

General Delivery

Editorial Comments

Barbara Beeton

Comings and goings

The TUG Board of Directors has recently received the following message from Jim Fox, erstwhile Site Coordinator for CDC Cyber:

As I no longer have a CDC Cyber with which to work, and have not had any requests for Cyber T_EX in a couple of years, I feel that I can no longer be considered the CDC Cyber site coordinator for TUG.

In the same message, Jim resigned from the Board as well. I'd just like to thank him publicly for his efforts in TUG's behalf during his tenure.

Shawn Farrell has also resigned from the Board, explaining that he had left McGill for a new job. Shawn was largely responsible for the local arrangements for the Montréal meeting in 1988, a most enjoyable event. Thanks to you too, Shawn, and best wishes for success in your new job.

Challenges

I find several thought-provoking comments on weaknesses in the support structure for T_EX in Liz Barnhart's summary of responses to a questionnaire on the experiences of T_EX users in production environments (see below; the questionnaire appeared in *TUGboat* 9, no. 2).

It appears that users feel largely on their own when it comes to learning T_EX, solving problems and searching for support. This is the down side of T_EX's status as public domain software. Everyone expects to pay, sometimes quite large sums, for proprietary software, and for associated training and support. But for "free" software, no matter how complicated or how high the quality, it is somehow expected that the price of training and support will be likewise very low in price. In fact, there should be room for both options: low-cost but time-intensive, and ready-made but for a price.

Opportunities for volunteers. A middle ground exists because volunteers are willing to help out. While access to volunteers is relatively available

over the electronic networks, many T_EX users aren't fortunate enough to have network access. And, as the number of good personal computer implementations of T_EX increases, the number of "isolated" users is likely to increase as well. Liz has mentioned a local group that she helped to organize, and that is a useful approach. (The TUG office may be able to help; get in touch with Ray Goucher or Charlotte Laurendeau.)

A place for consultants. But volunteer activity doesn't really solve the problem of how to develop major new applications. Although the number of self-help guides and similar publications is increasing, tackling such a project means that you must either master T_EX yourself, or find help. If the project schedule doesn't permit time for your education, an inquiry to the usual sources (T_EXhax et al.) doesn't yield any leads, and there isn't a good local source of T_EX talent, then it may be advisable to obtain the services of a consultant. This will cost money, of course, but for any project of substantial size, it may cost less and will almost certainly take less time than trial and error. If you are prepared with a complete and precise statement of the specs for the job, a firm schedule, and a determination to make as few changes as possible after work has started, you will not only minimize the cost, but gain the consultant's respect, and willingness to work with you again. And, if you require as part of the initial specs that the macro package written for your project include thorough documentation, then you also have the opportunity of furthering your education by studying it. The TUG office keeps a list of consultants who can be called on when an inquiry involves more than a quick answer; the list is also published with every edition or supplement of the membership list, and qualified additions are always welcome.

Help for beginners — a plea. For those users who are just starting out, and really want to learn T_EX well, the legitimate criticism has been made that *TUGboat* contains very little material intended for beginners. To this criticism I respond that *TUGboat* can only publish what is submitted, and there seem to be few aspiring authors who are writing for this audience. If you happen to be such a person, please prove me wrong, and send in your contribution.

TeX in the Production Environment — Questionnaire Responses

Elizabeth M. Barnhart

Why the Questionnaire?

Over a year ago I put a questionnaire in *TUGboat* 9, no. 2 asking non-academic users about their dealings with TeX and many related aspects. I was interested in finding out what problems other TeX users operating in a production environment had, and how they solved those problems.

First I have to start by thanking the people who took the time to return the questionnaire. The responses came from all over the world—17 states as well as Australia, Canada, Denmark, France, Finland, Great Britain, Israel, the Netherlands, Singapore, Spain, Switzerland, and West Germany—and gave quite a variety of “flavors” of TeX use, and problems.

Response was better than expected, with a total of 60 people returning questionnaires. Some people are so much into what they can do with TeX that a number of them even sent samples of output. Of course there were people who set up their responses in TeX, even using the “check mark” from the math font to mark their responses.

Responses went from intense hatred to complete infatuation with TeX. As you read the responses, you will find that some of the feedback contradicts other answers (“One man’s meat is another man’s poison”), and other answers were obviously made because the user was unaware of tools that have been introduced on the TeX market in recent times.

I really enjoyed reading each questionnaire as it turned out to be sort of a therapy session for me. “I’ve been there!” Some of the good-hearted humor was appreciated, for example

Question: “What sources of support did you use?”

Response: “Sweat” and “Hours of Trial and Error”

or —

Question: “What do you think are TeX’s weak points?”

Response: “I won’t live long enough to master it.”

The Responses

The percentages represented under a number of topics will not always add up to 100%. Several questions allowed for multiple responses, so the percentages represent a value in relation to the 60 respondents.

Please note: The “bulleted” items represent direct quotes taken from the questionnaire responses. Although some of the statements are inaccurate, the wording of the text taken from the responses has not been changed.

Regarding the content of the responses, please note that, although I have had many similar experiences, “the opinions expressed here do not necessarily reflect those of the management.” I have tried to give a sample of all types of responses so this will present both positive and negative aspects of working with TeX in a production environment.

The questions can be categorized roughly as follows:

1,2	Areas of interest and use
3,4	Hardware environment
5,7	Training, expertise
8	Macro packages
9,10	Fonts
11,14,15	Problems, weaknesses
12	Initial encounters
13	Strengths
16,17	Resources
18	Future involvement

Here goes ...

1. What typeset product is the main output of your organization?

The most popular type of page output being produced by the people responding to the questionnaire was for technical books and journals, taking advantage of TeX’s ability to produce high quality math.

Technical Books	46%
Journal	36%
Internal Documents	26%
Magazine	11%
General Topic Books	10%
Forms	10%
Directories	8%
Newspaper	6%
Labels	3%
Other	35%

Of those who responded “other,” the most common work was Training Materials and User Manuals as well as Technical and Software Manuals. In addition, the participants indicated using TeX to produce the following other types of output: Articles, Dictionaries, Documentation, Legal documents, Letters, Mathematics, Preprints, Proposals, Reports, Technical papers, and Theses and Dissertations.

2. Are you using \TeX now for output of any typeset pages?

Ninety percent of those answering said that they are using \TeX for at least a portion of their typeset pages; ten percent said they did not use it in production.

Of those who answered yes, the survey broke down to the following percentages of total pages produced in their environment:

under 25% of pages	16%
25 to 50% of pages	10%
50 to 75% of pages	8%
75 to 100% of pages	66%

Of those who said they are not using it in production now, 60% said they are experimenting with it for possible future use, and 40% said that they had decided to not use it in production.

3. In what environment are you using \TeX — mainframe or micro?

About 34% of the users said that they were operating in a mainframe environment, 67% said that they were using some form of micro.

Note: *Some respondents classified the SUN equipment as a mini or super-micro computer, others classified it as a mainframe. I have left the responses as is so SUN will appear in both breakdowns.*

VAX (running VMS) was the most popular mainframe in use, with 25% of the survey, followed by 5% each for IBM, Hewlett-Packard, and SUN equipment. Other machines in use were: Amdahl OS/MVS/XA, DEC 2065 (TOPS-20), DG (AOS), NAS AS/9160, Pyramid 90X OSX, and VAX (VMS and UNIX).

In the micro-class machine, the largest share went to IBM PCs (XT, AT, 286, etc.) and clones (46%), followed by 15% using a Macintosh and 11% using SUN workstations. Other micros used by people in the survey were: Apollo DN 3000/4000/330, AT&T 6300, COMPAQ 286, DEC Unity 68 (UNIX), Cromemco CS420, 68020, IBM RT Workstation, Integrated Solutions 68010, Leading Edge Model D, Tandy 3000HL, Olivetti M24, Wyse PC286.

4. On what type(s) of device(s) are you producing output?

Many of the surveys indicated that \TeX was being run on more than one type of output device. Quite often a laser printer was used for proofing and a typesetter was used for final camera copy, or several types of laser printers existed in their production environment.

Apple LaserWriters	38%
Cordata Corona	5%
DEC LN03	11%
HP Laser Printer	25%
IBM 3820 or Pageprinter	5%
Imagen 8/300 or other	13%
Talaris	8%
QMS (PS)	13%
Varityper VT 600	18%

Other laser or impact printers indicated by individuals were:

AST Research/PostScript
 Canon LBP A1
 LN01
 QMS Kiss
 Panasonic Laser KX-P4450
 ScripTen

For those using typesetters, the most common equipment used was Linotron. The percentages for this and other typesetters represented in the survey are shown below:

APS micro-5 (Autologic)	6%
Compugraphic 8600	1%
Linotron	8%
Monotype Lasercomp	2%
VC570	1%
Varityper 4300P	1%

Only 2 respondents were using outside service bureaus to produce pages. The bureaus used were: Stürtz AG (Würzburg) and ArborText.

4A. Is your proofing output produced on a different device than camera copy? If yes, have you had problems with font compatibility, and how have you solved them?

Those surveyed said that 46% were producing final pages on a different device than the one used for proofing. The majority (54%) said that the same machine was used for both proof and final copies.

When indicating problems that had arisen with sending the same file to two devices, the following types of comments were given:

General

- No problems, we only use CM fonts
- Occasionally, but no problems
- Minor compatibility problems
- We're using Textures on the Mac
- Using another device for testing (with Monotype fonts)

.TFM file problems

- We had to hand generate .tfms to get proof output for our typesetter's fonts
- Renaming PS .tfms to CMR like .tfm files

Previewers

- Font incompatibility between the previewer and the typesetter
- Use Maxview to preview

AM/CM Font complications

- We have had to use AM fonts because APS doesn't have CM
- Fake font specs written to make AMR imitate final fonts

Font generation

- A lot of work to generate font files.
- Layout proof with fonts represented by boxes on a Tektronix compatible device

Using PostScript

- Use PostScript fonts for text, CM for math
- No major problems, using PostScript devices
- Metafont to PostScript software
- Our own .dvi to PS and CORA drivers, but have trouble with PI fonts

5A. How do you feel about the level of training required to use T_EX for typesetting? Please explain your answer.

As compared to other typesetting systems, the vast majority of respondents (78%) indicated that they thought T_EX required more training to get up to speed, 7% thought that it required less time, 9% rated it about the same, and 6% had no opinion because they had nothing to compare it to.

Representative of the types of comments on T_EX training were the following:

Those indicating "more" time

- Intimidating for beginners
- Requires more, but pays off
- Lack of interactive and WYSIWYG
- If a user wishes to reuse an existing format the expertise is less, to create a new format the expertise is more.
- The users need to learn more about the internal workings of the tool than is true of some other tools, but can accomplish more.
- More than others but high quality output, substantial initial learning curve

- Meant for people who understand a markup language, not people used to simple screen editors.
- More, based on my experience with word-processing systems.
- More training but more capabilities
- You need a local T_EXpert to get started, long learning curve
- High level of user needed
- Different level of need means different levels of training
- Hard to find answers in the *T_EXbook*
- Long learning curve
- It provides more than word processing so it takes longer
- *T_EXbook* is complicated so we had to develop our own training materials
- Technically oriented and beyond secretaries who must rely on macros
- Its not as user friendly as most commercial typesetting systems
- Macro writing is more like programming than typesetting
- Macro packages too restrictive for actual use
- Intense training required
- Requires some programming background

Those indicating "less" time:

- Commands are more English-words than most other mnemonic systems
- Less than most systems if you're doing math
- Find T_EX easier to experiment with
- If the macros are set up well minimal training is involved

Those who felt it was similar or the same:

- Training time seems similar to other systems we have used
- We use TROFF and the learning curve seems to be the same
- Similar to WYSIWYG systems
- We use the same data input language as our old system
- Depends on how well the macros and style sheet are put together

No opinion

- Nothing to compare to
- Can't decide yet

For the sake of those that are recently getting involved with T_EX, the last few years have seen the development of a number of introductions to T_EX that make it easier to get started, for example:

- *First Grade T_EX* by Arthur Samuel (available through the T_EX Users Group)
- *A Gentle Introduction to T_EX* by Michael Doob (available through the T_EX Users Group or on many electronic bulletin boards)
- *Another Look at T_EX* by Stephan Bechtolsheim (Due to be published in March of 1990, Springer-Verlag, also available in manuscript form from the author)
- A number of L^AT_EX books that have been produced in the last few years.

6. Do your keyboarders really have to know T_EX, or is it “hidden” from them? (Please explain.)

The majority said that their keyboarders had to know T_EX to produce their pages (54%), but nearly as many said that they kept the inner secrets of T_EX from the production personnel (46%).

For those that indicated it was necessary to “know” T_EX, the following comments are representative:

- They do now but we are working on a data entry system to limit this
- They don't have to but they like to
- They only have to know basic rules
- They like to know as much as possible
- They have to know T_EX to debug errors
- Yes, they have to know it to format our files
- Have to know (used by software engineers, not secretaries)
- They know it to some degree, they don't code from scratch
- Only a very little for immediate needs
- For now, as others are added they will only be taught what they need
- They must know plain basics and A_MS-T_EX
- They understand the majority of the T_EX functions

Those who keep T_EX hidden gave the following remarks to clarify why:

- Some writers do, most know our macro package.
- Most are unfamiliar with plain
- We use A_MS-T_EX
- They know L^AT_EX macros
- We teach them only our macro names
- Only technical people know

7. Who creates the code for output routines, etc., in your environment? (Explain)

The most common response was that an in-house guru (T_EXpert) was needed to keep T_EX running

smoothly (60%). Some started with consultants and switched over to in-house support (12%). Others have all style files done by their production personnel (18%) and the remainder purchase packages or avoid changing too many things (10%).

In-house T_EXpert

- Used to change style sheets
- In-house experts adjust style files and fonts
- Done by our programmers

Consultant

- Started with a consultant but now doing it in-house
- ArborText wrote our original macros

Production personnel

- We use only L^AT_EX with minor adjustments

Other

- In-house macros and L^AT_EX
- Barb Beeton did most of the work originally for the output routines
- We don't use custom output routines
- Purchased package
- PCT_EX package

8. Do you use Plain T_EX or a “standard” macro package? Which package(s)?

The vast majority of users (71%) indicate a preference for plain T_EX for, as one user put it, “it's sheer power”. The next most popular package was L^AT_EX (40%). A smaller number use A_MS-T_EX (13%) and 16% indicated another package. Of the “others”, 75% indicated that they had to develop their own in-house macro package to meet their production needs.

9. Where and how do you get fonts not delivered with the standard T_EX release?

Almost all the respondents indicated some use of the “standard” fonts distributed with T_EX.

Sixteen percent indicated that they used only the standard fonts.

In the “Beg, Borrow, and Steal” category, 6% indicated that they either “scanned and produced PK files with our own software, and created some special fonts ourselves” or got them from “various archive sites via network”.

The majority (80%) indicated that it was necessary to go to other font sources to meet their production needs. The majority use one of the following 4 sources:

Adobe (PostScript)	19%
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ArborText .tfms	
with typesetter's fonts	8%
Bitstream	16%
Talaris Systems, Inc.	8%

Other small percentages indicated other font sources:

AMS fonts
Autologic TR fonts from T_EXsource
Autologic fonts using ArborText software
Berkeley font library
Compugraphic (tfms designed in-house)
Danish Linotype agent
From DECUS for Digital LN03
Folio
Using FTP
Metafoundry
PostScript fonts and METAFONT
University of Manitoba

10. Have you used METAFONT at all in your installation? Explain.

The majority (55%) indicated that they had not used METAFONT; the rest (45%) said they had, but most of them had used it only for small applications.

Comments from those who have not used METAFONT

- Haven't had the time
- No we're not typeface designers
- Installed but untried
- Received but not working yet

Comments from those who used METAFONT

- Only with standard METAFONT files
- To build simulation fonts
- To make logos
- To develop special math and foreign language symbols
- Experimental only
- Not to a great extent
- To initialize fonts
- To make some new mag steps for fonts
- Translate fonts from old MF format to new
- To develop new fonts
- Tuning fonts

11. What have been some of the problems you have encountered trying to develop the use of T_EX in your environment?

There was a variety of responses here. They ranged from taking too much time to train personnel to frustrations about trying to get support (even if they were willing to pay for it). I have tried to

group the comments to similar problems and show a representative sampling of the comments submitted.

ASCII vs. EBCDIC — 3%

- IBM mainframe not suited for T_EX data entry
- We are EBCDIC oriented and have to learn set up for ASCII

Documentation — 11%

- No Documentation for beginners
- Difficulty in understanding *The T_EXbook*
- Hard to look up answers to problems in the T_EXbook (you have to look in 3 or 4 places to find out how one command works).
- *The T_EXbook* does not explain the interaction between basic commands and you have to experiment to find out what will happen

Error Messages / Debugging — 3%

- Error messages are useless to a novice
- We have not found a source for many error messages encountered

Fonts — 18%

- Implementing Scandinavian hyphenation patterns
- Lack of compatible fonts for our typesetters
- Font development and maintenance
- Translate fonts from old METAFONT format to new
- Getting some of the Bitstream Fonts to work with CM fonts

Foreign languages — 3%

- Getting foreign language characters
- Foreign language hyphenation

Getting users to accept system — 6%

- Hostility from users of a previously used system
- Users don't appreciate the quality
- Most casual users don't appreciate the quality difference so they don't want to put in the time to learn

Graphics — 3%

- Integration of graphics with output

Macros / Output routines — 23%

- Updating macros
- Incompatibility with other DOS applications
- Time consuming to write macros for T_EX
- New formats are a struggle
- Output routines are a misery to debug
- Output routines are the hardest
- Multi-column output and page balancing

- Macros written before I started here, hard to change

Output devices/drivers — 10%

- Getting the right output devices, good output devices
- VAX C bugs while developing a double sided DVITOLN3 program.
- Rounding errors on device drivers
- Problems with some current .dvi drivers

Production problems — 6%

- Slowness of proofing documents
- Implementing changes without disrupting publications in progress
- Preprocessor needed to facilitate typing
- Setting narrow columns

Support — 6%

- Unable to purchase T_EX with support contracts for our system.
- Cannot purchase a service contract even if you are willing to pay for it.
- Assistance with problems
- Support during set up

System initialization — 3%

- Understanding T_EX, C_TE_X, etc.
- Trying to decide between T_EX and L^AT_EX

System requirements — 3%

- CPU intensity takes too many computer dollars for a lot of users
- Running out of T_EX memory

T_EX algorithms and design — 10%

- Page Breaking problems
- Runarounds (parshapes)
- Problems with inserts

Training time/Learning curve — 20%

- Takes too much time for busy people to learn it
- Initial learning curve/training
- Hard to teach to people who don't have typesetting background

12. How did you find out about T_EX?

Responses here were varied. The largest group (19%) indicated that they had found out about T_EX through their jobs (several said "I inherited T_EX from my predecessor"). The next largest percentage (17%) indicated that they had found out from the source, Knuth at Stanford (and his papers) or

The T_EXbook and *The METAFONTbook*; an equal number from contacts at a university. Word of mouth from other users was the source for 13%. Five percent or less found out from a consultant, the physics community, or AMS and *Mathematical Reviews*.

Other minor sources were as listed: Decus, Friend at the Federal Reserve, McGraw-Hill recommended it, Scientific/Technical Institutes, reading, tried to turn it into a product, from customers, Trade Magazine (Mac User), reading about the SAIL version, through a typesetter, and classes in T_EX.

13. What do you feel are T_EX's strong points?

By a clear margin, users indicated T_EX's design (81%) and flexibility (53%) as the strong points of the T_EX language. Portability is also important in production environments. If the language can be moved to another system, there is no need for re-training "because the old composition system doesn't work on the new mainframe." A sampling of comments on these and other features are:

Batch orientation — 2%

- Batch oriented so it can be linked with pre- and post-processors

Design points — 81%

- Conditionals
- Control over look of output
- Dynamic control of vertical spacing
- Ease of Macro construction
- Capabilities you can get with macros
- File handling, ability to import files
- Error reporting
- High quality output/Typographic quality
- Hyphenation algorithms
- Line-breaking and hyphenation algorithms
- Nice displays and easy setting of page composition
- Page bottoming
- Powerful in designing format but painful to write it
- Widow control
- Ability to build indices and glossaries
- The ability to use the same file to create different page shapes
- It understands many typographers conventions which other systems have to be taught
- Tables
- Kerning
- Richness of the language

- Its essentially a programming language, you get lots of power with it
- Calculation capabilities
- Ability to handle low-level formatting
- Paragraph building algorithm
- Automatic pagination
- Speed

Flexibility — 53%

- Ability to program what you want
- Flexibility, not limited like other packages
- Precision and reliability
- Programmable
- Primitiveness, which allows control

Mathematics — 25%

- Mathematics/equation typesetting
- Sophisticated mathematics

Portability — 13%

- Portability
- Availability on PCs
- Device independent output
- Portability of T_EX documents if you limit your macro use
- The possibility of linking other programs to T_EX
- System independence

Price — 5%

- Affordable
- Public domain

14. What do you feel are T_EX's weak points?

The major complaint of the respondents was the lengthy "learning curve" and training time involved to get T_EX up and producing pages in a profitable manner (37%). Next were T_EX design points that had caused production problems (35%). The next highest indicated problem was the lack of standard graphics support (18%) as part of T_EX's design.

In addition, they submitted comments on these and other areas that they felt were weak points of T_EX.

Batch — 10%

- Batch process
- Runaway errors in batch process
- Lack of interaction

Documentation — 5%

- Hard to find novice documentation
- Lack of a complete reference document
- Lack of beginning level documentation

Errors/Debugging — 5%

- Lack of error diagnostics, hard to understand error messages
- Lack of decent debugging support for macro programming

Fonts — 5%

- Fonts/font management
- Changing font sizes

Foreign language support — 5%

- Foreign languages, fonts and hyphenation

Graphics — 18%

- Chemistry
- Use of marks
- Lack of standard graphics handling
- Graphics (figure) support is poor

Macro files/Output routines — 13%

- A lot of set up work to create style files
- Non-trivial layout is almost impossible
- Difficulty of setting multi-column output
- Hyphenation and overfull boxes
- Inserts of more than 1 column

Previewing/WYSIWYG — 8%

- No immediate previewing
- No WYSIWYG

Production problems — 5%

- Landscape tables
- Hard to write macros
- Not user friendly

Support — 8%

- Not supported by major computer vendors
- Need of a guru for support

System considerations — 8%

- Requires a lot of computer resource
- Slow in PASCAL
- Running out of memory
- Uses a lot of room
- Unavailability of front-end processors

Training/Learning curve — 36%

- Not great for beginners
- Hard to learn
- Amount of knowledge it requires
- Its not that you can't do things, it's that it is very time consuming to figure out how
- Not easy to use, especially if you're in a hurry
- Not easy to learn

- Extremely complex, I won't live long enough to master it
- Complexity
- Documentation
- Finding information from the \TeX Book can be difficult
- Lengthy learning curve
- You really have to know what you are doing, its for gurus
- Hard to learn without help

TEX design — 40%

- Pagebreaking algorithms
- Lack of totally integrated system
- Many modes and their idiosyncracies
- No `\everyline` command
- Primitiveness which requires complete specifications for everything
- Setting Tables
- Inability to control letterspacing and kerning in a global environment
- You can never be confident that even proven techniques and macros will work like you think
- Not enough idioms, macro packages tend to be limiting without intimate understanding
- Pagination/Page breaking (ignores my `\goodbreaks`)
- Adjusting page breaks in a long document.
- Handling final pagination of output
- No hooks to other languages or system commands
- Difficult user interface

15. **What would you change about \TeX if you could?**

Of course hindsight is always 20/20, but some suggestions were realistic in the aid that they could provide to users with large page output needs.

A small percentage of people said “nothing” or “too soon to say,” but most respondents were quite vocal about what they would change in the design of \TeX if they could. Many of the problems listed here have been taken care of by products or macro packages written in the last calendar year so we can see progress being made towards smoother production control.

Batch processing vs. Interactive — 6%

- Better batch processing
- Interactive paging
- Provide a page by page operation (set, correct, move to next page)

Documentation — 10%

- User friendly manual

- Better or more manuals
- Better documentation
- More intermediate documentation needed
- Write a comprehensive guide organized by command
- Make a separate tutorial for tables and equations

Errors and debugging — 6%

- Make it more user friendly and easy to debug from error messages.
- It would be nice if a programmer could gain access to over- and under-full box information during processing
- True debugging capabilities

Fonts — 5%

- Make it easier to change fonts and sizes
- If you could use all 256 characters in a standard font
- Font management

Foreign languages — 2%

- Add multi-language supports

Graphics — 10%

- Better standardized graphics support
- Include PostScript graphics as standard
- Include chemical structure manipulation

Installation/System setup — 4%

- Add more `README` files with distribution to help installation

Macros/Output routines — 6%

- More macro packages
- Set up of output routines
- Flexible macro package with a collection of well documented parameters
- More standardization of macros so that several packages can work together

Previewing — 10%

- More of a WYSIWYG tool
- Make preview interactive
- Preview of non CM fonts

System requirements — 2%

- Change the hard disk requirements for its fonts

Training — 8%

- Cheaper courses
- Once you start to do anything complex you are basically programming

TEX design — 25%

- Add a rotate box
- The ability to run a single page in a large document
- The definition of *sp* to a larger value
- More “mark” capabilities
- Have the concept of a “spread” in *TEX*
- Would like to be able to mask output selectively (for color)
- Add the ability to delay execution of commands until later pages
- Consistent syntax
- Make verbatim environments easier
- Make arbitrary placement of text on the page easier.
- Would be nice to be able to turn off *TEX*'s paragraph composition mechanisms and use a line-by-line approach when needed.
- Palettes for esoteric math symbols
- Give user more control of line and page-breaking if needed
- Part of .dvi values (x,y positions) should be accessible in *TEX*
- A command like `\unhbox` should give the text and not just char boxes

TEX and other languages — 3%

- Hooks to other languages
- Pagebreaking algorithms

User interface — 10%

- Make the help function more helpful
- Mouse driven interface
- Write conversion programs for popular word-processing packages
- Previewers needed for more devices
- Add a pre-processor
- Would be nice to have a version of *TEX* which did not expect user interaction, not really suited for high-volume work

16. What sources have you used to help with *TEX* problems? (Please explain)

The vast majority (88%) used *The TEXbook* as at least one of their sources for support, followed by 65% of users who get information from *TUGboat*. The rest of the list is shown below:

Knuth's <i>The TEXbook</i>	88%
Copies of <i>TUGboat</i>	65%
Courses offered in <i>TEX</i>	31%
<i>TEXhax</i>	28%
<i>TEX</i> Users Group	16%
AMS office	8%
<i>TEXmag</i>	8%

Local <i>TEX</i> group meetings	5%
Other	38%

Those indicating “other” sources of problem-solving had these remarks:

- In-house courses
- Experimentation (Hours of)
- Sweat!
- Looking at macros other people had written
- other experienced users with similar interests
- Network news group
- Friends who know *TEX*
- UK*TEX*
- *TEX*line
- S. Bechtolsheim's *Another Look at TEX*
- *TEX* Users Group Advanced *TEX* and Macro Writing courses
- *TEX* Users Group used to be good for phone support but now directs me to other local *TEX* Users Group members for help
- Addison-Wesley
- Arbortext
- L^A*TEX* book
- Personal *TEX*
- Mike Spivak
- *Joy of TEX*
- German books from *TEX* gurus

16A. If you have contacted the *TEX* Users Group, were they able to answer your question or solve your *TEX* problem for you?

Sixty percent of the callers were able to get help from the *TEX* Users Group headquarters, 40 percent were not.

Of those who have contacted the *TEX* Users Group, they say:

- Helpful, especially since they hired the support person
- Barbara Beeton is extremely helpful
- Missed an issue of *TUGboat*
- Signed up for *TEX* Users Group courses

Those who did not get help responded:

- Have never contacted, do they do debugging?
- When I called I was told they were working on acquiring support staff
- Asked for info if it ran on a 386 micro, they didn't know
- They didn't have the information but it later appeared in *TUGboat*
- Asked a question and they directed me to a consultant

17. Can you think of any areas where the \TeX Users Group could be of help to you?

Although some surveys indicated that the \TeX Users Group is "doing a great job now" they had suggestions for future improvements or ways that TUG could use their influence to help make their \TeX lives easier.

Fonts

- Commissioning sources for new fonts
- Help with font compatibility

Local Support

- Start a local chapter in New Jersey

I and a gentleman by the name of Bob Jantzen of Villanova University started our own local \TeX users group (which we call the Delaware Valley \TeX User's Group). We started by contacting Ray and Karen to get a copy of the mailing list for all registered users in our zip-code territory. We started with an original mailing, and have updated the list based on interest in our area. We have meetings 6 times a year, and take turns making presentations of different macros and output routines that we have developed. We usually share paper or soft copies.

Macros

- Push for standardization of macro packages.
- Development of macro packages

Product information

- New products developed in \TeX environment
- Keep an updated database of \TeX products and sources
- More addresses for \TeX products

\TeX design

- Push for improvements in \TeX where needed

\TeX PR

- More PR to heighten awareness of \TeX , perhaps an article in widely read engineering magazines

Training

The price of training was out of reach for many smaller operations by the time you took into account airfare, hotels, meals and tuition. Some people suggested the development of a beginning level correspondence course that the user could walk through and maybe contact TUG when problems arose.

- Development of a beginning level correspondence course for poorer \TeX users
- Reduce the price on their course offerings
- Some low-cost training
- Sponsoring scholarships to courses
- Sponsoring the writing of more \TeX support books
- Maybe some videotape training on \TeX and \LaTeX
- More classes
- Provide more documentation
- Would like to see a practical "how to" User's guide to PLAIN \TeX published (the \TeX book is more academically oriented)

TUGboat

A number of users felt that the articles in *TUGboat* were beyond their level of comprehension and were looking for more support in less tricky solutions to everyday publishing problems. Several suggested including a few beginner's articles each month.

- More information on what other commercial publishers are doing
- Issue *TUGboat* more frequently
- Circulate more information and advice to novice/intermediate users
- Could cater to the mid-range \TeX users more, most *TUGboat* articles are too advanced for me.
- Focus more articles in *TUGboat* on real typesetting problems rather than esoteric concepts
- More articles for beginners

Support

People who have deadlines are frustrated when they are trying to figure out some of \TeX 's more obscure bugs when creating macros or using primitives for the first time. They are willing to pay for support, but often cannot easily get it.

- More technical people at site to answer questions
- Make \TeX Users Group members aware of where they can get technical support
- E-mail address for asking questions and getting responses
- Have phone support available for hard to find bugs
- Organize a periodic printout of \TeX hax for those of us not on a network
- Give me support and charge
- \TeX Users Group notifying users by electronic mail of \TeX source updates
- Provide sources for updating \TeX '82

18. What do you anticipate will be your future involvement with T_EX?

The majority of surveys (74%) indicated that they would be continuing use of T_EX for some or all of their typesetting output. About 18% indicated that they felt their use would decline in the upcoming months for a variety of reasons. Eight percent felt that their involvement would be in developing tools to use with T_EX.

Continuing with T_EX typesetting

- More involvement in formatting documents, style sheets.
- Ongoing use of T_EX on Novell Network of PCs
- More use of T_EX probably with PostScript
- More active because of use by Physics community
- Working with *The Publisher* from ArborText
- Typesetting college level texts
- More use of T_EX because of page preview capabilities
- Continued use at work and at home
- Develop production standards for our courses
- Continued work with it at my job
- Would like to attend annual meeting and Wizard class
- Local T_EX guru, member of T_EX Users Group
- Continue production of company documents with T_EX
- I'll keep using it, cursing periodically.
- Lots of multi-column work
- Continued use for Journal work
- Continued production of books
- It handles math so well we will continue to use it
- We will continue to use it and refine our own macro package
- Work my way to T_EXpert
- Expanded use for technical books and articles
- Graphics user interface
- Investigate using other fonts through a PostScript driver to produce engineering books
- More, hope to also learn METAFONT
- Intend to use it as our primary publishing vehicle indefinitely.
- Introducing more fonts to use with T_EX
- Offering total manuscript production via T_EX
- Continued involvement
- Continued involvement for math work

Declining use

- Looking for a completely integrated documentation package

- We will probably be replacing with other tools such as Ventura Publisher
- Unfortunately when I leave here, T_EX will be replaced with a word-processing package
- Unless future versions of T_EX are screen oriented and "friendly" we will go to scientific word processors as they become available.
- If I can predict, I would not be doing T_EX in the future
- We expect to be typesetting our entire newspaper in the future, but expect it to disappear when we go to electronic full page makeup
- Uncertain
- Will use for some things, but are looking for another system for some publications

Driver and other tool development

- Continue to use it but look for better integrated environments to run T_EX
- Developing new printer drivers
- Parsing SGML to T_EX
- Working on a better previewer for us

Some Conclusions

This survey produced a lot of useful information that could help in sparking some ideas and activity from people involved with T_EX from a number of different levels. There are some ideas for the T_EX Users Group to use in their future support of the T_EX community. For the advertisers, make your products better known, or start to develop in areas that are of concern to production typesetters. To T_EX support personnel, let us know where you are, and be willing to provide service and support (for a fee) to people who are driven by tough production deadlines.

If anyone has any other ideas that would be for the common good, maybe we could start a T_EX "Publisher's Corner" providing tips in future copies of the *TUGboat*. Any volunteers to get us started?

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