TUG at Bay

Nelson Beebe, Wendy McKay and Ross Moore

Over the extended weekend 16–18 January 2004, some TEX and TUG-related events took place in the San Francisco Bay area. These were:

- visit to Adobe Systems Inc., based in San Jose, to discuss aspects of how Adobe's software interacts with TEX-related workflows, and 'bugs' affecting the onscreen viewing of TEX-typeset PDF documents;
- lunch with the Grand Wizard, at a restaurant in Palo Alto, with a presentation of a drawing by Duane Bibby and shown at TUG 2003 in Hawai'i;
- discussions concerning workflows for the production and archiving of scientific journals, and the preparation/presentation of related bibliographic data on websites of scientific societies and academic institutions.

The first of these included a repeat of a similar meeting 2 years ago, when the "TEXFonts–AdobeApps" (TFAA) working group[1] met with font engineers at Adobe to discuss problems related to fonts, and font rendering, with PDF documents produced using (LA)TEX and pdfTEX. A result of this earlier meeting was the improved rendering, as now implemented in Adobe's Acrobat 6.0 Professional and Adobe Reader 6.0 applications, of PostScript Type 3 (bitmap) fonts. This is extremely important for TEX users, as until only recently this has been primarily the kind of font description produced by `dvips`, at least by default, for TEX and LATEX-typeset documents. Indeed many people continue to use TEX installations where this kind of output is produced.

At that previous meeting in 2002, there were 6 delegates from TUG; this time there were just 3 representatives: Nelson Beebe, Wendy McKay and Ross Moore. But Hans Hagen was there, in spirit, as well. Two days earlier, via a long telephone conversation, Hans had supplied Ross and Wendy with a collection of bugs that he had encountered with the latest Acrobat software. Mostly these were fresh bugs in Acrobat 6, which could be clearly demonstrated by comparison with the output produced by Acrobat 5 displaying the same PDF document.

More than an hour was spent with senior members of Adobe's font development group, discussing general issues as well as presenting the bugs found by Hans. Perhaps the most important result of this meeting is a definite realisation of the need for support of OpenType fonts within TEX software and related applications, such as `dvips` and other driver software. The PostScript Type 1 font technology is no longer the state-of-the-art for fonts. Adobe has not produced any new fonts in Type 1 format for ≈ 6 years; all new development is for OpenType. Thus it is imperative for TEX, pdfTEX and friends to be modified in ways that enable this font format to be used easily.

We discussed the problem of the lack of suitable fonts for mathematics in Adobe's font repertoire, in particular, mathematics fonts that are designed as companions of text font families, such as is the case for Computer Modern, Computer Concrete, Lucida, and MathTime. Regrettably, Adobe sees little or no chance of such support being developed for current font offerings, although in a small number of future fonts, they *may* provide glyphs for the mathematical characters standardized in Unicode.

A whole working day was spent at Adobe, starting at 9.00 am being signed-in by senior Illustrator developer Tom Ruark, also including lunch in the on-site cafeteria, and finishing with the end-of-week beer and nibbles after 5.00pm. Apart from the font issues, most of the day was spent with Tom. The discussions concerned the status of the 'Marked Objects' plug-in [6] for Illustrator, and the bug reports which were specific to Illustrator itself, such as the lack of a consistent set of specifications for the role of the MediaBox, ArtBox, BleedBox, etc., and how these boxes should interact when parts of images are combined. Hans Hagen contributed directly via telephone, as did Gary Gray (U. Pennsylvania). Unfortunately a planned demonstration by Gary could not go ahead, as the 'firewall' would not allow a 'remote-access' connection to be established. Nevertheless, much useful discussion took place, and we departed the Adobe building with the feeling that some understandings had been established and that the reported bugs were likely to be fixed.

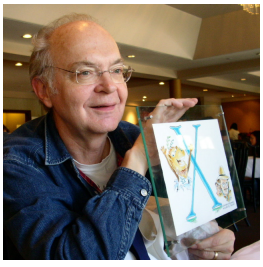

Figure 1: Donald Knuth displays the screen-saver drawing, by Duane Bibby.

[1] See `http://www.tug.org/mailman/listinfo/tfaa` and `http://www.tug.org/twg/tfaa`.

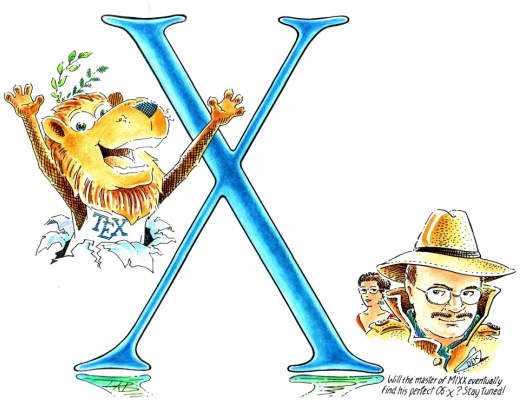

Figure 2: Mac OS X TEX screen-saver, by Duane Bibby.

Figure 3: On the steps of *Ming's* restaurant; from left: Patricia Monohon, Ross Moore, Kaveh Bazargan, Wendy McKay, Donald Knuth, Nelson Beebe.

Later that evening we met with Kaveh Bazargan (Focal Image Inc.) who had flown in from London for a holography conference in San Jose the following week. The main event for the next day, Saturday, was to be lunch with the Grand Wizard of TEX, Donald Knuth. This was at *Ming's* restaurant in Palo Alto. (Unfortunately Jill Knuth could not attend, due to a family matter.) The menu was Chinese 'Dim Sum', with many varied dishes being sampled by all: Donald, Wendy, Nelson, Ross, Kaveh, and Patricia Monohon who had driven up from Ventura, with a car full of memorabilia from the TUG 2003 meeting in Hawai'i, especially for this occasion.

A presentation was made of the original of the Bibby drawing[2] (Figures 1,2) first shown publicly at TUG 2003. Following lunch, photographs were taken on the steps of the restaurant, around a ceremonial lion. (see Figure 3). Some books, purchased just that morning, were autographed. Much of the afternoon was spent driving and exploring the campus at Stanford University, and browsing the University Bookstore.

Sunday saw yet no rest for the wicked. We were joined in Cupertino, where Wendy, Nelson and Ross were staying at a hotel, by Jim Pitman (Department of Mathematics and Department of Statistics, UC Berkeley) who is Chair of the 'Committee on Electronic Issues' of the Institute of Mathematical Statistics (IMS). Kaveh also joined us for a discussion on matters relating to the publication of mathematical journals and archives, both for online access and for paper printing. Central to this discussion was the crisis looming in academia, due to the increasing prices of subscriptions to journals published by the small number of powerful commercial enterprises (see e.g. [7]). That same weekend saw the announcement of the decision by the Triangle Research Libraries Network to cancel their subscriptions to many journals published by Elsevier [4]. Similar cutbacks are being made at other universities [2, 8, 3], as evidenced by a report in the Wall St. Journal [5].

Accordingly, there needs to be greater use and acceptance of online journals, which in turn means that techniques need to be developed that allow for easier management of such resources. One solution is to use a workflow (LA)TEX → XML (for easy storage and archival fidelity) and the reverse XML → LATEX preparatory to typesetting, accompanied by good copy-editing to establish 'clean, standardised LATEX source'. This is the basis of the workflow already used by Focal Image for scientific journals.

These discussions from Sunday continued into the next week, but with a changed venue as Wendy, Nelson and Ross drove up north, to stay on-campus at UC Berkeley. Here it was easier to study various software components developed for creation and management of websites, in particular for bibliographic data. Nelson did a complete installation of his bibliographic software tools [1], for use at the UCB, Department of Statistics site.

[2] This drawing is available in several sizes, to match different computer screens, for general use as a screen-saver or background image, at the TUG 2003 web site: `http://www.tug.org/tug2003/mactex/`.

References

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