6f12
							6f13
							6f14

JUL 15-21, 1973: A WEEK IN REVIEW

RZEPKA	.020	1.794	.011	.028	89.700	93	6f15
SLIWA	.002	.358	.006	.003	179.000	32	6f16
STONE	.181	11.309	.016	.250	62.481	219	6f17
THAYER	.020	7.964	.003	.028	398.200	33	6f18
TOMAINI	.033	2.117	.016	.046	64.152	45	6f19
	-----	-----		-----		-----	6f20
(TOTAL)	1.556	136.416		2.150		1383	6f21
(PER CENT TOTAL DISK CAPACITY)						2.840%	6f22

(NETUSERS) TOP FIVE

NAME	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU:1	
NBS-TIP	.573	27.394	.021	.791	47.808	6g4
NSRDC	.436	18.912	.023	.602	43.376	6g5
GUEST	.432	18.312	.024	.596	42.389	6g6
MITRE-TIP	.425	31.563	.013	.586	74.266	6g7
UCSB	.342	5.312	.064	.472	15.532	6g8
	-----	-----		-----		6g9
(TOTAL)	2.208	101.493		3.047		6g10

(NET) TOTAL	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU:1	
NET	4.155	201.243	.021	5.733	48.434	6h2
						6h3

JUL 15-21, 1973: A WEEK IN REVIEW

(OTHER)	CPU HRS	CON HRS	CPU/CON	% SYS	CON/CPU:1	
						6i
						6i1
ENERGY	.005	.442	.011	.007	88.400	6i2
(MFA)	.001	.033	.030	.001	33.000	6i3
						6i4
						7

JUL 15-21, 1973: A WEEK IN REVIEW

(J18075) 30-JUL-73 11:33; Title: Author(s): Beauregard A.
Hardeman/BAH; Distribution: /WAR; Sub-Collections: SRI-ARC WAR; Clerk:
BAH;

Date: 30-JUL-73 1214-PDT

From: O'SULLIVAN at USC-ISI

Re: USERS

PLEASE ADD ME TO THE USERS GROUP USING O'SULLIVAN AT ISI
AS MY MAILING ADDRESS. THANKS.

TO 30-JUL-73 12:25 18076

(J18076) 30-JUL-73 12:25; Title: Author(s): Thomas O'Sullivan/TO ;
Distribution: /JAKE ; Sub-Collections: NIC; Clerk: TO; .SNF=HIRM;

Transmittal to Station Agents -- 96

Transmittal to Station Agents -- 96
Jeanne North

NIC 18080
8 AUG 73

1

1a

Enclosed:

1b

NIC 17454 *NWG/RFC 535 Comments on File Access Protocol;
Bob Thomas (BBN-FENEX).

1b1

1c

*sent to Liaisons

1d

2

Transmittal to Station Agents -- 96

(J18080) 7-AUG-73 20:15; Title: Author(s): Jeanne B. North/JBN ;
Distribution: /SA MDK JEW ; Sub-Collections: NIC ; Clerk: KIRK ;

Network Using Group Note 2

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

NIC 18084

3

NIC 18084
Network Using Group Note 2

Marcia Keeney (SRI-ARC)
August 1, 1973

4

Procedures for Distributing Network Using Group Notes

4a

The Network Information Center (NIC) provides document distribution service for the Network Using Group. The NIC will reproduce dialogue among members of the group and distribute copies to all members.

4a1

Preparation

4b

Each document should have on it a Network Using Group Note number, a NIC number, the author's name and affiliation, the date, and a title. (See above.) These items are necessary for proper cataloging of the note.

4b1

To obtain NIC and Network Using Group Note numbers call NIC at (415) 329-0740, or use your Enterprise number if you have one. If calling is not practical, leave room on the original so that the NIC can type in the numbers.

4b2

If you have online access and can prepare the document using NLS, put the document into a file and send a Journal message to Marcia Keeney at NIC. The file will be given a heading and printing directives as necessary, and a master made for reproduction and distribution.

4b3

Distribution

4c

Send the original, a good copy, or a Journal message about the file, to NIC:

4c1

ARPA Network Information Center
c/o Ms. Marcia Keeney
Augmentation Research Center
Stanford Research Institute
Menlo Park, California 94025

4c1a

NIC will distribute copies to all Network Using Group members.

4c2

Names to be added to the distribution list should be submitted to Dave Crocker (UCLA-NMC).

4c3

Note: NIC 16890 NETED: A Common Editor for the ARPA Network by M.A. Padlipsky (6 JUN 73) was not numbered as a Using note but should be considered as Using Note 1.

4d

Network Using Group Note 2

(J18082) 9-AUG-73 19:09; Title: Author(s): Marcia Lynn Keeney/MLK ;
Distribution: /SA USING ; Sub-Collections: NIC USING; Clerk: KIRK ;

TRANSMITTAL TO: Albert Vezza

TRANSMITTAL TO: Albert Vezza
Project MAC
545 Technology Square, Room 201
Cambridge, Massachusetts 02139

FROM: Marcia Keeney (NIC)
Station Agent

At your request I am sending NIC 17759 and 12112.

MLK/jdc

1

1a

1b

MLK 10-AUG-73 13:41 18114

TRANSMITTAL TO: Albert Veza

(J18114) 10-AUG-73 13:41; Title: Author(s): Marcia Lynn Keeney/MLK
; Distribution: /SA ; Sub-Collections: NIC ; Clerk: KIRK ;

ARPA Network Information Center
Stanford Research Institute
Menlo Park, California 94025

18115

NIC 18115
Network Users Group Note 2

Marcia Keeney (SRI-ARC)
August 7, 1973

ARPA Network Users Group Membership List

Crocker, Steve D. Advanced Research Projects Agency 1400 Wilson Boulevard Arlington, Virginia 22209	SDG2 (202) 694-5037 or 694-5922	ARPA
Bressler, Robert D. (Bob) Bolt Beranek and Newman Inc. 50 Moulton Street Cambridge, Massachusetts 02138	RDB2 (617) 491-1850 ext 477	BBN-NET
Thomas, Robert H. Bolt Beranek and Newman Inc. 50 Moulton Street Cambridge, Massachusetts 02138	RHT (617) 491-1850 ext 483	BBN-TENEX
Wyatt, Joe B. Harvard University Office for Information Technology 1730 Cambridge, Massachusetts 02138	JBW (617) 495-3389	HARV-10
Schelonka, Edward P. Range Measurements Laboratory Attn: ENLD Patrick AFB, Florida 32925	EPS (305) 494-2762	RML
Alberts, Allan R. Systems Control, Inc. 260 Sheridan Avenue Palo Alto, California 94306	ARA (415) 327-9333	SCI
Hill, Alan R. Alexandria Laboratories Teledyne Geotech Box 334 Alexandria, Virginia 22813	ARH (703) 836-3882 ext 294	SDAC-TIP
Berger, Jon E. Stanford Research Institute Artificial Intelligence Center 333 Ravenswood Avenue Menlo Park, California 94025	JEB (415) 326-6200 ext 4576	SRI-AI
Feinler, Elizabeth J. (Jake) Stanford Research Institute Augmentation Research Center 333 Ravenswood Avenue Menlo Park, California 94025	JAKE (415) 326-6200 ext 3695	+ SRI-ARC
Iroy, Charles H. Augmentation Research Center Stanford Research Institute Menlo Park, California 94025	CHI (415) 326-6200 ext 4011	SRI-AN-

Jernigan, Mil E.
Augmentation Research Center
Stanford Research Institute
Menlo Park, California 94025

MEJ

(415) 326-6200 ext 4775

SRI-ARC

Rech, Paul
Stanford Research Institute
Augmentation Research Center
333 Ravenswood Avenue
Menlo Park, California 94025

PR

(415) 326-6200 ext 3001

SRI-ARC

Postel, Jonathan B.
University of California
Computer Science Department
3804 Boelter Hall
Los Angeles, California 90024

JBP

(213) 825-2368 or 825-4733, home
(213) 396-3213

UCLA-NMC

Strange Walls

We have run into a new problem on a our bathroom walls. Underneth the wall paper is a kind of fake tile. That is plywood has had a thin layer of plaster spread on it, rills in grid pattern marked off, and then enamaled heavilly tlookk like tile. How do we paint over that without the grids showing? Any thoughts?

1

Strange Walls

(J18117) 30-JUL-73 12:40; Title: Author(s): Dirk H. Van
Nouhuys/DVN; Distribution: /WAB2; Sub-Collections: SRI-ARC; Clerk: DVN;

HISTORY

TITLE: AUGMENTED KNOWLEDGE WORKSHOP

Project Number: 5550, 5581

Contractor: Stanford Research Institute

Project Engineer: Duane Stone

During FY-73 a project was initiated to evaluate the extent to which on-line computing technology could be usefully applied to the office environment. Although the technology has been in development for 10 years, it has to date had no practical impact on the "average" Air Force employee's job. He still uses paper and pencil to document and communicate his thoughts. The problems associated with paperwork in terms of its production, control, coordination, filing and retrieval are accentuated in an environment like Air Staff; where answers to complex problems of national defense must be generated in short time periods with reference to past decisions and current thinking.

Efforts in this area will result in the installation and evaluation of a general purpose integrated system of hardware, software, method, procedures and training which can significantly improve the performance of individuals and teams engaged in complex problem solving and decision making tasks.

All the efforts in this area are based on the Augmented Knowledge Workshop (AKW) technology developed at Stanford Research Institute (SRI) under ARPA sponsorship over the past 10 years. RADC personnel have monitored this program for the past 6 years and are convinced that significant job performance improvement in a knowledge workshop environment is indeed possible. SRI has developed the system through a "bootstrapping" process where the system's capabilities at any particular instance in time are used to further develop the system. The augmentation capabilities of the system have evolved through the individual, to the team, to the organization stage, and are now approaching the community stage via use by individuals and teams around the ARPANET.

HISTORY

The development activity during FY-73 has been concentrated on acquiring the necessary physical plant for use and evaluation of the SRI AKW system. RADC is connected to the ARPANET via a standard H316 Terminal Interface Processor (TIP) for reliable and inexpensive communication to the SRI computing facility in California. Internal lines have been acquired to connect the terminals to the TIP. Twelve Execuport 300 teleprinters, two TYCOMS, three IMLAC PDS-1D crt display terminals, and four Termicette digital cassette recorders have been purchased. The section chief, secretary and engineers (approx. 20 people) in the Information Management Sciences section have been trained in the use of the system. Procedures for use of the system within the section have been developed and implemented. The section has progressed to the point where they are doing the bulk of their daily work using the system; in fact, this writeup was prepared, coordinated and edited a number of times using the system. The FY-74 activity will be concentrated on training the rest of the ISI branch (approx. 20 people), procuring additional terminals and a medium speed line printer.

The activity in FY-74 will be concerned with developing and incorporating advanced management techniques such as DELPHI, resource allocation strategies, and advanced graphics capabilities. During FY-74 the AKW will be interfaced with a data management system. This activity will be significantly enhanced by the use of others' research work via the ARPANET. During this time period, RADC, ARPA, and other users will be renting a utility system which will provide guaranteed access to the system for all planned RADC users.

The evaluation of a system as complex as AKW must be conducted over an extended period of time, an extended set of jobs, and across a representative sample of Air Force people to allow the results to be generalized to other environments. The evaluation at RADC will cover a two year period, and include engineers, secretaries, administrators, and managers at three levels in the chain of command. The evaluation will evolve slightly behind the actual implementation of the system within the ISI branch. Results on the effectiveness of the system in augmenting individuals and teams will be available near the middle of FY-74, and organizational results at the end of FY-74. The measures currently used in the evaluation include:

Psychometric--questionnaires, surveys, and interviews given in a controlled experimental environment.

HISTORY

Performance--whenever a working group, section, or branch is charged with a specific job their performance will be compared with that of an equivalent organizational unit. Data will be collected on elapsed time, manhour time, and the subjective judgements of the quality of the work made by the two units' common manager. Comparisons will be made between the AKW system and other available systems with comparable capability in specific areas; eg. text editing.

Cost/Benefit--A running systems analysis will be conducted over the two year period to enable detailed specification of the cost/benefit tradeoffs which can be made in implementing portions of the general system in other environments.

HISTORY

(J18118) 30-JUL-73 12:48; Title: Author(s): Duane L. Stone/DLS;
Distribution: /JLM DLS EJK; Sub-Collections: RADC; Clerk: DLS;
Origin: <STONE>HISTORY.NLS;1, 30-JUL-73 12:45 DLS ;

'deep six' in the potomac

this is a dummy message to test whether or not journal delivery to ucsb-mod75 via ftp really works. can't imagine why it wouldn't but there is no harm in making sure. if i received mail more frequently it wouldn't be necessary to clutter up the journal with this dummy message. now is the time for all good liaisons to come to the aid of their ncp's.....a quick brown rfnm jumped over a lazy allocate.

1

'deep six' in the potomac

(J18119) 30-JUL-73 15:46; Title: Author(s): Ronald M.
Stoughton/RMS; Distribution: /RMS; Sub-Collections: NIC; Clerk: RMS;

RADC Visit

PURPOSE OF VISIT

I visited Rome Air Development Center (RADC) to ascertain RADC's expectations in regard to the 'forms generator' system we have offered to provide them.

More specific goals included

Answering the questions in RWW's memo (JJOURNAL, 17406,).

Observing and evaluating the management information systems in use and under development at RADC with a possible interface to NLS in mind.

Gaging the volume of information that the forms system will generate and the consequent load on ARC.

Acquiring a first hand, on-site, understanding of the RADC working environment especially in regard to forms.

Establishing, through direct contact, a foundation for continued communication with RADC personnel.

I spoke mostly with Duane Stone, manager of the Augmented Knowledge Workshop (AKW) section, and Joe Cavano, the programmer responsible for the Honeywell IDS information system currently being tested at RADC.

RWW's Questions

Q. How many different kinds of forms?

A. Last spring RADC provided us with a sample of 70 forms. Most record information about personnel or projects.

Personnel Forms

Much of the data is personal and highly confidential. To process or store such information in an 'insecure' and open system such as the one at ARC would certainly constitute a violation of individual privacy and might actually be illegal.

Personnel forms that pertain to training, conference attendance and travel, however, would be useful and interesting to implement at an early stage. As many as 6 forms may be necessary for each trip.

Project Oriented Forms

RADDC Visit

These forms range from initial project planning and proposal forms to budget, contractor evaluation, and final report forms.

1d2b1

A project is initiated by the preparation of a 'Procurement Request Package' (P R package). This file consists of approximately 9 forms. It is a well defined subset and presents a good set of problems to be handled by the system such as common information across forms, many revisions, multiple levels of approval, team preparation, etc. and appears to be an excellent place to begin implementation.

1d2b2

Q. What frequency of use of them?

1d3

A. Frequency of use varies from once annually to many thousands each year for a particular form. It was impossible in the three days of my visit to learn about all the forms in the sample.

1d4

I was able to get frequency statistics in the two groups of forms suggested for initial implementation.

1d4a

People in the branch make approximately 350 trips a year. Each trip requires from 3 to 6 forms, depending on the purpose.

1d4a1

The branch prepares approximately 80 procurement packages annually. Each requires completion of 9 forms with 11 copies of each form.

1d4a2

Q. Which ones are modified (edited) and how often, by whom?

1d5

A. This varies from 'never' to 'constantly and forever'. In the P R package, for example, the text description of a proposed project may be edited at each review level many times.

1d6

Q. Who fills them out?

1d7

A. In most cases the project engineers and researchers fill out draft forms in long hand. Final forms are then typed by secretaries.

1d8

Q. Which ones are worked on by multiple people?

1d9

A. In most cases a form is completed by a single individual. However, the P R package, for example, is essentially a team effort and should afford a good opportunity to demonstrate the power of NLS in augmenting team work.

1d10

RADC Visit

- Q. What approval chains do they go through? 1d11
- A. The normal approval chain is project engineer, group leader, branch chief, division chief, RADC administration, D O D, Congress, ???.
- 1d12
- Obviously, all forms do not go the full route, but the P R package does.
- 1d13
- Q. Where do they go after completion? 1d14
- A. While I did not go into this question in depth, it was indicated that the 11 copies of the forms contained in the P R package are filed at various points along the approval chain. 1d15
- More interesting than what happens to all that paper is where the data goes. 1d15a
- Some or all of the information must be fed into at least three and sometimes 4 automated data bases. 1d15a1
- The local RADC system, running on a B5500 in batch mode, the MASIS management information system (the current Air Force production system), the experimental IDS system, and sometimes a second experimental system, DM1. 1d15a2
- The data transfer appears to be accomplished by copying the data on to coding forms (different for each system), key punching on to cards, etc. As you can imagine, there are discrepancies in the data contained in the various systems. 1d15a3
- Q. What use is made of the data contained on them? 1d16
- A. In many cases the data is transferred to RADC and Air Force production systems where it is integrated with accounting, personnel and general information systems. Locally, it is used as reference data, as examples for subsequent forms, as experimental data for on line query systems, etc. 1d17
- Q. Which ones could reuse data placed on others? 1d18
- A. Most of the forms contain at least some data that could be automatically retrieved, either from other forms, from a previous version of the same form, or from a file. 1d19
- Q. Which ones, such as personnel evaluation ones, could use data retrieved from previous ones to guide the person filling them out? 1d20

RADC Visit

- A. It was my impression that almost all of the forms could be more easily filled out with either a sample of a previous form or some very explicit prompting by the system. 1d21
- Prompting is necessary partly because usage has changed while the labels on the items may not have changed and may be misleading. 1d21a
- Q. What changes in people's thought processes are likely to occur given serial entry blank from a terminal rather than seeing the whole form. 1d22
- A. This is a question which cannot be answered before the fact and is certainly an interesting area for study. What effect does NLS generally have on thought processes and writing styles? 1d23
- Q. How do you handle overflow information that won't fit in the space provided? 1d24
- A. I put this question to several people at RADC. The consistent reply was that the purpose of the forms was to restrict the volume of text and overflow information is not allowed. 1d25
- However, it appears there is a way around this stricture. People attach memos to forms. Probably the most used form in the system will be the 'memo' form. 1d25a
- Q. How do you integrate forms cleanly with the calculator? 1d26
- A. I don't know. There are a number of forms that could benefit from such an interface. It will be an interesting problem to solve. 1d27
- Q. What are RADC's plans for placing their 645 on the network? 1d28
- A. Uncertain. 1d29
- Q. What data management systems do they use now? 1d30
- A. Production systems include 1d31
- The usual accumulation of index cards, file drawers, etc. 1d31a
- In individual cases, NLS, with some remarkably good results. 1d31b
- e.g. Duane Stone inherited the projects formerly supervised by an engineer who kept a record of all

RADC Visit

communications he had with his contractors. Duane said it was astounding how much easier it was to take over his work because of these records and their ease of access. 1d31b1

Internal RADC management system to keep track of installation progress. This runs on a B 5500 and is a batch process, I believe. 1d31c

MASIS the current Air Force production information system. 1d31d

Experimental Systems include 1d32

As far as I could ascertain, the experimental MIS work at RADC is being done with the end in view of furthering the World Wide Military Command and Control System. (WWMCCS) 1d32a

This is the Air Force master plan for information systems. Certain basic decisions have been made in regard to WWMCCS. 1d32b

Honeywell won the contract for hardware with the Honeywell 6000 series computers. 1d32c

The 635/645 is software compatible with the 6000 series which is the reason for the 635/645 at RADC. 1d32c1

Honeywell also won the bid for the data management software. 1d32d

The Honeywell software package currently being tested at RADC is Integrated Data System (IDS). This appears to me to be a file formatting and maintenance program based on a traditional chained record file structure with limited inversion features. 1d32d1

See Observations of RADC's MIS for more information on IDS. 1d32d2

DM1, a system written by Auerbach, is also being tested. This system runs under MULTICS and is being evaluated by another group at RADC whose goal is to make an evaluation for WWMCCS. 1d32e

Q. Are any of the present forms transferred to a computer system now? How? 1d33

A. Yes. The local RADC system, MASIS, IDS and DM1. 1d34

The method used is coding and keypunching. 1d35

RADC Visit

Q. Should the total system have an optical scanner so that paper forms can also be part of the system? 1d36

A. The problem of defining a form for the system could be simplified immensely from the user's point of view if a sufficiently sophisticated and reliable optical scanner were available to do the job. 1d37

Adequate hardware does not appear to exist at this point. At such time as it becomes available the module of the forms system that allows the user to define the form can be expanded to take input from an optical scanner. 1d38

Q. Where will people filling out different classes of forms have to go to get to a terminal or a hardcopy printer? 1d39

A. Terminals seem to be readily available in the branch. However, at the present time their group allocation is such that there are always more people with terminals available wanting to use the system than their group allotment allows. Hopefully, the utility will alleviate this problem 1d40

The hardcopy printer is a different problem. The printer now available at RADC is not useful for forms. The I/O Devices printer formerly on order did not come up to specifications and the order was cancelled. 1d40a

Duane Stone is looking into alternative printers. Dirk and I suggested he investigate the IBM split platen selectric terminal in use by the AVIS car rental people. 1d40b

Interfacing NLS to RADC's MIS 1e

RADC B5500 system and MASIS: These appear to be obsolete batch systems to which RADC is not interested in devoting energy. However, if a useful data base can be developed with NLS, I see no reason why RADC could not write user programs to format the data appropriately and write it out to tapes for transfer to the production systems. 1e1

DMI: This system is in an early testing phase by a group which is not working with NLS at the present time. I think we should take another look at it when an initial evaluation has been done. 1e2

IDS: This is the logical data base to consider for NLS interface. A data base has already been created containing much of the information that would have been generated by the

RADC Visit

forms system. RADC has acquired a query package (from Honeywell for \$18,000) to access the data base. 1e3

Certain characteristics of the IDS system lead to the conclusion that it is too early in the development stage to design in detail or to implement the NLS/IDS interface. 1e3a

RADC plans for connecting the 635/645 to the network are extremely uncertain and depend in large part on what network software support is forth coming from MIT and Honeywell. 1e3a1

RADC attempted a batch interface by punching NLS data into paper tape, converting the paper tape to punched cards and using the cards to update the IDS data base. This attempt was not successful because the requisite parity bits were lost in transit over the network. Even if the parity bit problem is solved this seems a tedious process. 1e3a2

Joe CAVANO gave me a demonstration of the Query system. The system works somewhat like our content analyser. The query submitted by the user is scanned to generate source code to access the IDS files. This source is then compiled and executed. 1e3a3

Response times are unbelievable until experienced. If a query can be satisfied by access to a primary index the user may begin to see the results in 15 to 20 minutes. If a content search of the data base is required initial response will occur in 1 1/2 to 2 hours. 1e3a4

Size of RADC data base 1f

The current IDS data base, both personnel and project information, contains 100,000 36 bit words. They expect it to increase to a maximum of 300,000 words in 3 years. 1f1

Two copies of a 300,000 word file kept online would take approximately 1/8 of an ARC disk (5,000,000 words). 1f2

RADC Working Environment 1g

It was enlightening to me to observe RADC at first hand. I had formed a completely erroneous impression of the function and purpose of RADC which was corrected by the visit. 1g1

Communication with RADC Personnel 1h

RADC Visit

All RADC personnel with whom I had contact were cooperative, friendly and energetic in developing answers to questions. Duane Stone and Joe Cavano, in particular, made the visit productive and well worth while.

1h1

I believe more rapid and purposeful progress can be made in future design and implementation projects with RADC as a result of the better understanding of what RADC is about and friendships established by the visit,

1h2

Miscellaneous

1i

Training in L10 for Duane Stone and Joe Cavano:

1i1

Duane and Joe would like intensive training in L10 at ARC. Dirk suggested that the initial training could be given by Dean Meyer in which case it should be scheduled before Dean returns to school.

1i1a

NLS and Communication:

1i2

Dirk and I attended a branch meeting conducted by a Dr. David Conrath, who is, I believe, an industrial psychologist from Canada. Dr. Conrath, with Jim Bair, has set up an experiment the purpose of which is to evaluate the effect of NLS on communications at individual and departmental levels.

1i2a

The experiment encompasses two 5 day periods six months apart during which every member of the branch tallies every communication he receives.

1i2b

The branch consists of two groups approximately equal in size, one of which is actively using NLS and the other is not using NLS at all. Differences in communication patterns between the two groups will be compared at the end of the experiment.

1i2c

Dr. Conrath made one exception to the 'record ALL communications' rule which mystified me. The exception is that 'Boss/Secretary' communications are not to be recorded. The reason he gave is that the support provided to 'bosses' by secretaries can never be given by a computer system and therefore these communications are irrelevant.

1i2d

RADC Visit

(J18121) 30-JUL-73 14:37; Title: Author(s): Elizabeth K.
Michael/EKM; Distribution: /DCE RWW JCN CHI HGL PR MDK DLS DVN;
Sub-Collections: SRI-ARC; Clerk: EKM;
Origin: <MICHAEL>TRIP.NLS;10, 30-JUL-73 14:26 EKM ;

Comment on the idea of "Executable" Links as described by HGL.

I think that the idea of "executable" and "non-executable" links in the query language is acceptable only if more than one link is allowed in a statement and if an "executable" link is any link terminated by an anglebracket > . Links terminated by parentheses) would then be "non-executable."

1

The "IN" (Show?) command should always jump to the first "executable" link it finds. Succeeding links would be accessed by specifying the number of their order of appearance in the file.

2

If there are executable links in the statement but none that define conceptual substructure (formatting links, links in table of content statements to the actual document, etc.), simply placing a closing anglebracket > in front of the other executable links would signal the default substructure view as if there were no executable links at all.

3

I think more than one "executable" link must be allowed for three basic reasons.

4

1. Limiting the statements to only one "executable" link eliminates all the alternatives available in the second dimension (as described in -- kelley, file, statements :w).

4a

2. Databases created for the FNLS Query language should be compatible with the DNLS Query language (Jump to Mouse) that will use the same button to specify links describing conceptual substructure and reference links alike (kelley, file, DNLS :w).

4b

3. The occasional use of a > is much cleaner than continual mandatory use of a *, <CR> or other special symbol, and allows much more flexibility in the database at the expense of nothing.

4c

Why is it that my opinions are neglected in this area of greatest importance to me and in which I have spent much contemplation, thought, and actual experimentation with code (kelley, jump, 0:x)?

5

Comment on the idea of "Executable" Links as described by HGL.

(J18122) 30-JUL-73 14:37; Title: Author(s): Kirk E. Kelley/KIRK ;
Distribution: /NIC-QUERY NP ; Sub-Collections: SRI-ARC NIC-QUERY NP;
Clerk: KIRK ;

Discussion of Factors in Preparation of the ARPANET NEWS

It is good to have NJN's strongly-worded note (18067,) re the ARPANET NEWS. As you may know, NIC products are under scrutiny at this time to assure that those which are issued are meeting a need, and your support is appreciated.

1

You will be pleased to know that May and June issues are now available for printout in hardcopy and will be reproduced and distributed to the mailing list as soon as we can have it done. July will follow this week. Then it would be nice if material were on hand for the August issue.

2

To reply to a couple of points raised in your memo:

3

Every issue has carried the notice of how it is to be accessed for printout. This is a section which I retained over the suggestions of others that the masthead page be reduced.

3a

It is not accurate to say that Mitre "are doing all the work in putting together the paper", as a comparison of the input I have received and the issues published will show. This is one difficulty which delays the hardcopy NEWS. It is not practical to edit, reproduce, and mail a letter consisting of a few pages and a few items. Not to mention that it would not be a thing to be proud of and for Mitre to take credit for. For instance, there is as yet NO contents for the August issue. This is not snipe at Jean and Susan, but to indicate the problem is not confined to NIC.

3b

Not only does the contents not come wholly from outside the NIC, but the form in which it arrives is anything but either Query-ready or print-ready. Again, a comparison with the input will show you this. I am not complaining, merely explaining. I feel we have tools here which make it enjoyable to format the NEWS. I worked eleven hours Saturday doing the work necessary to polish the Query version of May and to process the May and June issues to the print versions. I believe the results are good, but the effort is not inconsiderable.

3c

Announcement of the NEWS's online existence goes only to Liaisons and Station Agents and Principal Investigators. It is not practical to send it to online users only, and obviously it is impractical to send to everyone. Anyone who is curious can go to Query and load the NEWS to see if a new one has been published.

Discussion of Factors in Preparation of the ARPANET NEWS

Hopefully, this will lead to a current issue from now on.

3d

Now that we have expressed our various dissatisfactions and difficulties, I hope the NEWS will go forward with better understanding and as few recriminations as possible considering each shop is aware of its own problems but less knowledgeable of the other's.

4

Discussion of Factors in Preparation of the ARPANET NEWS

(J18123) 30-JUL-73 14:42; Title: Author(s): Jeanne B. North/JBN;
Distribution: /NJN JI DEC MDK RWW; Sub-Collections: SRIARC NIC ; Clerk:
JBN;
Origin: <NORTH>NANCY.NLS;1, 30-JUL-73 13:01 JBN ;

Comments on Outline of Evolutionary IC Concept

Paul and Mike -- If your draft (18056,) of a paper on the evolution of information centers achieves any speedup in the evolution of the NIC, I will be grateful to you. You are stating the need for a number of things for which NIC people have been pushing for a long time, evidence the Journal items on various subjects such as catalog evolution, user interface, adequate online reference tools, more responsive and uptodate documentation, to name a few without belaboring the subject.

1

But it seems to me the draft falls into a common pitfall: in arguing hard for motherhood it tends to imply that somebody or everybody has heretofore been guilty of birth control or infanticide.

2

I would like to see a position paper which acknowledged the efforts of those at NIC, ARC, and elsewhere, who have spent much time in evolving information service concepts, if not actual service, to the present, and which gave promise of building on such of these as are good, rather than suggesting reinvention.

3

Comments on Outline of Evolutionary IC Concept

(J18124) 30-JUL-73 15:31; Title: Author(s): Jeanne B. North/JBN;
Distribution: /PR MDK DCE RWW JEW JCN JAKE DVN SRL CHI; Sub-Collections:
SRIARC NIC ; Clerk: JBN;
Origin: <NORTH>EVOL.NLS;2, 30-JUL-73 15:12 JBN ;

Problem With Loading SITE.STAT File

Peter -- Attempts to load <Deutsch>site.stat result in the message:
No write access on odd-numbered attempts, alternated with: Bad file,
on even-numbered attempts. Any remedy? -- Jeanne

1

Problem With Loading SITE.STAT File

(J18126) 30-JUL-73 17:00; Title: Author(s): Jeanne B. North/JBN;
Distribution: /LPD; Sub-Collections: SRI-ARC; Clerk: JBN;

Getting Col. Arthur of LGHF, AFSC, Set Up for NIC Access

Jean -- Col. Arthur returned my call and is now set up for offline delivery. MDK and JCN are notified of his wishes for a directory, and will notify him on accomplishment. For your information his site name will be LGHF, because it already exists at the instigation of Diane Shaw, with whom the change in addressee has been discussed. His directory will be LGHF also, and his status will be Associate for the time being --Jeanne.

1

Getting Col. Arthur of LGHF, AFSC, Set Up for NIC Access

(J18127) 30-JUL-73 17:08; Title: Author(s): Jeanne B. North/JBN;
Distribution: /JI JCN MDK MLK; Sub-Collections: SRIARC NIC; Clerk: JBN;

News of NEWS May and June Hardcopy

Jean -- As yo may know from ny note to Nancy, May and June are ready for repro. I will announce them for those few who print it out at their Sites, as soon as July is ready also. -- Jeanne

1

News of NEWS May and June Hardcopy

(J18128) 30-JUL-73 17:12; Title: Author(s): Jeanne B. North/JBN;
Distribution: /JI; Sub-Collections: SRIARC NIC ; Clerk: JBN;

NMG Distribution

I added CBN to the NMG group this morning.

NMG Distribution

(J18129) 30-JUL-73 17:41; Title: Author(s): William E. Naylor/WEN;
Distribution: /JBN; Sub-Collections: NIC; Clerk: WEN;

thanks

Jeane--

Thank you for your quick reply. I am glad I heard your side of the story as well as Mitre's. You also cleared up some misconceptions I had, mostly my own fault for not reading carefully enough. I hope things will go smoothly from now on.

--Nancy

p.s. you shouldn't be working on Saturdays; what are weekends for?

1

thanks

(J18130) 31-JUL-73 06:53; Title: Author(s): Nancy J. Neigus/NJN;
Distribution: /JBN; Sub-Collections: NIC; Clerk: NJN;

September Visit to England

Augmentation Research Center
Stanford Research Institute
Menlo Park, California 94025

Peter Kirstein
University of London
Institute of Computer Science
44 Gordon Square
London, W.C.1
ENGLAND

Dear Peter:

I will plan to teach your three-day course on the Network Information Center, and on NLS, from 19 to 21 September 73. I would like to have perhaps a day there before that to check out the workings of your equipment and Network service, become a bit acquainted with the surroundings, the type of people who will be in my course, etc. And yes, I would appreciate your helping meet my living expenses during say four days.

1

My primary plans over the three-week period:

2

Current commitments:

- 4 through 6 Sep at Univ of Newcastle on Tyne
- 10 through 14 Sep at Sussex (at least part o the time)
- 18 through 21 Sep at your establishment (teaching the last three days)
- 22 Sep leaving for home

2a

I am tentatively planning to go to Newcastle via Scotland; but there is some chance still that I might go through London on Sunday or Monday (2 or 3 Sep). If you wouldn't mind being called at home on Sunday, send me your home phone number and I could perhaps check arrangements with you then.

, 2b

So far I don't have any specific visit needs that you could help me with, but thanks anyway; and if I do I may ask for your help.

2c

Currently I am planning to attend at least part of the Sussex Network Institute; it isn't clear yet whether or not I will be an active participant (Kuo was trying to arrange for it, but the advanced program doesn't seem to

September Visit to England

show any space left), but I would like to get acquainted with the Europeans who are interested in Networking.

2d

As you know, I am more interested in the application of Networking, in support of "human-resource sharing" via the various types of informations services, than I am in the technology of computer networks.

2d1

Anyway, I imagine that I could meet many of the people at Sussex that I otherwise might be traveling around England (or the Continent) to meet. For the time being, I'll plan to go down there at the start of the Institute and see how it works out for me; and I gather that I'll see you there.

2d2

For the days in between these various planned periods, I may do a little hobnobbing with some of the London staff of SRI; or I might even just hide some place and sleep and think. For the past months, things have been so crowded and stimulating that my current mood is much more for the sleep and think activity than drumming up more stimulating visits and exchanges. At least I am not anxious now about filling all of my days.

2e

I'll plan to phone you as soon as possible after I arrive on your island.

2f

Now, about terminal equipment:

3

It would be very nice if you could borrow an IMLAC; likely it would provide a number of interesting Network exercises besides use with our DNLS.

3a

For DNLS use, the IMLAC would need 8K of core. We can load the program from here, over the Net. We would need to adapt that program to the particular configuration of your IMLAC, so at some time we will have to have a sort of questionnaire filled out. May as well wait and transact such business over the Network (via typewriter exchanges).

3a1

I may have mentioned to you about our project to build a special little interface box, to which are attached a mouse and five-fingered keyset, and that when plugged into the communication line of one of the low-cost (e.g. \$3,000) display terminals will enable it to operate full DNLS over the Network. At the heart of the box are some little Intel microprocessor and memory chips; swapping one or two memory chips changes the box to interface to a particular type of display terminal.

3b

September Visit to England

We plan to have a prototype box ready for me to take to England (along with a mouse and keyset), and we are negotiating with manufacturers of suitable displays to see if we can get the loan of one. It looks favorable for getting these paths to come together, and if so, that would supplement the IMLAC -- and, it would be very nice to have them backing each other up.

3b1

This setup would benefit from all of the bandwidth that it can get; I hope that you would have a suitable port available on your TTP.

3b2

The possibility of demonstrating DNLS to your Network users seems very important to us; the whole aspect of the kind of information services that we are talking about is perceived in a dramatically different way when delivered via DNLS rather than TNLS (the typewriter interface).

3b3

SPECIAL, LONG-SHOT POSSIBILITY: Is there any chance that you will have one or more demonstration terminals down at the Sussex Institute? If so, then is there a further possibility that we might also arrange for supporting our low-cost display-NLS terminal along with the other demonstration terminal(s)? If so, I might see if we could arrange for our borrowed terminal also to be taken there (as well as at your place the next week).

3c

Bandwidth would be a special problem here. At 300 baud the DNLS terminal would show principle and form, but not carry much of its normal impact. I have no way of knowing how far-fetched I'm being with the "I wonder if" nature of this; but no harm asking, I guess. Would there be any chance that a higher baud rate might be available? At 1200 baud it begins to work respectably.

3c1

I would imagine that, for many of the attendees, this Institute would be a rare opportunity to experience some Network facilities, and that it would be considered very valuable to have some demonstration typewriter terminals available during the week. I base my above "possibility" questions on this surmise. And if the broader-band link were possible, I would dearly love to demonstrate DNLS -- I think that that would do a lot to show Network capability, and it certainly would get across better than any lecture what kind of information services a Network can provide.

3c2

About further communications between us:

4

September Visit to England

I will leave for a short vacation on 1 or 2 August, and return on 13 August. During that period I will be in a very unreachable place, but thereafter I should be around here for telegarms, mail, etc.

4a

What I hope is that you will get your TIP operating soon, and that we can communicate via the Network. I would recommend your using the SNDMSG subsystem that operates in TENEX. You can transmit from one TENEX site to any of the other TENEX sites; most of the general ARPA-supported people have been set up for this purpose in the USC-ISI TENEX, with a file directory of their own -- this becomes their message-reception center. Are you? Will you otherwise be looking for a message-center "home"?

4b

In case you aren't previously checked out on the SNDMSG bit but want to begin some communicating with us, I'm including a draft copy of our forthcoming SRI-ARC TENEX Users' Guide. Note the sections on User Linkage and on SNDMSG. For the most effective help, look for: NORTON, WHITE, KUDLICK, NORTH, VANNOUHUYS, or WATSON (or me, even).

4c

Somehow I find the forthcoming England-hookup event very exciting. I am very much looking forward to my visit. I shall expect to hear from you one of these days via the Network.

5

Sincerely,

Douglas C. Engelbart
Augmentation Research Center

DCE/ndm

September Visit to England

(J18131) 31-JUL-73 10:49; Title: Author(s): Douglas C. Engelbart/DCE; Distribution: /PK; Sub-Collections: SRI-ARC; Clerk: NDM; Origin: <ENGELBART>LKIRSTEIN.NLS;6, 31-JUL-73 10:46 NDM ;

On Journal-item Citation Naming; cf. (18011,), (18036,) and (18063,)

Several considerations that still must be met

On Journal-item Citation Naming; cf. (18011,), (18036,) and (18063,)

Jim White proposes, in (18011,), a new general convention for identifying Journal items in citations, whereby instead of a pure number as presently used, there will be (may be) a hyphenated prefix identifying the special-interest collection to which the item was originally addressed. Prime example is the long-standing NWG's RFC numbering system, for which a citation of "RFC-524" could supplant "17140". Mike Kudlick concurred, in his short message (18036,).

1

I don't find myself particularly alarmed by the idea, but I don't think that it would work out; I respect the motivation and the aspects of the scheme that add value. I'd like to add the following notes to the dialogue on the issue.

1a

There was considerable discussion about the conventions for access identification and for textual reference citations many years ago when we were setting up what became the current system. Jim's proposal is not unlike several that were strongly favored at that time.

2

Following are my recollection of the considerations that led me finally to make the unilateral decree that we would use serial, numeric accession numbers for our master-catalog control and for our access identifiers. The decision was that initially these numbers also would be the one identifier that our link-following processes would accept; to be able to use other identifiers later (such as the "RFC-524") was left for further evolution of our indexing system, of our usage conventions, and of our operational experience in managing the whole XDOC-Journal system.

3

Therefore, my position then, with regard to such special-group conventions for identifying and accessing items was that they would be handled as optional identifiers and citation access, with the pure-numeric (current) system remaining the underlying master control method.

3a

I guess that this is still my position; but I am open to arguments if we give due consideration to the whole system of usage, computer-process and -data organization, and people-process data-base management.

3b

Here are two of the problems foreseen if the primary citation and access identification conventions are associated with the special-collection association(s) perceived by the author at submission time:

4

Special-interest activities come and go. There would be steady growth in their number, and some of the dialogue collections would grow rather large.

4a

On Journal-item Citation Naming; cf. (18011,), (18036,) and (18063,)

Inevitably the size of some of the larger collections would grow to the point where Jim's argument in (18011,) would be relevant and repeatable in favor of a new set of sub-sub-collection identifiers. What would we do in those (inevitable?) cases?

4a1

Also, we would find that there would be assimilations of sub collection ABC-*nnn* within sub-collection DEF-*nnn*; or perhaps more generally, the DEF-*nnn* people would really want some of the ABC-*nnn* items to be automatically included as directly relevant to their special collection.

4b

How would we provide graceful means for these multiple-collection items to be identified and to be cited, indexed, managed, etc. within the different collections?

4b1

The decision I forced upon the design wasn't expected to fill some of the special needs as well as would some of these options; but I expected that downstream we would face and solve the reasonable needs of special-interest groups, sub-collections, etc. in a general way -- when we understood how to work within the one-number scheme.

5

Taking any of the alternatives then proposed (one of which was special-collection identifiers, such as Jim's proposal), risked future complications whose pain would be even greater since I pictured that those later solutions would be more constrained than if we were using the present, generalized, single-sequence access numbering system.

5a

I would like to see us approach the needs expressed by Jim in the following spirit: that while we assume that special-collections, special-interest dialogue groups, etc. will be important needs, for which we want to have effective provisions, we also assume the following:

6

At the time of submission of an item, the author will not be able to foresee all of the future special-interest groups, or special working collections, to which this item will be important.

6a

Therefore, an item must be able to belong gracefully to a number of special collections. Also, special-collection identification should be allowable after the item has been submitted.

6a1

People should be encouraged to build and use special sub-collections, for any purpose that is useful: e.g. in making a survey study, or in writing a paper, one may want relatively short-lived special collections, where it will be very useful to manage them flexibly, to share their use with collaborators, etc.

6b

On Journal-item Citation Naming; cf. (18011,), (18036,) and (18063,)

It is likely that he would want to integrate into his collection a number of items that originally were entered as items in a previous special collection that was formed earlier under like circumstances.

6b1

It is likely also that the content of his special collection would have important value later -- and that a number of his items would want to be transferred into special collections of later workers.

6b2

People should similarly be encouraged to form special interest groups that have as short and specialized a duration as may have value to them -- for instance, an ad hoc committee lasting two weeks, serving within some larger group that already has established the sort of group identity and special identification of group dialogue as Jim mentions:

6c

This committee should be able to have a special-dialogue collection limited in its scope to the committee's purpose -- but note that this transient collection would likely want to be a longer-lasting part of the larger-groups special collection; and also that during their intensive collaboration period, the committee would have the same reason for wanting special ease in accessing and citing their dialogue items as Jim now points out would exist for the larger group for whom they are serving with their ad hoc committee.

6c1

Also, in their committee dialogue, they would be very likely to want to include items belonging in the larger-group's dialogue, including some that already exist; and, the special concern of the ad hoc group may well involve reaching outside the normal scope of their larger group to check out activities and possibilities associated with other groups, whereupon their dialogue items may be crossing the boundaries between established groups (what do you use for group ID then?), or even to pull into their special-interest collection journalized items of other groups that pre-date their committee's formation.

6c2

I have assumed that we would find a solution that could help work within special-interest boundaries, and yet accommodate smoothly and with consistent conventions the above type of shifting-collection dynamics that I perceive to be inevitable.

7

Therefore, before we commit ourselves to a solution to the (real and acknowledged) need pointed out by Jim in (18011,), I want to see discussion of the more general problem, together with the plan for accommodating the boundary shifting, the sub-grouping, etc. as it would later occur between and within the special groupings.

7a

On Journal-item Citation Naming; cf. (18011,), (18036,) and (18063,)

A note about approaches, as I can recall them now, that seemed self consistent and feasible:

8

I could never find a sound-appearing approach that did away with a master accession identifier -- e.g. the straight number series now used, or perhaps an identifier mixing publication-date with date-subgroup accession number.

8a

Much of my interest in what I have been calling the "Set-Manipulation System" stems from its potential value in this problem area.

8b

It may well be that any consistent solution that provides citations that are more meaningful to the reader than a pure number, would require cross indexes to be maintained; a very helpful citation-usage convention would be that at the end of each journal item that contained a citation reference (of whatever standard syntax desired) there would be a list equivalent to the "Reference List" in conventional writings that provided more complete data, including information necessary for the the reader if he wished to gain access to the cited material. This list could conventionally provide the master accession identifier to save the reader having to go first to a cross index.

8c

One could assume that an on-line user would be provided with automatic cross indexing between the numerous possible special-group citation identifiers and the accession identifier that led him (the computer) to the cited text. This could get to be rather messy, as groupings and sub-groupings multiplied, split, went out of business, etc.

8c1

Note: Just before I did my final clean-up pass on this memo, I saw Mil Jernigan's memo (18063,), responding to (18011,). Hers are the kind of whole-system considerations that must be integrated -- for instance, see (18063,6). I am sure that someday we will evolve citation provisions that are more satisfying to the users than the current accession number; but I feel that it won't be until either:

9

We are able to handle a good deal more complexity in our in our whole-system design (requiring considerable time and energy), or

9a

We find a neat conceptualization of the conventions and problem solutions that doesn't require the difficult design problems I foresee, or

9b

We accept a much more limited scope of application (which I don't really want to consider.)

9c

On Journal-item Citation Naming; cf. (18011,), (18036,) and (18063,)

(J18132) 31-JUL-73 09:17; Title: Author(s): Douglas C. Engelbart/DCE
; Distribution: /SRI-ARC NP ; Sub-Collections: NP SRI-ARC; Clerk:
DCE ;

Gene Gleissner's SRI-ARC visit: Directions, etc

I assume that Gene Gleissner will be renting a car at the SF airport and driving down to Menlo Park/Palo Alto area...? If not, he might inquire at the airport about limousine service to the particular hotel/motel he chooses. Their availability will depend partly on what time he plans to get into SF. Renting a car seems best for flexibility and after-hours transportation...but it can be done otherwise.

1

We recommend one of two lodging choices:

1a

> a MORE expensive one (\$18 lowest, commercial rate for SRI) ..very nice. air conditioned/pool.. is RICKEY'S HYATT HOUSE HOTEL in south Palo Alto at 4219 El Camino Real, Palo Alto.
Phone: (415) 493-8000.

1a1

This has a several story hotel and also one-story motel units..but not cheap. It is about 8 miles south of Menlo Park..and therefore not as convenient to SRI as the next choice.

1a1a

> a LESS expensive one, (\$14 lowest, commercial rate for SRI) but right in Menlo Park...air conditioned/pool.. the MERMAID INN MOTEL at 727 El Camino Real, Menlo Park.
Phone: (415)323-9481.

1a2

This is within walking distance (4-5 blocks) of SRI.

1a2a

SRI could make reservations if you let us know what you want, the time of arrival, etc. or perhaps Gene will want to make his own arrangements..?

1b

We are located in Engineering building 30, 333 Ravenswood Ave, Menlo Park,, the main SRI "campus". Ravenswood Ave ends at a t-intersection at El Camino Real (at the Guild Theatre) about 2 1/2 blocks West of SRI. That intersection is about 2 blocks North of the Mermaid Inn which is on the West side of El Camino Real. Our building is the first large brick-ended and concrete-sided building one encounters as one goes East on Ravenswood, 1 1/2 blocks past the Southern Pacific railroad tracks. It extends almost out to the street (Ravenswood) and has a parking lot in front..lobby at the East wing.

1c

SRI's telephone number is: (415) 326-6200. My extension is 2124 our secretary's is 3630. My home phone is: (415) 851-0589 if he needs after-hours help..he should feel free to try.

1d

Gene Gleissner's SRI-ARC visit: Directions, etc

(J18133) 31-JUL-73 09:18; Title: Author(s): James C. Norton/JCN;
Distribution: /RLL RWW; Sub-Collections: SRI-ARC; Clerk: JCN;

Reply to Kirk's query comment (18122,)

It seems to me that any advantages obtainable by the implementation of Kirk's suggestion (18122,) that multiple links be permitted in single nodes (i.e., statements) in the Query databases are outweighed by the following considerations (among others):

1. Searches would be facilitated by a single link. In fact, I defy Kirk to come up with a reasonable search algorithm for a multiple link scheme. It seems to me that multiple links contained in a single node may be more adequately implemented using more than one subnode, each with a single link. Conceptually, this is cleaner, and I think, easier to explain to the user, the builders of the data bases, and the system. (No confusion with the "number" of a link within a statement and the "number" of the substatement).

2. I don't feel links should be visible to users of the query data base as a default; rather, they should be hidden cross references useful to the builders of the data trees.

3. I am planning to implement a query data base editing system which would permit the insertion of (properly structured) nodes with names, first lines, text, and/or executable links, executable actions (on the ZOG model.)

4. As far as I can tell, I see no conflict with any DNLS query which may be implemented, though the considerations which led to the "Jump to Mouse" system are, perhaps, not the most important. I again, in this case, feel that trees will be cleaner with single "executable" links (i.e., referring to valid Query nodes) and moreover accomplish any structuring of data desired.

Far be it from me to ignore anyone's suggestions concerning Query. They are all considered and some incorporated in the design. However, in order to permit an orderly implementation of a large system with many uses (query, help, data-base management, CBI tutorials, etc.), some good suggestions must be traded off against other considerations which are perhaps not immediately obvious. I should also point out, however, that any decision is subject to review by the entire query team and to modification by the implementor(s).

Reply to Kirk's query comment (18122,)

(J18134) 31-JUL-73 09:24; Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: /NIC-QUERY NP RWW; Sub-Collections: SRI-ARC NIC-QUERY NP;
Clerk: HGL;

Thanks for the info on U Mich 360/67. It's good to scotch some rumors occasionally.

(J18135) 31-JUL-73 09:46; Title: Author(s): M. R. Leavitt/MRL;
Distribution: /SDC2 JI SSP; Sub-Collections: NIC; Clerk: MRL;

Whither DEX? Why is it withering on the vine?

Whatever happened to DEX-II? I refuse to release it to the running system until we have had extensive tests of its use as a user program with proper modifications. I have said this before repeatedly both in the Journal and in oral conversations. I find the following problems:

1

1. There appears to be persistent problems with the Termicettes which, for one reason or another, never get fixed. If the company is so unresponsive, why do we not cancel their contract? There must be some pressure which can be put on them.

1a

2. No adequate plans to require its use and train some users in its initial (subject to modification) implementation have been proposed. While I am, of course, willing to participate in this aspect of the release, I also feel it is the job of Operations to set up the test conditions and to provide the people and machines and work material.

1b

I am somewhat discouraged by the fact that the experimental DEX-II is not now being used. I am even more discouraged that DEX-1, which does work in itself and which is extremely easy to use in not used regularly primarily for the same reasons: problems with hardware and the lack of pressure on the part of Operations to channel work its way. I am under some pressure to work on Query, Help and the Multi-site Journal, but I do not want to let DEX slide. Any responses? Any suggestions?

2

Whither DEX? Why is it withering on the vine?

(J18136) 31-JUL-73 09:54; Title: Author(s): Harvey G. Lehtman/HGL;
Distribution: /DCE RWW DVN JCN NPG MEH; Sub-Collections: SRI-ARC NPG;
Clerk: HGL;

Listing of Analysis Activity

At the time Larry Roberts visited a month ago, I put together a partial list of analysis activity in bibliographic form with links. Two books were made of hardcopy print-outs, one of which Paul has. 1

There has not been an attempt since that time to keep it up-to-date, but it seems to me that such a reference would be useful, especially as new people join or become interested in analysis. 2

I would be glad to maintain a file of references in my directory, but before it was transferred to Locator I think it would have to be closely scrutinized to make sure we wanted the information to be easily accessible by the network. 3

If the format used before is similar to what you think would be a good form, I'll go ahead and begin adding to it. 4

Listing of Analysis Activity

(J18137) 31-JUL-73 10:17; Title: Author(s): Susan R. Lee/SRL;
Distribution: /PR DCE; Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>BLAP.NLS;1, 31-JUL-73 09:55 SRL ;

None

Jean, I just got your message to John, will relay it.

1

None

(J18138) 31-JUL-73 10:26; Title: Author(s): John C.
Morgenstern/JCM2; Distribution: /JI; Sub-Collections: NIC; Clerk: JCM2;

September Visit to England

Augmentation Research Center
 Stanford Research Institute
 Menlo Park, California 94025

Prof. Brian Randell
 Computing Laboratory
 The University of Newcastle upon Tyne
 Claremont Tower, Claremont Road
 Newcastle upon Tyne NE1 7RU
 ENGLAND

Dear Professor Randell:

A note to tell you of my travel plans, and to ask a few questions of you about the lecturing arrangements. 1

I will arrive in Newcastle Sunday evening or Monday during the day; my travel people aren't yet sure how best to route me, and I want to have a day or so to get my head straight in your time zone and general environment before I impose upon anyone as a lecturer. 2

Could you please tell me where I should go, whom I should contact, etc., upon my arrival in Newcastle? 2a

My topic is one which very much benefits from visual aids. I will have a number of 35-mm slides to show. I would appreciate being able to get my hands on a carousel before each class, so that I can load and check sequencing beforehand. 3

Also, I wonder if you would be able to reproduce some reference handouts to give each attendee? One such item that would be of significant support for my lectures would be the 13-page paper in the AFIPS Conference Proceedings, Volume 42, of the 1973 National Computer Conference, June 4-8, 1973, New York -- "The Augmented Knowledge Workshop," by Engelbart, Watson, and Norton, pages 9-21. Handing out that article would provide very good support; and if some typescript sheets that I might bring along could also be reproduced and distributed, I would be quite grateful. 4

Would you mind informing me of your estimate of the attendance at the Seminar? The way I get set for addressing a group seems to be affected by its size. 5

September Visit to England

I am enjoying the prospects of participating in your Seminar -- speaking, listening to others, meeting your attendees and the other lecturers, and of getting acquainted with your colleagues and University.

6

Sincerely,

Douglas C. Engelbart
Augmentation Research Center

DCE/ndm

September Visit to England

(J18139) 31-JUL-73 11:14; Title: Author(s): Douglas C.
Engelbart/DCE; Distribution: /; Sub-Collections: SRI-ARC; Clerk: NDM;
Origin: <ENGELBART>LRANDELL.NLS;6, 31-JUL-73 11:02 NDM ;

HELLO

You do not know me but I work here with Sullivan. We tried to reach you several times -- nothing important. Saw your picture in the Mitre Matrix. Say, what is this about a program to learn Chinese characters?

1

HELLO

(J18140) 31-JUL-73 12:41; Title: Author(s): John C.
Morgenstern/JCM2; Distribution: /SSP; Sub-Collections: NIC; Clerk: JCM2;

Hello Again

That last message was from Lorna Cheng. This one is from Joe S.
Confusing enough??

1

Hello Again

(J18141) 31-JUL-73 12:49; Title: Author(s): John C.
Morgenstern/JCM2; Distribution: /SSP; Sub-Collections: NIC; Clerk: JCM2;

response to 18019

please consider my name for entry in the group of people concerned
with editing ngg documents.
the notes of the last meeting looked fine to me and as far as im
concerned you can go ahead and distribute them.

1

response to 18019

(J18142) 31-JUL-73 12:59; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Distribution: /JCM; Sub-Collections: SRI-ARC; Clerk: KEV;

General

1

Please accept the following comments in the spirit in which they are offered, a sincere desire for ARC to put forward the best, most acceptable, most knowledgeable, and most fulfillable proposal.

1a

The steps to be taken in NIC evolution which are to substantially increase interactive services seem right on target. Also, programming support for needed changes. Whether support of an analysis team will seem a good tradeoff for direct service the sponsor's money could buy is a question. ARPA may not be interested in funding user needs studies of that nature.

1b

On NIC Roles and Goals Statements

2

Would it not be possible to indicate the evolution of NIC's roles and goals without finding its framework to be "outdated" and its situation to need "rectifying"? It would seem to be possible to evolve toward a good goal without invalidating past efforts or implying a change in ARC direction. Sounds like we're promoting NIC growth and development like a new brand of toothpaste.

2a

Cost-Benefit Principle

3

The usual evolution of an information service is from a small, customized service for a small user group to a more generalized service for a larger group. As it gets larger, the service becomes more organized and less customized, to increase the cost-benefit ratio of any specific activity.

3a

If NIC cannot afford to supply basic, bulk, information products, it goes against normally-accepted cost-benefit principles that it can supply personalized service. The question of the suitability of any particular bulk service is a separate one. The supermarket may need to measure how various goods are moving, but adopting the operations of the Ma and Pa grocery won't bring the cost down.

3b

Analysis and Experiment

4

Part of the analysis on which future service is designed might be based on an experiment with personalized information service, before a decision is made to drop any generalized service and replace it with an unknown. The jump from cost analysis of an existing situation to benefit conclusions of an untried situation might appear like poor management.

4a

Types of Information

5

Information can be grouped in many classes, and the division between historical and recent is no more appropriate than recorded and unrecorded, and is less distinct. A more useful concept is the difference between references and information. In no case does a clear 0 - 1 distinction hold, and I don't see the usefulness of making a distinction. Better to indicate provision for all likely information needs, and indicate the design will be tailored to the needs. It may not be apparent to the requestor whether the answer to his question will be found in one place or another, and the answerer may not know where until the answer is found, and it really doesn't matter.

5a

Traditional Information Centers

6

The term seems pejorative, but otherwise indefinite. One celebrated traditional information center type, circa 1910, is the lady whose resources were the telephone and the World Almanac, which bears some resemblance to NIC evolutionary plans.

6a

We are safer saying what we're going to do that's good, without saying what we're not going to do that's supposedly bad.

6b

Comments on Draft of App. D to Proposal

JBN 31-JUL-73 13:49 18143
JBN 1 AUG 73 5:50AM

(J18143) 31-JUL-73 13:49; Title: Author(s): Jeanne B. North/JBN;
Distribution: /MDK RWW PR JAKE JEW; Sub-Collections: SRIARC NIC ; Clerk:
JBN;
Origin: <NORTH>PROPCOM.NLS;1, 31-JUL-73 11:55 JBN ;

NLS AT BBN

THE VERSION OF NLS AT BBN (<VICTOR>NLS.SAV;2) IS NOT ACCESSIBLE SINCE IT WILL NOT ACCEPT ANY IDENTIS. THE USE OF CARRIAGE RETURN AS AN IDENT RESULTS IN IDENT= BEING PRINTED AGAIN; THE USE OF AN IDENT STRING (E.G. MCG) RESULTS IN ILLEG INST 0 AT 145032. SINCE VERSION SAV;1 USED TO WORK IN THIS REGARD, I ASSUME AN ERROR WAS INTRODUCED WHEN SOME OTHER ERRORS IN SAV;1 WERE FIXED. WE WOULD LIKE TO USE NLS LOCALLY FOR TEACHING PURPOSES AND HOPE YOU CAN MAKE IT ACCESSIBLE SOON.

1

NLS AT BBN

(J18144) 31-JUL-73 13:52; Title: Author(s): Laura E. Gould/LEG;
Distribution: /CHI; Sub-Collections: NIC; Clerk: LEG;

Response to 18069: Attaching Comments to a Journal Item

Nancy, thanks for the note about comments with Idents. I fixed the problem. Dave Hopper is fazing out of the Journal and Jim White is fazing in. You should feel free to direct comments toward any of us. -- Charles.

1

Response to 18069: Attaching Comments to a Journal Item

(J18145) 31-JUL-73 13:53; Title: Author(s): Charles H. Irby/CHI;
Distribution: /NJN BUGS; Sub-Collections: SRI-ARC BUGS; Clerk: CHI;

Proposed Number System Changes

Having read responses from DCE and MEJ to Jim White's proposed changes in the number system, I would like to point out that the adoption of a prefix system does not necessarily require that it be closely related to our use of subcollections.

1

I think that if we adopt a master number system involving prefixes as proposed, its basic function should continue to be the same as the current system.

2

A number from the master number system:

3

Provides:

3a

A unique handle for accessing and reference

3a1

Does Not (inherently) Provide Information about

3b

it's content

3b1

Who sent it

3b2

Where it was sent from

3b3

Where it is stored or cataloged

3b4

When it was sent

3b5

Prefix System:

4

Disadvantages:

4a

Separate numbers systems such as the current RFC system may be more confusing to use unless we find a way to easily distinguish a number from the master system from one from a smaller system.

4a1

It may not be so easy as it is now to distinguish a "number" from other file names.

4a2

The almost time-sequential character of the hard copy files and number catalogs would be lost.

4a3

People will tend to equate number prefixes with subcollections. The distinction will require continuing explanation and justification.

4a4

Advantages:

4b

Proposed Number System Changes

Number sequences can be used for one particular grouping of documents by an individual or group. 4b1

The significance of such a grouping is completely arbitrary. This significance should be of no concern to any machinery in the system, including the cataloging processes. 4b1a

(except that a catalog sorted by number will obviously group prefixes) 4b1a1

Separate number systems such as the current RFC system may be unnecessary. 4b2

For a large number of items, the prefix system will keep number lengths more managable. 4b3

This is of considerable importance as we look to a network-wide system. 4b3a

Proposed Number System Changes

(J18146) 31-JUL-73 13:55; Title: Author(s): J. D. Hopper/JDH;
Distribution: /SRI-ARC; Sub-Collections: SRI-ARC; Clerk: JDH;
Origin: <HOPPER>NUMBER.NLS;2, 31-JUL-73 13:52 JDH ;

reenabling for intercept

Having used a TIP for the first time this last week, i am in complete sympathy with your request for a reenable for intercept facility. However, since the normal mode for running DNLS over a TIP on an IMLAC is both INTERCEPT NONE and BINARY OUTPUT, i am at a loss as to how to implement such a facility. If you can come up with a practical method for doing this, i will galdly implement it. (sorry for the long delays in responding to your requests, but the IMLAC is low down in interest level and priority here in comparason to some other things. please continue to comment and we will eventually get around to responding to all inputs. thanx)

1

reenabling for intercept

(J18147) 31-JUL-73 13:58; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Distribution: /DHC; Sub-Collections: SRI-ARC; Clerk: KEV;

YOU HAVE A MESSAGE problem

I have never seen the problem you mentioned with regards to the YOU HAVE A MESSAGE message. If this problem still exists (nothing has changed since your message) and was not just a fluke of a month ago, please notify me again and i will look into it as soon as i can.
thanx

1

KEV 31-JUL-73 14:02 18148

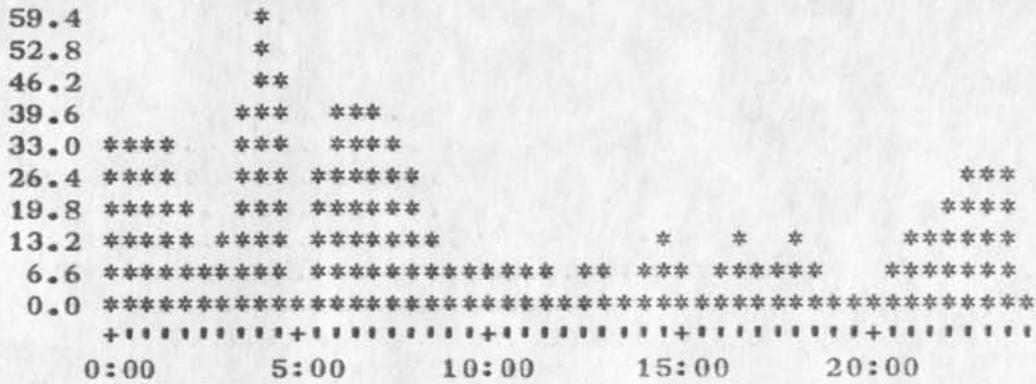
YOU HAVE A MESSAGE problem

(J18148) 31-JUL-73 14:02; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Distribution: /MDK; Sub-Collections: SRI-ARC; Clerk: KEV;

Superwatch Average Graphs for Week of 7/23/73

TIME PLOT OF AVERAGE IDLE TIME FOR WEEK OF 7/23/73
x axis labeled in units of hr:min, xunit = 30 minutes

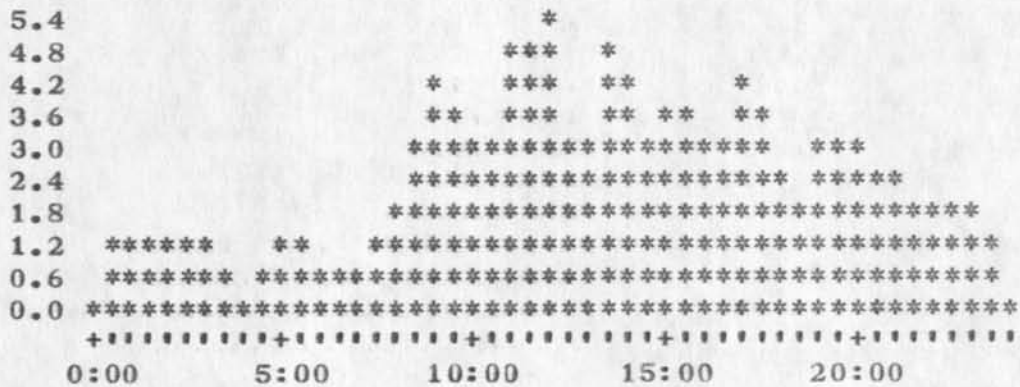
1



1a

TIME PLOT OF AVERAGE NUMBER OF GO JOBS FOR WEEK OF 7/23/73
x axis labeled in units of hr:min, xunit = 30 minutes

2

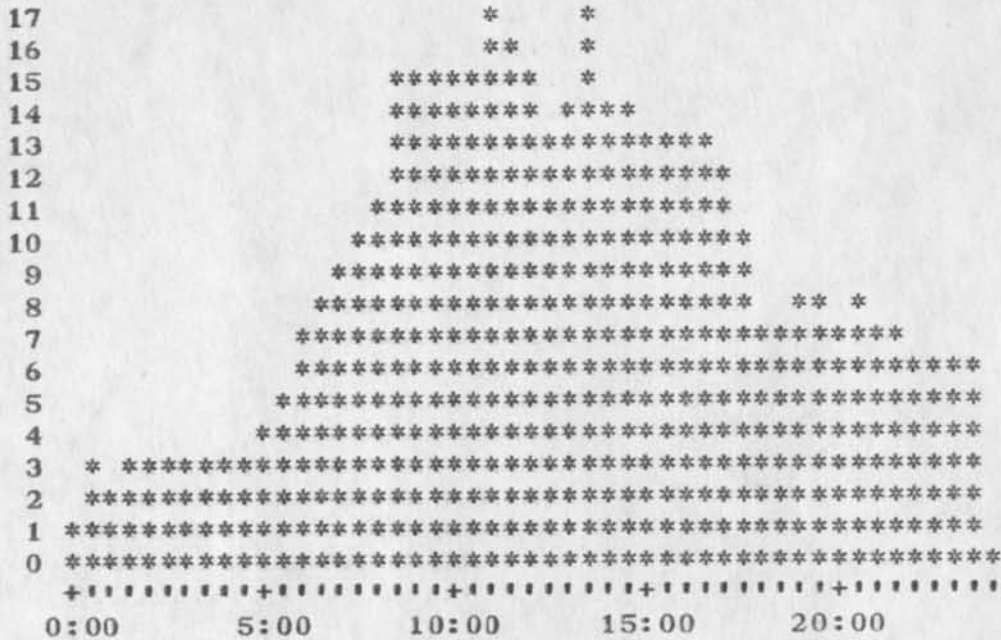


2a

Superwatch Average Graphs for Week of 7/23/73

TIME PLOT OF AVERAGE NUMBER OF USERS FOR WEEK OF 7/23/73
x axis labeled in units of hr:min, xunit = 30 minutes

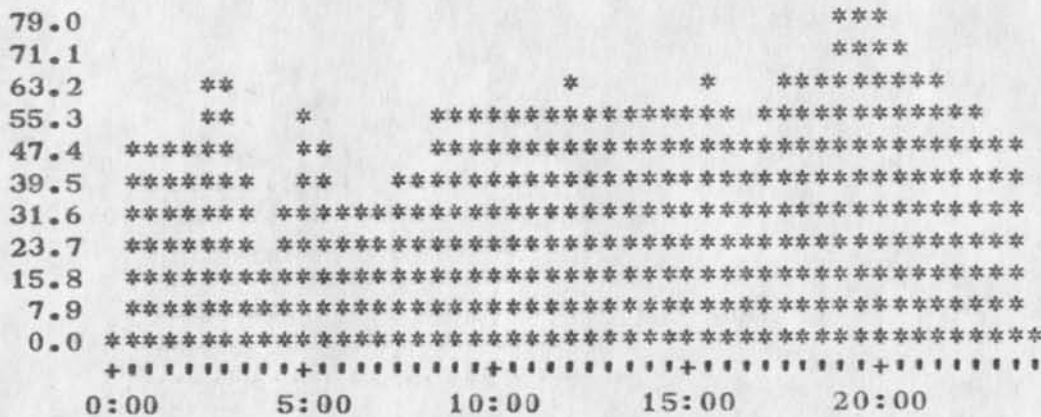
3



3a

TIME PLOT OF AVERAGE PER CENT OF CPU TIME CHARGED TO USER ACCOUNTS
FOR WEEK OF 7/23/73
x axis labeled in units of hr:min, xunit = 30 minutes

4

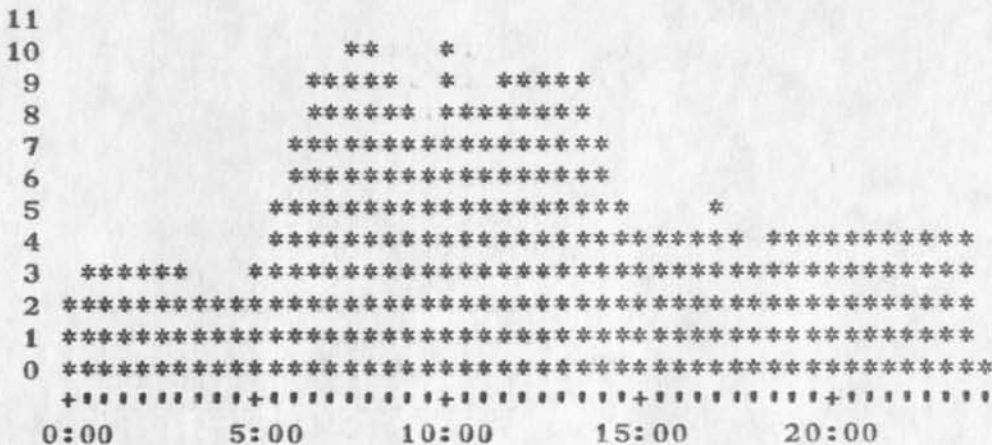


4a

Superwatch Average Graphs for Week of 7/23/73

TIME PLOT OF AVERAGE NUMBER OF NETWORK USERS FOR WEEK OF 7/23/73
x axis labeled in units of hr:min, xunit = 30 minutes

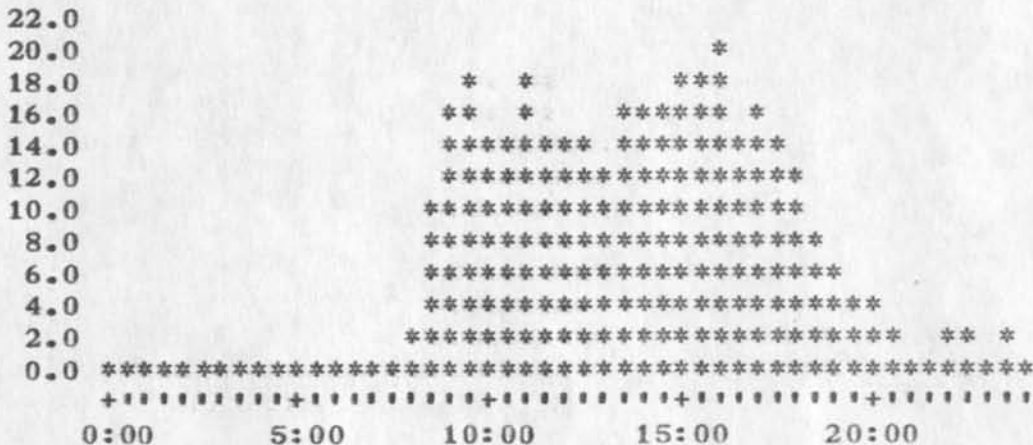
5



5a

TIME PLOT OF AVERAGE PER CENT OF SYSTEM USED IN DNLS FOR WEEK OF 7/23/73
x axis labeled in units of hr:min, xunit = 30 minutes

6



6a

Superwatch Average Graphs for Week of 7/23/73

(J18149) 31-JUL-73 14:16; Title: Author(s): Susan R. Lee/SRL;
Distribution: /JCN RWW DCE PR DCW JCP DVN JAKE CFD KIRK DLS BAH;
Sub-Collections: SRI-ARC; Clerk: SRL;
Origin: <LEE>WEEK7/23GRAPHS.NLS;4, 31-JUL-73 14:14 SRL ;

keeping people up to date

With regards to keeping people aware of current documentation with respect to network graphics and protocols the following seems to be the only available approach at this time:

1

A single RFC which will not change which contains a link to a file

1a

This file will be an up-to-date table of contents and will contain links to the appropriate files, and perhaps an abstract of the file

1b

The referenced files could themselves be RFCs or working files in a directory

1c

Both the table of contents file and working referenced files should perhaps reside in a files only directory with the appropriate TENEX grouping conventions

1d

keeping people up to date

(J18150) 31-JUL-73 15:12; Title: Author(s): Kenneth E. (Ken)
Victor/KEV; Distribution: /JCM; Sub-Collections: SRI-ARC; Clerk: KEV;

Response to Harveys considerations (18134,)

The purpose of this message is to address Harveys considerations one by one as expressed in (18134,) and to further state my opinion that allowing the basic query command to access only one link per statement is a mistake.

1

1. By "defying" me to come up with a reasonable search algorithm for a multiple link scheme, does Harvey mean to say that it can't be done? Searches could be limited to the first link in the statement if this would facilitate them. I see no reason why accessing other links after the first (when specified) must be prevented. Forcing additional links to appear as subnodes destroys either the ability to access alternate structural definitions and references or else it destroys the ability to have each change in structure represent a specific conceptual entity or meaning (see -- kelley, file, statements :w). Conceptually, having this distinction would be cleaner, easier to explain to the user, the builders of the data bases, and the system.

1a

The "number" of a link can be easily differentiated from the "number" of the substatement by using the DAE convention or by using the current TNLS convention.

1a1

2. There is no reason why allowing multiple links in a statement would keep builders of data trees from using links exclusively for hidden cross references. It does however, give the builders of data bushes the option to use links for many purposes without forcing them into one restricted use.

1b

3. As far as I can tell, I see no conflict with any query data base editing system. I again, in this case, feel that trees will be cleaner with single conceptual meanings for the use of substructure and that this is one important way of structuring data that the restriction to one link per "Query Node" would essentially eliminate.

1c

4. I am sorry that Harvey does not appreciate the usefulness of the "Jump to Mouse" command as a DNLS Query language and therefore, cannot see how databases conforming to his restrictions would not be compatible.

1d

I feel handicapped in attempting to carry on a dialog of this sort exclusively through the journal. However, since I have not been able to attend any of the meetings that have led to the decisions that prompted my comment (18122,) and I have not been able to participate in the implementation of these decisions, the journal seems to be the best avenue available.

2

Response to Harveys considerations (18134,)

(J18151) 31-JUL-73 15:50; Title: Author(s): Kirk E. Kelley/KIRK ;
Distribution: /NIC-QUERY NP ; Sub-Collections: SRI-ARC NIC-QUERY NP;
Clerk: KIRK ;

DRAFT of TNLS Primer and Laura Gould's Comments

This item contains a copy of the TNLS Primer as it stood 7/31/73 and Laura Gould's (JJOURNAL, 17576, 1:w) comments on the slightly different draft she saw in Boston in the week of June 18.

The Primer

PRIMER AND SCENARIO FOR USING TNLS

NLS is an online interactive computer system that has facilities to let you do almost everything you need to be able to do with text: compose it; edit it; send it to (and receive it from) other persons; file it in one or more categories; reference and easily obtain documents; search for documents by author and subject; search in documents by word or phrase; and print in practically any format.

This primer attempts to demonstrate a very basic subset of the full NLS command repertoire via a TNLS scenario (TNLS is the typewriter version of NLS). The example chosen for the scenario is very common to NLS usage - writing a memo, editing it, and distributing it to other persons. Although this scenario performs a specific function, the reader is given notes at each step which generalize the operation. Given this scenario as a model, the inexperienced user should be able to perform any of the operations described here and refer to the full NLS documentation set for more information about the system.

Throughout this scenario, information to be entered by the user is shown in lowercase and underlined or, in the case of special keys, enclosed in brackets, e.g., <sp> means to hit the Space key. Information printed by the system is shown in uppercase.

YOU CAN GET HELP IN TNLS FROM THE SYSTEM BY TYPING A QUESTION MARK "?".

1. To identify yourself to the TENEX system at SRI-ARC, type:

```
@login<cr>
```

"@" signals that TENEX is waiting for the user to give a command; "cr" is the Return or Carriage Return key on your terminal.

```
(USER):guest<cr>
(PASSWORD):arc<cr>
```

DRAFT of TNLS Primer and Laura Gould's Comments

(ACCOUNT #):<cr>
 JOB # TTY # DATE DATE

2a5b

The special identifiers (guest, arc) are used by persons unknown to the system; once you are established as a user, you will have your own identifiers.

2a5b1

2. To enter the TNLS system:

2a6

@nls<cr>

2a6a

Once you enter TNLS, the system will print its ready signal "*".

2a6a1

3. Since you are going to write a memo, you will need an empty file (or workspace) in which to put it. You give the file a name so that you can subsequently access it over multiple NLS sessions.

2a7

*NULL FILE F: memo<cr>

2a7a

You now have a new and empty file named MEMO. This name is arbitrarily chosen and unique to the "guest" collection of files. Filenames may be any sequence of letters and digits beginning with a letter.

2a7a1

Notice that with this and all TNLS commands described here, you only have to type the first letter of a command word and the system automatically supplies the remainder with prompts for the kind of user input needed. In any TNLS command "F:" means that you should respond with a filename.

2a7a2

If you leave the system without finishing your work, you can retrieve it (or any other stored file) in TNLS by using a similar command, Load File.

2a7a3

*LOAD FILE F: memo<cr>

2a7a3a

4. Now that you have created MEMO, the system has already inserted some information at the file's beginning or at statement 01 (referenced in commands as ".01"). Statement 01 identifies MEMO to NLS and is virtually unused by you except as a means of referencing the beginning of the file. To see the statement you are at currently, i.e., statement 01, type:

2a8

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*
 <GUEST>MEMO.NLS;1, date time ARGC; 2a8a

5. You begin writing your memo by inserting a statement into the file MEMO starting after statement 01. Statements are comparable to paragraphs of text with appropriate spacing at the ends of lines automatically supplied by the system. 2a9

*INSERT sSTATEMENT After A: .01<cr> L:<cr>
 T: Contradictions have been alledged in our description of the elephant.<cr> 2a9a

As in Step 3 you are prompted for specific types of input, in this case "A:" asks you for an address, "T:" for text, and "L:" for an optional element not covered in this document. 2a9a1

After this command is executed, the statement "Contradictions have been..." is inserted after statement 01, i.e., at the beginning of the file, and assigned the SID (statement identifier) 02. 2a9a2

All statements in a file are numbered by NLS in order of their creation. These numbers never change. 2a9a2a

6. Since SID's are invaluable for keeping track of what statements are where, you will want to see them as you work on your file. 2a10

*VIEW SPECS cCHANGE mI<cr> 2a10a

This command accepts codes that control the "view" you have of your memo; "mI" enables you to see SID's. 2a10a1

7. As you enter statements into the file, you will periodically want to check how the memo looks as you go along. You can look at all or part of your file by printing it. To see only the statement you are at currently: 2a11

*
 02 Contradictions have been alledged in our description of the elephant. 2a11a

Later on when there are more statements in your file you can see more by using the Print command, described in step 13. 2a11a1

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8. Step 5 showed you how to enter one statement; more commonly, you will want to enter several statements, one after the other. Instead of repeating the Insert Statement command for each new statement, you can terminate the command with the character "<esc>" (<esc> is the ESCAPE, ESC, ALT, or ALTMODE key on your terminal) which tells the system to terminate the current statement and start a new one after it. In this way, you can enter any number of statements, terminating all but the last with an "<esc>" and the last with a "<cr>". Add (after statement 02) three more statements to your file, completing the rough draft of your memo.

2a12

```
*INSERT STATEMENT AFTER A: .02<cr> L:<cr>
  T: The review meeting will be at 3:00 <esc> L:<cr>
  T: Only wise, blind men should attend.<esc> L:<cr>
  T: A recurcive redefinition plan should imerge.<cr>
```

2a12a

9. You have now completed a rough draft of your memo and want to check it for completeness, typing errors, etc. To review the content of the file you use the Print command. The Print command shown in Step 10 starts printing from the current statement to the end of the file, so you should first return to the beginning of the file before you use it. (Other versions of the Print command are described below). The command for moving to the first statement you wrote (statement 02) is:

2a13

```
*<sp> A: .02<cr>
```

2a13a

You may similarly "move" to any statement in the file simply by typing a Space, "<sp>", followed by a period and an SID.

2a13a1

10. You can now print the entire content of your memo:

2a14

```
*pRINT <cr>
```

2a14a

```
02 Contradictions have been alledged in our description of
the elephant.
```

```
03 The review meeting will be at 3:00
```

```
04 Only wise, blind men should attend.
```

```
05 A recurcive redefinition plan should imerge.
```

2a14b

11. Now you might decide that statement 04 is superfluous. To delete statement 04:

2a15

DRAFT of TNLS Primer and Laura Gould's Comments

*DELETE sTATEMENT AT A: .04<cr> OK?<cr>

2a15a

12. You also decide to add text to the end of statement 03. To do so you use a command virtually identical to the insert statement command.

2a16

*INSERT tEXT AFTER A: .03<sp>><cr>
T:<sp>in the project room.<cr>

2a16a

The significant difference in this command from the version you used to insert statements is that you have to specify where in the statement you want the text to be inserted. The symbol ">" after the SID and "<sp>" tells the system to insert the text specified at the end of that statement.

2a16a1

">" is a convenient way for specifying the end of a statement. However, if you want to insert text elsewhere in the statement you must specify exactly where. The easiest way to do this is to reference the place of insertion by content. Thus instead of using ">" you might have specified "[3:00]" with identical results. Note that the specific intrastatement location follows the SID and is separated from it by a space. TNLS "reads" addresses from left to right.

2a16a2

13. Look at statement 03 to check your addition:

2a17

*
03 The review meeting will be at 3:00 in the project room.

2a17a

14. At this point you are ready to check your file for minor errors. Print it again as you did in Steps 9 and 10:

2a18

*<sp> A: .02<cr>

2a18a

*pRINT <cr>

2a18b

02 Contradictions have been alledged in our description of the elephant.

03 The review meeting will be at 3:00 in the project room.

05 A recurive redefinition plan should imerge.

2a18c

15. The most convenient way to correct the kinds of typographical errors found in this memo is by the Substitute Text command. This coamand asks you for the correct text and

DRAFT of TNLS Primer and Laura Gould's Comments

then the text you want replaced (or substituted for). You may specify only one change or several without repeating the command. Statement 05 contains two misspellings:

2a19

```
*sUBSTITUTE tEXt
NEW T: sive<cr> FOR OLD T: cive<cr> FINISHED?nO
NEW T: eme<cr> FOR OLD T: ime<cr> FINISHED?<cr> YES
IN sTATEMENT A: .05 <cr>
NUMBER OF SUBSTITUTIONS = 2
```

2a19a

Use this command cautiously. You must eliminate ambiguities and avoid causing the system to make substitutions that you don't want. For example in the first substitution if you had specified "e" for "i" instead of "eme" for "ime", the system would have changed ALL occurrences of the the letter "i". Make the text string unique to eliminate such unwanted results.

2a19a1

16. Check statement 05:

2a20

*

2a20a

05 A recursive redefinition plan should emerge.

2a20b

17. The memo is finished and you want to make a fresh copy of your file.

2a21

```
*uPDATE FILE oLD VERSION <cr>
```

2a21a

18. A very abbreviated Journal session is shown here to enable you to send MEMO to a specific distribution list. NLS has a very sophisticated system for sending, distributing, cataloging, indexing, and storing documents (files). However, most of these steps are done automatically (and invisibly) for you through the Journal system.

2a22

```
*eXECUTE JOURNAL
EsUBMIT FILE AT A: <cr>
EsTITLE: T: Elephant Meeting<cr>
EsdISTRIBUTION: I: dvn<sp>I: srl<cr>
EsGO?<cr>
JOURNAL SYSTEM IN PROGRESS
COMPLETED
```

*

2a22a

"E" and "Es" are Journal ready signals.

2a22a1

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The user IDENTs (the same kind of IDENT you specified in step 1) indicate personnel at the NIC. This list may be any length and multiple IDENTs must be separated by spaces or commas.

2a22a2

When the Journal completes processing, it automatically returns you to the TNLS command level when it prompts the TNLS ready signal "*".

2a22a3

19. Having completed your work, you leave the TNLS system:

2a23

*QUIT <cr>

2a23a

@

2a23b

20. You are now at the TENEX level. The file you just created in NLS has been submitted to the Journal, and a copy has been made for cataloging and future reference purposes. It is not necessary (although permissible) for you to maintain your duplicate version of the file. Files may be deleted only at the TENEX level. To delete the file, type:

2a24

@delete<sp>memo<esc><cr>

2a24a

21. Your work session is over and you leave the system:

2a25

@logout<cr>

2a25a

YOUR TNLS COMMAND VOCABULARY AT THIS POINT AND SOME EASY EXTENSIONS TO IT

2b

File Manipulation Commands

2b1

Null File - creates a new file

2b1a

Update File - makes a fresh copy of the file

2b1b

Load File - accesses a previously saved file

2b1c

Creating Text

2b2

Insert Statement

2b2a

Insert Text

2b2b

DRAFT of TNLS Primer and Laura Gould's Comments

Try Insert Word - the text you type is inserted after the word you specify and a system-supplied space is automatically inserted before your text.

2b2b1

Editing

2b3

Delete statement

2b3a

Try Delete Group - it enables you to delete sets of statements and requires that you specify the beginning and end of the sequential group of statements you want deleted.

2b3a1

Try Delete Text - it requires that you specify the beginning and ending locations of the text you want deleted.

2b3a2

Try Delete Word - you only have to specify one location anywhere in the word you want deleted and spaces, periods, commas, etc. are handled appropriately.

2b3a3

Substitute Statement

2b3b

Try Substitute Group - it requires that you specify the first and last statements in the group but enables you to edit multiple statements with one command.

2b3b1

Moving Around In The File

2b4

<sp> A: addr<cr> - moves you to the address specified by ADDR.

2b4a

The ways you have learned to address are:

2b4a1

whole statements by SID's (preceded by a period);

2b4a1a

within statements by ">" for end of statement, and by content "[text]", which searches for text in the remainder of the file and if found moves you to the last character of the text you specify.

2b4a1b

Try ";text;" to limit the content search to one statement.

2b4a1c

Seeing Your File

2b5

- prints the current statement

2b5a

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Try <lf> to print the next statement (<lf> is the Line Feed or LF key on your terminal.

2b5a1

Print - prints from your current statement to the end of the file.

2b5b

Try Print Statement - it is similar to the " " command used in Step 6 except that it allows you to specify the address of the (single) statement to be printed and (optionally) certain viewcontrol codes such as the one you used in Step 5 to see SID's.

2b5b1

Sending Your File To Other Persons

2b6

Execute Journal Submit File

2b6a

Title - gives your item a title

2b6a1

Distribution - specifies to whom the item will be sent

2b6a2

Entering/Leaving NLS and TENEX

2b7

Login - accesses the TENEX system

2b7a

NLS - accesses NLS from Tenex

2b7b

Quit - leaves NLS and returns to Tenex

2b7c

Logout - leaves the Tenex system from Tenex

2b7d

Try Execute Logout from NLS to logout directly from NLS

2b7d1

Troubles with Primer

3

Inaccuracies, due to haste of preparation, cause students to have considerable difficulties -- especially wrong prompts, missing periods before statement numbers.

3a

Proposal that students should read entire primer before proceeding seems wrong; a primer should be designed to be used a little at a time, providing help step by step along the way.

3b

Step 2 and ff. The prompt sign, produced by TENEX or by NLS, is not differentiated sufficiently from the command which follows it so it's not clear from the writeup whether the user is supposed to type it or not.

3c

It is really difficult to see the lower case letters mixed in with

DRAFT of TNLS Primer and Laura Gould's Comments

the upper case letters, so it's hard for the student to see what he's supposed to type.

3d

Step 3. The phrase "only have to type the first letter" implies that one is allowed to type more, but that's not true.

3e

Step 3. Describing the command as Load File and then showing the entity as LOAD FILE is particularly confusing. This convention continues throughout the document.

3f

Step 5. After should read AFTER. The prompt L: should appear on the following line. The convention about everything the user types being lower case rather than upper case breaks down with the introduction of upper and lower case text. (It will also fail with the introduction of upper case view specs.)

3g

Step 5. In step 4, statement 0 is referred to as "the file's beginning." In step 5, statement 1 is described as being inserted after statement 0, "i.e. at the beginning of the file." This presents a contradiction.

3h

Page 3. Since structure is such an essential element of an NLS file, it is surprising that the concept of level is not introduced sooner; at least one up and one down could be easily managed it would seem.

3i

Step 7. The backslash command is introduced for the second time, with no acknowledgement of the fact that it's been introduced before; therefore it seems like a new thing to learn.

3j

Step 12. This command is very confusing to read. Perhaps some other symbols besides angle brackets should be used around sp and cr to prevent confusion.

3k

Step 15. FINISHED? is not the current prompt; GO? is. The user should be specifically warned against following his n with a carriage return; the y of YES should be lower case.

3l

Step 15. The fact that this is described as the "substitute text" command and then is displayed as "substitute statement" is very confusing. The fact that the term statement refers to the range of the substitution is never pointed out.

3m

Step 17. update old should be eliminated from the system, not taught to new users. In any event, the f of file is not typed by the user.

3n

Page 7. Null File, Update File and Load File are listed together as similar commands in similar format. No indication is given that

DRAFT of TNL5 Primer and Laura Gould's Comments

the first two demand a single character only, while the last is actually l f. Nor is there any indication that update does not accept a filename as an argument.

3o

Page 7. "group" is a technical term which is not defined.

3p

Page 7. Why not introduce the literals in angle brackets as well as the literals in square brackets. Once you've done one, the other is practically free for nothing.

3q

Page 8. Submit File should be presented as subsidiary to Execute Journal, rather than just listed on the same line.

3r

The two-page presentation of commands at the end of the primer is very helpful.

3s

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(J18152) 31-JUL-73 16:11; Title: Author(s): Dirk H. Van Nouhuys/DVN;
Distribution: /LEG SM3 MDK JMB; Sub-Collections: SRI-ARC DPCS; Clerk:
DVN;
Origin: <VANNOUHUYS>PRIMERPROBS.NLS;2, 31-JUL-73 16:06 DVN ;