The XEmTeX Project

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You said TEX? Why TEX today?

- ► T_EX is still a must for many typesetting tasks:
 - ▼ higher education: mathematics, physics...
 - ▼ large typesetting jobs
- ▶ Many people have just heard about it and wonder how to come to T_EX.
 - **▼** The learning curve is to steep
 - ▼ You can't ask someone to install a couple of tools and read a 200 pages manual before starting to do anything
- ▶ Ready to run distributions are a big step in helping them.



Problems

Still, there are problems people do not want to deal with:

- ► Your T_EX distribution, as complete as it is, does not hold every tool needed.
- ► The first missing tool is a T_FX-oriented text editor.
- ▶ But you may need many others: Perl, ImageMagick, NetPBM, etc.
- All in all, our free T_EX distributions are not up to the standards of commercial products when it comes to integration.



What to do?

- ▶ We have the TEXLive distribution as a starting point
 - But not entirely satifactory given some of the emails I get
- ► How to enhance it along the previous lines?
- ▶ Start to think about the Win32 platform
 - **▼** What makes commercial applications successful?
- Linux users are of a different species.
 - **▼** *They are not afraid of dealing with the system*
- ► How do behave any standard application today?
- ► The one-icon-on-the-desktop paradigm.
 - **▼** *Many people don't want to bother with mechanics when they buy a car*



Why XEmT_EX?

In fact lots of reasons...

- First of all because of T_EX!
- XEmacs is a free text editor
- XEmacs is flexible enough to serve as an integrator for all other tools
- XEmacs is multiplatform and takes advantage of native widgets
- XEmacs has already good support for TEX



What I didn't say

- ► XEmT_EX won't be as extensive as extensive as T_EXLive
- ► XEmT_EX will includes all tools needed to produce PDF or HTML files
- ► XEmT_EX will allow transparent use of these tools
 - **▼** Everything will remain hidden to the user
- ► XEmT_EX will install in one click



Free Software and Funding

- ► GUTenberg wanted to deliver a T_EX product for mathematics and science teachers, because of a persistent demand
- Opportunity of RNTL projects
 - National Network on Software Technology
- ▶ Provides funding for *research projects* and *pre-competitive projects*
- ► Third category: free software projects
- ▶ Eligible projects must gather at least a research institution and a company
- ▶ Need for the *right argumentation*: not that easy to "sell" T_EX today
 - 1. spread TEX in higher education for free (by opposition to MSWord) because there is a demand
 - 2. widening TEX audience, GUTenberg being there to take care of training if needed
 - 3. T_EX considered more difficult to *install* and *to maintain* than *to use*
 - 4. free project whose benefits will be returned to the community.



The Road to XEmT_EX

- The starting point is TEXLive 7.
- ► We use the T_EXLive project repository (Perforce server) and in fact, bothe projects will be merged
 - **▼** part of XEmT_EX will be on T_EXLive 8
- ▶ We act as an integrator: we are not building a whole new world, but we will rely on existing tools.
- ▶ We prefer to put glue between boxes: we can't change the package we use unless there is an agreement with the maintainer.
- ▶ Iterative development: release, then add a couple of features and release again.



- Framework
- We want a restricted distribution: selected packages, mostly the teTEX texmf tree plus a couple of other things.
- We want PDF and HTML output only.
- As few binaries as possible: that means pdfetex is enough.
- Only Type1 fonts: no metafont, no mktex*
- Metapost to draw diagrams.
- We want a text editor: XEmacs.
- Support tools: AUC-TeX, Preview-LATEX, ...
- Ispell and dictionaries.
- ImageMagick.
- Ghostscript and GSView.

Installer

- ► The TEXLive installer is not satisfactory: portability, compliance, etc.
- ▶ Should we stay with dedicated installers or go with portable one?
- ▶ MSI on Windows, Debian package on Linux.
- ► No package selection for XEmT_EX.
- complex post installation
- ► TEXLive wil benefit from the MSI installer.

Editing text

- ► AUC-TeX considered not intuitive for beginners.
- ▶ Dialog between User and XEmacs.
- ▶ Definition of menus and toolbars for XEmacs
- ▶ Adding a rebar control to XEmacs maybe a plus.
- ► Equation editor
- ► Graphics files, support for MetaPost



Viewing documents

- Output in HTML or PDF, only PDF is a problem
- ▶ No PDF viewers in common between Windows and Linux
- ▶ Windows: GsView and Acrobat Reader
- ▶ Remote control: both can be controlled by DDE
- ▶ Package vpe by Heiko Oberdiek



Documentation

- Documentation is a key point of the project.
- ► 4AllT_EX as an example of what to do.
- ► Installation guide, Quickstart guide, User Manual
- ▶ Demo files for the targeted public



Current Status of the Project

http://www.fptex/org/xemtex/

- ▶ The project has officially started in November 2002 for a global duration of 18 months
- ► Installer: 90% done for both XEmT_EX and T_EXLive
- ► Editing text: the ergonomic study has been done thanks to EDP-Sciences, based on user input and extensive review of all available editors
- ▶ Implementation step-by-step because AUC-TeX modifications involved.
- ► Viewer: need to find a solution under Linux (xpdf, gv?)
- ▶ A first version scheduled for july but busy with TeXLive 8!



Conclusion

- Maybe nothing really new
- ▶ But certainly a plus for beginners
 - ▼ we need to get new users to TeX,
 - ▼ we need to target the right audience with the right arguments
- ▶ We are confident in delivering the bundle
- National funding was needed and has been obtained
- ► The T_EX community should seek more funding outside of itself.