General Delivery

From the President

Nelson H.F. Beebe

Meetings

This has been a busy year for TUG, and for me. I've just returned from Ireland and Britain after a very successful TEX'90 meeting in Cork and a short family vacation.

The TUG'90 meeting in June in College Station is now behind us, and the *Proceedings* have appeared in record time as *TUGboat* 11, no. 3; copies were available on September 10 in Cork. I'd like to thank the authors, the program committee, the *Proceedings* editor, and the TUG office for contributing to the rapid completion of the job.

The Cork meeting was well attended, with 175 participants from 23 countries. I was pleased to have an opportunity to meet for the first time so many Europeans with whom I've exchanged letters and e-mail. Despite rain the week before and after the meeting, the weather cooperated and gave us sunshine and warmth all during the conference week. Our greatest thanks go to Peter Flynn and his support staff at Cork, the TUG office, the program committee, and all who attended for making it such an interesting meeting. Meals were served in the dining hall adjacent to the building where the lectures took place, and I think many will agree that the food was possibly the best we have enjoyed at any TUG meeting.

The weekend before the Cork meeting was devoted to a long TUG Board meeting on Saturday (which resumed again Wednesday evening), and a European summit meeting on Sunday. The Board has been dealing with difficult and divisive issues that are still not resolved; I expect to schedule a two-day board meeting at the TUG'91 meeting in Boston.

The European summit meeting was an opportunity for the heads of TUG and the European groups (five in western Europe, with five more in the early stages of formation in Czechoslovakia, Hungary, Poland, the Soviet Union, and Yugoslavia) to meet and talk about common issues. There are rumors of other regional groups forming, including one in Ireland. According to the March 1990 membership list, TUG itself has members from 48 countries.

Font standardization

One joint effort of TUG and the European groups on which excellent progress has been made is the definition of a 256-character font standard for TEX; an agreement is rapidly needed here if 8-bit fonts are to become a reality for worldwide TEX users without also becoming a terrible barrier to document portability. We hope to be able to report further on this soon (see Michael Ferguson's "Report on Multilingual Activities", p. 514, in this issue of *TUGboat*). For background, see the recent *TUGboat* articles [1, 2, 3] and references cited therein.

`tuglib` archive server

The `tuglib` server mentioned in my editorial in *TUGboat* 11, no. 1, is now fully functional at the Internet address `science.utah.edu`. A preliminary description appeared in TEXline **11**, which was distributed at the Cork meeting. At Utah, our venerable 12.5 year-old DEC-20 is slated for retirement on 31 October 1990. The name `science.utah.edu` will live on as an alias for its replacement, a UNIX machine, so as not to confuse the thousands of people who have used it. Because this will change some of the details of `tuglib` access, I decided to delay an in-depth article about `tuglib` until the next issue of *TUGboat*, when the changeover will be behind us.

Bibliography archive

Earlier this year, I began a bibliography project which is now well underway. Its eventual goal is to provide public access to a collection of BIBTEX-format bibliographies of

- publications about TEX (files `texbook1.*`)
- books and journals that use TEX for their production (files `texbook2.*`)
- journals that accept articles written in TEX (files `texbook3.*`)
- literate programming
- POSTSCRIPT
- digital typography

as well as to collect bibliographies for many scientific journals in fields that I'm interested in. However, I am also willing to deposit there contributed bibliographies for journals in any field of science or engineering.

An e-mail message to

`tuglib@science.utah.edu`

with the text `send index from tex/bib` will return an index of current holdings. It is intended that these holdings will be available on computer-readable magnetic media for users who lack e-mail access.

A bibliography consists of at least two files: (1) a LaTeX file that prints the entire bibliography, together with a title page, a version date and number, and a short prefacing text; and (2) one or more BibTeX `.bib` files that hold the actual entries. The bibliography produced this way is in two-column format with alphanumeric tags. This choice was intentional: it produces narrow columns that stress TeX's formatting abilities, and it detects certain errors in author names (such as an incorrectly placed *Jr.*) that would not be caught if numeric citations were used. Explicit hyphenations are supplied to reduce, if not completely eliminate, overfull boxes. The `\emergencystretch` feature of TeX 3.0 is most helpful in reducing the rivers of white that otherwise tend to occur with narrow columns; this support is hidden in an option file, `bibmods.sty`, that works with pre-3.0 versions of TeX as well.

The LaTeX files all use `showtags.sty`, a style file that I wrote for the project; it produces a boldface copy of each BibTeX citation tag in a right-adjusted framed box over the corresponding entry, which makes a typeset copy handy for reference. For another recent approach to the bibliography lookup problem, see [4].

The bibliography entries for books contain ISBN values, and for journals, ISSN values, where these are available, and modified BibTeX style files support the printing of these fields. ISBNs contain a check digit verifiable by a GNU Emacs editor function I wrote; this Emacs function is also available from `tuglib` as the file `isbn.el`. Does anyone know if the 8-digit ISSNs have a check digit, and if so, what the algorithm for computing it is?

All files in the collection contain a special comment header whose style we hope to popularize for TeXware. Here is an example, somewhat reformatted to accommodate the narrow columns of *TUGboat*:

```
%% @LaTeXstylefile{
%%      author    = "Nelson H. F. Beebe",
%%      version   = "1.01",
%%      date      = "11 Jul 1990",
%%      filename  = "showtags.sty",
%%      address   = "Center for Scientific
%%                      Computing
%%                   Department of Mathematics
%%                   South Physics Building
%%                   University of Utah
%%                   Salt Lake City, UT 84112
%%                   USA
%%                   Tel: (801) 581-5254",
%%      checksum  = "70     333    3033",
%%      email     = "beebe@science.utah.edu",
%%      codetable = "ISO/ASCII",
%%      keywords  = "bibtex, cite tag, latex",
%%      supported = "yes",
%%      docstring = "This style file causes
%%                   the bibliography cite
%%                   tags to be displayed in
%%                   boldface text in a
%%                   right-adjusted framed
%%                   box over each entry in a
%%                   bibliography.  This
%%                   serves as a handy
%%                   reference when the tags
%%                   are needed for a \cite{}
%%                   macro.
%%
%%                   For flexibility, the
%%                   user may redefine
%%                   \thecitetag to change
%%                   the format. E.g.
%%                   \renewcommand{\thecitetag}
%%                   [#1]{\fbox{\small\tt #1}}
%%                   would typeset the tag in
%%                   small typewriter text in
%%                   a box.
%%
%%                   The checksum field above
%%                   contains the standard
%%                   UNIX wc (word count)
%%                   utility output of lines,
%%                   words, and characters;
%%                   eventually, a better
%%                   checksum scheme should
%%                   be developed."
%%      }
```

The format is similar to that used in BibTeX files, although it is not expected to be processed by BibTeX; doing so would require writing a special `.bst` style file, and augmenting BibTeX with a simple filter to delete comment markers prefixing each line. It is not hard to keep a template for this comment header available for insertion into files that you write; the GNU Emacs file `texfile.el`, available with the collection, can be customized for your personal use to insert one.

The essential features of this comment header are:

- The `keyword = "value"` format is extensible; the ones shown above are recommended for a start, but others may be desirable in the future.
- The original filename is included in case the file itself is renamed due to constraints of some file systems.
- Author name and address, and whether the file is maintained and supported, are recorded.
- The last modification date, and major and minor version numbers, are provided. The minor

number is incremented whenever any change is made to the file.

- A documentation string is provided to hold a short abstract describing the file. The intent of the `keywords` and `docstring` fields is to provide information that can be automatically extracted for publication in a local file guide.
- The character set used for the file is recorded in the `codetable` value; this will become increasingly important as 8-bit character sets become more common and files are exchanged electronically.
- The `checksum` field can be used to detect corruption or modification of the file. Corruption of electronic mail through certain antisocial gateway machines is a regrettable fact of life, but it can also happen through file transfers between unlike systems, or more rarely, from media errors.

The current checksum scheme is too simple; it records only counts of characters, words, and lines. This does not detect errors of transposition or substitution; the latter are typical of e-mail corruption.

A better checksum system is needed, probably one based on cyclic redundancy checksums, such as the widely-used CRC-16. For our purposes, such a checksum should be *independent* of the line terminators used (CR, CR LF, LF, or other), but should still incorporate the line count; that way, the same checksum will be obtained on different file systems. Also, while the checksum is embedded in the file itself, it should not affect the checksum computation; otherwise, you could never set it correctly. Do we have volunteers for a `WEB` implementation? I can provide simple code for a fast compact implementation of the CRC-16 checksum that can be used for a start.

Other archive sites are welcome to pick up the current bibliography collection from Utah; they are warned, however, that these files are undergoing rapid evolution, and often change several times a week.

I invite you to support this project; after getting a copy of any of the bibliographies, send me corrections and additions, the latter preferably in BibTeX format, including ISBN or ISSN fields. The scope of literature that I'm trying to cover is far larger than any single individual can manage. The `texbook2.bib` and `texbook3.bib` files in particular need to be greatly expanded.

If you have other bibliographies in BibTeX format that you would be willing to contribute to the collection, I would like to hear about them.

TUGboat publication

TUGboat has finally reached a stage where we have a backlog of papers to publish. This introduces a publication delay, and also means that we need to modify procedures somewhat. In the past, our capable editors have undertaken the job of referee as well as the normal work of editor.

Traditionally, scientific publishing has used the referee process to improve the quality of published papers, to catch errors before they appear in print, to discourage the publication of substandard work, and to encourage concise presentation. Unfortunately, the pressure on authors to publish has resulted in a proliferation of journals whose page limits often force omission of important details; conciseness should not be achieved at the loss of readability and usability.

I hereby call for qualified volunteers to act as referees for TUGboat articles. You may send a statement to that effect to the *TUGboat* editors; it will be helpful to them if you list the subject areas in which you are willing to referee papers. In the interests of preserving rapid publication, you should be willing to carry out your referee job within a few days of receipt of a paper, and as is traditional, you will remain anonymous (except to the editors), and be under obligation not to disclose, or make use of, refereed papers before they are published.

References

[1] Nelson H. F. Beebe. Character set encoding. *TUGboat*, 11(2):171–175, June 1990.

[2] Janusz S. Bień. On standards for computer modern font extensions. *TUGboat*, 11(2):175–183, June 1990.

[3] Yannis Haralambous. TeX and latin alphabet languages. *TUGboat*, 10(3):342–345, November 1989.

[4] Michael A. Harrison and Ethan V. Munson. On integrated bibliography processing. *Electronic Publishing—Origination, Dissemination, and Design*, 2(4):193–209, December 1989.

◇ Nelson H.F. Beebe
Center for Scientific Computing
Department of Mathematics
220 South Physics Building
University of Utah
Salt Lake City, UT 84112
USA
Tel: (801) 581-5254
FAX: (801) 581-4148
Internet: `Beebe@science.utah.edu`

The Future of TEX

At the Texas and Cork conferences, birds-of-a-feather (BOF) sessions were held to discuss the future of TEX. In particular, the attendees were concerned about the maintenance of TEX when Prof. Knuth no longer wished to be involved, and about the possible evolution of incompatible TEX-like products should this occur. These discussions gave rise to a number of questions, which were presented to the TUG Board during the Cork meeting for formal response. The questions are shown here, and were also communicated to Prof. Knuth by one of the BOF attendees. Prof. Knuth has been kind enough to provide a definitive response as to the future of TEX and of METAFONT; this response is given on the following pages, along with a commentary by the TUG President, Nelson Beebe.

1. Does the TUG Board acknowledge the need to maintain and develop TEX when Prof. Knuth decides to be no longer involved?
2. Does the Board agree that TUG should oversee and coordinate changes to TEX in an attempt to improve the program as well as to establish a single standard?
3. What mechanism can be established to enable TUG to maintain control over TEX without stifling further necessary development?
4. Does the board agree that fundamental research into unsolved typographical problems is necessary to improve TEX and that TUG should promote and seek funding for such research?

Future of TEX BOF
Cork, 12 Sept 1990

Attendees of the "Future of TEX" Birds-of-a-Feather Session at TEX90, Cork:

Johannes Braams
PTT Research, The Netherlands

Tim Bradshaw
University of Edinburgh, UK

Adrian F. Clark
University of Essex, UK

Christine Detig
Germany

Angus Duggan
University of Edinburgh, UK

Victor Eijkhout
University of Nijmegen, The Netherlands

Jeremy Gibbons
Oxford University, UK

Michel Goossens
CERN, Switzerland

Klaus Guntermann
Technische Hochschule Darmstadt, Germany

Amy Hendrickson
TEXnology, Inc, USA

Alan Jeffrey
Oxford University, UK

Frank Mittelbach
Electronic Data Systems, Germany

Timothy Murphy
Trinity College Dublin, Ireland

Marion Neubauer
Universität Heidelberg, Germany

David Osborne
Nottingham University, UK

Nico Poppelier
Elsevier Science Publishers BV, The Netherlands

Thomas Reid
Texas A&M University, USA

David Rhead
Nottingham University, UK

Chris Rowley
Open University, UK

Jan Michael Rynning
Royal Institute of Technology, Sweden

Jens Schmidt
Universität Hamburg, Germany

Rainer Schöpf
Universität Heidelberg, Germany

Joachim Schrod
Germany

Alan Wittbecker
Digital Equipment Corporation, USA

Ralph Youngen
American Mathematical Society, USA