

POV-ray: A 3D graphics tool for T_EX

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POV-ray (<http://www.povray.org>) is a 3D image renderer. T_EX is a text typesetting engine. The two programs have much in common: Freely available; multi-platform; unrivalled output quality; text-based input; ability to read and write files; fully programmable. We will show how these two programs can work together to make beautiful documents. In particular, we will concentrate on how T_EX can use POV-ray to add photorealistic embellishments to textual documents.

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The teT_EX distribution

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This talk is about teT_EX. I will explain what teT_EX is, and my role in the development of teT_EX and T_EX Live. Some of my own contributions (e.g. configuration tools: texconfig, updmap, fntutil) are explained in more detail.

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T_EXPower: Dynamic presentations with L^AT_EX

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In the talk, a bundle of L^AT_EX packages and classes is presented which provides an environment for designing *dynamic pdf presentations*, mainly for the purpose of displaying with a video beamer.

The heart of the bundle is the texpower package, providing:

1. commands for *incremental display* of page contents;
2. commands for designing page backgrounds and ‘panels’;
3. commands for *navigation helpers*.

As the effects provided by texpower are implemented entirely based on the L^AT_EX kernel, without resorting to special effects like PostScript, T_EXPower is independent of the method of *pdf generation* and does not rely on external postprocessors or such. It is also completely independent of the *document class* used, though seminar-based classes harmonising well with the texpower package are part of the bundle.

Because of the unique way incremental display is implemented, it is sometimes harder in T_EXPower than in other similar packages to keep ‘static’ parts of the page from “moving around” during display. In fact, almost all pitfalls can be avoided by adhering to a number of simple design rules, which will be pointed out in the talk.

The upside of “doing it all in T_EX” is the unique flexibility and customizeability of

- the *order* in which things are displayed and
- the *way* in which hidden/appearing things are displayed.

Concerning the order of display, the full range of L^AT_EX’s abilities for constructing case distinctions can be employed.

Concerning the way of hiding and displaying things, the possibilities range from things just appearing out of blank space via objects being replaced by other objects to hidden text being displayed with dimmed colors and undimming incrementally. Special effects such as objects flying around or growing into place are also possible, limited only by the algorithmic capabilities of T_EX (and the performance of the computer running Acrobat Reader).

T_EXPower is currently in a pre-alpha state and will probably stay that way for some time, but the development release is quite stable and usable. The project web site <http://texpower.sourceforge.net> gives easy access to updates and communication with developers.

(We expect to publish the full paper in the next regular issue of *TUGboat*. *Ed.*)

XemTeX: An integrated platform for high quality scientific typesetting

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This talk will describe a project funded by the French Ministry for Education. This project aims at building a tightly integrated TeX+XEmacs distribution which will be distributed to French high schools. There is a growing demand by mathematics and physics teachers for a TeX-based solution. The first target platform will be Windows, Linux being second. In order to draw as many people as possible to TeX, even novices, they must be provided with a package up to the standards of most word processors: the users will be exposed to only one application and not to dozens of binaries. Another point that keeps many people from using TeX is not so much the (L^A)TeX language itself, but that maintaining a TeX distribution is difficult and can be time consuming.

The XemTeX project has been submitted and accepted for funding to build a free platform that should be much easier to use than the current ones, based on the XEmacs editor and a subset of the current TeX Live distribution. The project will address several problems, including creating an enhanced XEmacs mode for typesetting TeX documents, tightly integrating the viewer into XEmacs and documenting the product. These points will be addressed in this talk, as well as the current status of the project, and possibly how to get funding for such projects.

TeX on Mac OS X using teTeX and TeX Live

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Mac OS X is the successor to Mac OS (a.k.a. Mac OS Classic). Mac OS X is based on a modern open source Unix foundation (though most Mac OS users will not be aware of this) and as such is currently the most widely used desktop Unix. Since it is indeed a Unix, the famous TeX distribution by Thomas Esser (teTeX) may be used as a TeX engine.

Mac OS X differs with other Unixes in several ways. Technically, there are differences most noticeably at the file system level, the text format level and the graphical display level. With respect to the latter, Mac OS X display technology is entirely based on PDF, and as such it is a system where pdfTeX is really “at home”.

But at least as important, there is a difference between Mac OS X *users* and users of other Unix desktops, in that they are generally far less ‘computer literate’ at the technical level. Anything presented to typical Mac OS users should follow the motto “it just works” (and without any use of Unix-level technologies like shells). This includes handling complexities like updating TeX on a regular basis without having detailed knowledge of the technicalities involved.

Bringing TeX to Mac OS X has therefore been a complex project with hurdles and pitfalls on many levels. The talk will present some of these hurdles and the solutions inspired by them, some of which are solutions reached at in collaboration with others or more often entirely created by others.