
TUG 2012 abstracts
Bill Cheswick*An iTeX update*

An update on the iTeX project for ebook publishing with T_EX, described in *TUGboat* 32:2.

Federico Garcia*Documentation in T_EXnicolor*

My package `colordoc` builds on Frank Mittelbach's `docstrip` system of documentation, adding some utilities to use color in the code: matching delimiters (`{` and `}`) are colored the same, just as matching `\if-
\fi` pairs. Commands are made red, bold, and italics, when they are being `\def`ined, just as variables when they are being declared (`\newcount`, `\newif`, etc.). These tools have saved me a lot of time and trouble when editing or trying to understand a code. In the presentation I also describe the interesting general lines of the workings of both `doc` and `colordoc`.

Troy Henderson*User-friendly web utilities for generating L^AT_EX output and MetaPost graphics*

The full article was printed in *TUGboat* 33:1. The online previewers are available at:

<http://www.tlhiiv.org/ltxpreview> L^AT_EX
<http://www.tlhiiv.org/mppreview> MetaPost
<http://www.tlhiiv.org/mpgraph> Function Grapher

Sherif Mansour & Hossam Fahmy*Experience with Arabic and LuaT_EX*

This is an experience report of an attempt to include the AlQalam font for Arabic script within LuaT_EX. We describe the problems we faced trying to figure out how to use a new right-to-left font within LuaT_EX. We also describe how to call the many different shapes that are defined via parameters in the original font. We also present some ideas to modify the line breaking algorithm of T_EX to allow the use of different shapes for the same character in order to justify the line. This is still work in progress.

Frank Mittelbach*E-T_EX: Guidelines for future T_EX extensions, revisited*

Shortly after Don Knuth announced T_EX 3.0 I gave a paper analyzing T_EX's abilities as a typesetting engine. The abstract back then said:

Now it is time, after ten years' experience, to step back and consider whether or not T_EX 3.0 is an adequate answer to the typesetting requirements of the nineties.

Output produced by T_EX has higher standards than output generated automatically by most other typesetting systems. Therefore, in this paper we will

focus on the quality standards set by typographers for hand-typeset documents and ask to what extent they are achieved by T_EX. Limitations of T_EX's algorithms are analyzed; and missing features as well as new concepts are outlined.

Now — two decades later — it is time to take another look and see what has been achieved since then, and perhaps more importantly, what can be achieved now with computer power having multiplied by a huge factor and last not least by the arrival of a number of successors to T_EX which have lifted some of the limitations identified back then.

[Slides available at www.latex-project.org/papers.]

Steve Peter*Metafont as a design tool*

Well-written Metafont sources provide a font designer with a nearly unparalleled tool to explore variations on a typographic theme. Paired with T_EX in an advanced environment, the designer can explore serif structure, bracketing, weight variations and more in the context in which the font will be used: real textual matter. I'm going to ignore the production problems inherent to Metafont (not to mention the various possible solutions) to concentrate on the design aspects of this amazing tool.

Norbert Preining*Typesetting with Kanji — Japanese typography*

Japanese typography is very particular and demanding in several respects: four writing systems mixed together (Kanji, Hiragana, Katakana, Roman letters); vertical and horizontal typesetting; traditional grid layout versus a mixture of writing systems. This all led to a spin-off T_EX implementation called “Publishing T_EX” (pT_EX) that can deal with these specifics.

Until 2011 there was an independent distribution of T_EX for Japanese users, first based on t_ET_EX, later on T_EX Live (ptetex, ptexlive). T_EX Live 2011 and 2012 introduced all of the necessary tools and features and we hope that with T_EX Live 2012 the need for a special setup for Japanese users is past.

In this talk we give an overview of the specialities of Japanese typography, presenting the difficulties met in modern texts. Continuing, we present the solutions provided by T_EX Live to some of these problems, and discuss further development.

Norbert Preining*T_EX Live 2012: Recent developments*

T_EX Live will be released in early summer 2012 and brings a couple changes that have been in the works for a long time: a “multi-updmap” that reads several `updmap.cfg` files, and multi-repository support for the T_EX Live Manager `tlmgr`.

The `updmap` program generates the necessary

configuration files for `dvips`, `dvipdfm(x)`, `pdftex`, and `pxdvi` to display PostScript Type1 fonts. It reads a configuration file that lists several map files, and combines all the font definitions from these map files. Until now local font maps had to be integrated into this `updmap.cfg` file, and so could easily be overwritten or otherwise be lost.

The new implementation has a long history. The original Perl version was written by Fabrice Popineau for Windows, later extended by Reinhard Kotucha and Karl Berry and used, starting last year, on all platforms supported by T_EX Live. The code has now been extended to deal with multiple configuration files in a transparent way.

This allows a clear separation of `updmap.cfg` file parts. One `updmap.cfg` file now can (but does not have to) provide information about only the `texmf` tree it resides in. In other words, fonts installed into, for example, the `TEXMFLOCAL` tree can be activated by an entry in the `updmap.cfg` file *in this tree*.

We will discuss this new functionality and provide usage examples and advise on transition from the old system.

The other big change in T_EX Live this year is the extension of the T_EX Live Manager with the capacity of reading multiple repositories. In recent years, a few alternative T_EX Live repositories have come into existence with a wide range of usage patterns: distribution of local packages (Japanese T_EX related packages in `tlptexlive`, Korean T_EX User Group repository), T_EX Live infrastructure testing (in `tlcritical`), provision of development and non-free packages (in `tlcontrib`), etc.

Until now a user had to go through all desired repositories one by one passing the necessary parameters for each in turn. The new `tlmgr` supports use of several sources at the same time. The selection of packages appearing in multiple repositories is done by “pinning” packages to a repository.

We will present this new functionality, give usage examples, and a guided tour through setting up and using this new feature.

We will close with an overview of other changes in T_EX Live 2012.

Will Robertson & Frank Mittelbach

L^AT_EX3: From local to global — a brief history and recent developments

The original source code for L^AT_EX3 dates to the early 1990s. Key aspects of its development occurred during that decade, but it was not until the late 2000s that the project began delivering code that was widely used by mainstream L^AT_EX users. What happened in this time? This talk will discuss how

L^AT_EX3 development evolved over the decades and how it reached a state of being used to produce real users’ documents whether or not they are actually aware of it. L^AT_EX3 can be thought to consist of separate ‘layers’, and the programming layer known as `expl3` is starting to be used to solve problems in and write packages for L^AT_EX 2_ε. Our plans are not restricted to such ‘under-the-hood’ measures, however, and we have discussed layers of L^AT_EX3 that will have more visibility at the user interface. Our talk will discuss these separate layers and where our plans lead in the future, and will conclude with a demonstration of what’s new in the current code. [Slides available at www.latex-project.org/papers/.]

Will Robertson

Lineage and progeny of fontspec and unicode-math

My first L^AT_EX package, `fontspec`, was written in 2004 before I knew how to program in L^AT_EX and in truth before I knew how to program at all. This trial-by-fire introduced me to the lovely world of T_EX programming and after some time I ended up writing a smattering of other works. (All the while actually starting to learn what this whole ‘programming’ thing was all about, including how to please and displease people who were just trying to get work done, thank you very much.) Some time later I foolishly tried ‘planning’ an ambitious new package, `unicode-math`, that took significantly longer to release. In the course of writing that package I learned really just how little I actually knew, and as a side-effect somehow ended up helping to write code for the L^AT_EX3 project. In this talk I will talk about the motivation for writing these two packages, discuss recent developments with them, and finally touch on how L^AT_EX3 influenced their development.

Herbert Schulz

Workshop: Introduction to TeXShop

A workshop introducing some of the more obscure and less used features of TeXShop for users who wish to become more proficient in its use to produce L^AT_EX documents.

Christina Thiele

Almost 30 years of using T_EX

It’s not just T_EX that’s gotten older and more seasoned . . . Reflections on changes in T_EX and friends as used in a small typesetting company: software and hardware, of course, but also procedures and skills, resources that went from zero to virtually infinite, all of it interwoven with life and personal change. It’s not earth-shaking news, but we’ve come far enough that looking back yields some interesting comparisons.