The MacTeX distribution

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Abstract

This article describes the contents of the MacTeX distribution included in the TeX Collection 2005. It gives an overview of the distribution, rather than an exhaustive discussion.

1 Introduction

For the TeX Collection 2005, the TUG Working Group for Mac OS X produced a modern TeX distribution and related applications for Mac OS X, named MacTeX. For more information than this brief overview can provide, as well as downloads of the software, please see http://tug.org/mactex.

The principal feature of MacTeX is an Easy Install Package, created by Jonathan Kew, containing Gerben Wierda's gwTeX re-distribution, plus XeTeX, TeXShop and related packages for those who wish to install a full, mature TeX working environment on the Macintosh platform at the click of a mouse. Many additional individual applications are included (but not installed by default) for those with more specialized or advanced needs.

2 A bit of history

The idea for, and initial discussion about, a TeX distribution for Mac OS X came at a "Birds of a Feather" meeting at the PracTeX 2005 conference held at Chapel Hill, North Carolina, USA. Members present in Chapel Hill were: Kaveh Bazargan, Karl Berry, Hans Hagen, Jonathan Kew, Richard Koch, Wendy McKay, Volker Schaa, and other meeting attendees. Several others could not attend directly but participated via text and audio chat[1] and collaborative editing:[2] Bob Kerstetter, Jérôme Laurens, Adam Lindsay, Ross Moore, Will Robertson, Herb Schulz, Joseph Slater and Gerben Wierda.

Discussion continued at the conference banquet that evening and the next morning Jonathan Kew presented the group with the Easy Install Package.[3]

This initial impetus gave rise to a TeX4Mac project with a CVS repository at sarovar.org in August, 2005. The name TeX4Mac was later changed to MacTeX for aesthetic reasons. The basic directory structure was constructed and an initial selection of software to be included in this first release was gathered. We also discussed licensing restrictions:

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[1] Using Apple's iChat AV, http://www.apple.com/macosx/features/ichat/.

[2] Using SubEthaEdit, http://www.codingmonkeys.de/subethaedit/.

[3] Word has it that Jonathan remained fully awake all day.

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not all the applications that come as part of the MacTeX distribution may be included with commercial re-distributions, and source is not available for all included applications, but all may be noncommercially copied. In parallel with all this, Richard Koch started testing the Easy Install Package for compatibility with different versions of Mac OS X.

3 The MacTeX Easy Install Package

The MacTeX Easy Install Package contains a complete and up to date TeX system as well as Graphical User Interface (GUI) applications. The supplied GUI applications allow you to:

1. Edit, typeset and preview your documents using TeXShop as a front end to the TeX typesetting system;

2. Spell Check your documents, skipping embedded commands, using Excalibur; and

3. Build and maintain BibTeX databases using BibDesk.

In detail:

- Installed into /usr/local, as if by i-Installer (using /Library/i-Installer/Receipts):
  - TeX, installed with options Full, TL 2005 and x86/ppc. This is Gerben Wierda's gwTeX re-distribution based on teTeX (for the foundation) and TeX Live 2005 (for the programs and scripts) with some additions. MacTeX assumes defaults for some of the configuration steps based on the user's environment; these can be changed by re-running the Configuration stage of the TeX i-package using i-Installer (see below). This distribution is ready for the announced change by Apple from PowerPC (ppc) to Intel (x86) processors during 2006.
  - XeTeX. A typesetting system based on a merger of the TeX system with Unicode and Mac OS X font technologies. More information about XeTeX can be found in Jonathan Kew's article [1].
  - CM-Super, CB Greek and MusixTeX fonts and any associated packages;
  - ConTeXt updater;
  - Ghostscript 8;
  - ImageMagick, with Freetype2 and libwmf;
  - libconv (only installed on Mac OS X 10.2; later versions of OS X already have it);

- Installed into /Applications/TeX:
  - TeXShop (version 1.40 for Panther and 2.04 for Tiger; the Tiger version is both ppc and x86 compatible);

– BibDesk (also both ppc and x86 compatible);

– Excalibur (in a sub-directory, with documentation and dictionary).

• Installed in `/Applications/Utilities`:

– i-Installer. Gerben Wierda's combined install, update and configure application for gwTEX and other packages.

4   Other folders

Separate from the MacTEX Easy Install Package are several other folders. These contain:

• documents on getting started with the installed system;

• some introductory documentation on LATEX;

• duplicates of some of the GUI applications for those who already have a TEX distribution or other special needs; and,

• some additional or alternative software.

We briefly discuss each of these.

4.1   Demos

This folder has some showcases of what can be accomplished with the most popular "dialects" of TEX on Mac OS X; Plain TEX, LATEX, ConTEXt, XƎTEX and XƎLATEX.

4.2   Documentation

Some URL files for further information about TEX on Mac OS X on the Internet as well as copies of *"A (Not So) Short Introduction to LATEX"* in several languages [2].

4.3   Extras

The Extras folder contains several subdirectories:

• duplicates of several GUI programs in the Easy Install Package for those who already have a TEX distribution;

• alternatives to the GUI applications in the Easy Install Package; and

• additional software that a TEXer might find useful.

The subdirectories are:

Bibliography: Bibliography programs for building and maintaining BIBTEX databases.

Browsers: Programs to browse, look at documentation for and download extensions to LATEX.

Editors & Front Ends: Alternate Editors, Typesetters and Previewers for TEX. These range from "WYSIWYM (What You See Is What You Mean)" to a Programmer's Editor which interacts with the TEX system via script extensions.

Equation Editors: These allow the user to create beautiful equations, etc., that may be exported for use in other applications; e.g., illustration and presentation software.

Previewers: A separate DVI and PDF previewer for use as an external viewer with other editors.

Scripts: Files to integrate some external programmer's editors with the TEX system.

Spell Checkers: TEX, LATEX and ConTEXt aware spell checkers.

5   Production

The TUG working group on Mac OS X consisted of many individuals contributing time and effort assembling this first release of MacTEX, including: Karl Berry (ISO production, licensing), Peter Dyballa, Jonathan Kew (creator of the Easy Install Package), Bob Kerstetter, Richard Koch (Easy Install maintenance), Adam Lindsay, Adam Maxwell, Wendy McKay (chief instigator), Herb Schulz (editor and repository maintenance), Maarten Sneep (testing), Bruno Voisin, Gerben Wierda. Our apologies for any inadvertent omissions!

6   In closing

If you find the distribution useful, please consider supporting the effort by joining TUG, `http://tug.org/join.html`, or the TEX user group best for you, `http://tug.org/usergroups.html`. If you have problems, want to report bugs, etc., please join the mailing list for TEX Users on Mac OS X, `http://www.esm.psu.edu/mac-tex/main.shtml#Mailinglist`. Additional contributors (development, testing, documentation) are most welcome.

References

[1] Jonathan Kew, "XƎTEX, the Multilingual Lion: TEX meets Unicode and smart font technologies," *TUGboat*, 26(2):115–124, 2005.

[2] Tobias Oetiker, Hubert Partl, Irene Hyna and Elisabeth Schlegl, "The (Not So) Short Introduction to LATEX 2$_\varepsilon$," Version 4.14, 04 April, 2004. `http://www.ctan.org/tex-archive/info/lshort`, and `/usr/local/teTeX/share/texmf.tetex/doc/latex/general/lshort.pdf` in the gwTEX distribution.

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