New \TeX Live front ends

Siep Kroonenberg
Motivation

- Perl/Tk GUI toolkit had become problematic
- TeX Live Manager shell mode
- Accommodate Mac OS
The new GUls

- new tcl mode for installer
- tlshell for TeX Live Manager
- tlcockpit for TeX Live Manager (Norbert Preining)
Installer: initial window

TeX Live 2019 Installer
r. 50796

Installation root: C:/texlive/2019

Disk space required (in MB): 6021
Default paper size: A4
Install for all users: False
Install TeXworks front end: True

Advanced  Quit  Install
## Installer: advanced window

### TeX Live Installer

**Directories**
- **TEXDIR:** /usr/local/texlive/2019
- **TEXMFLOCAL:** /usr/local/texlive/texmf-local
- **TEXMFHOME:** ~/Library/texmf

**Platforms**
- **Current platform:** MacOSX current (10.12-) on x86_64
- **Additional platform(s):** None

**Selections**
- **Scheme:** full scheme (everything)
- **Collections:** 40 / 41
- **Disk space required (in MB):** 5879

### Options
- **Default paper size:** A4
- **Allow execution of restricted list of programs via \write18:** Yes
- **Create all format files:** Yes
- **Install font/macro doc tree:** Yes
- **Install font/macro source tree:** Yes
- **Create symlinks in standard directories:** No

**Specify directories**

**After install, set CTAN as source for package updates:** Yes

**Quit** | **Install**
Installer: dialog for installation root

![Installer dialog for installation root](image.png)
Installer: tracking the installation

Installing [155/442, time/total: 00:20/01:14]: gloss-occitan [77k]
Installing [156/442, time/total: 00:21/01:18]: glyphlist [25k]
Installing [157/442, time/total: 00:21/01:18]: gmp [812k]
Installing [158/442, time/total: 00:21/01:17]: graphics [2016k]
Installing [159/442, time/total: 00:21/01:15]: graphics-cfg [2k]
Installing [160/442, time/total: 00:21/01:15]: graphics-def [11k]
Installing [161/442, time/total: 00:21/01:15]: gstopk [31k]
Installing [162/442, time/total: 00:21/01:15]: gstopk.x86_64-darwin [41k]
Installing [163/442, time/total: 00:21/01:15]: guide-latex-fr [9392k]

See /usr/local/texlive/2019/index.html for links to documentation.
The TeX Live web site (https://tug.org/texlive/) contains any updates and corrections. TeX Live is a joint project of the TeX user groups around the world; please consider supporting it by joining the group best for you. The list of groups is available on the web at https://tug.org/usergroups.html.

Add /usr/local/texlive/2019/texmf-dist/doc/man to MANPATH.
Add /usr/local/texlive/2019/texmf-dist/doc/info to INFOPATH.
Most importantly, add /usr/local/texlive/2019/bin/x86_64-linux to your PATH for current and future sessions.
Tlshell: main window
Tlshell: repository selection
# Tlcockpit

![Tlcockpit](image)

<table>
<thead>
<tr>
<th>Package</th>
<th>Description</th>
<th>Installed</th>
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<tbody>
<tr>
<td>collection-pictures</td>
<td>Graphics, pictures, diagrams</td>
<td>Installed</td>
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<tr>
<td>collection-plaingeneric</td>
<td>Plain (La)TeX packages</td>
<td>Installed</td>
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<tr>
<td>collection-pstricks</td>
<td>PSTricks</td>
<td>Installed</td>
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<tr>
<td>auto-pst-pdf</td>
<td>Wrapper for pst-pdf (with some psfrag features)</td>
<td>Installed</td>
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<tr>
<td>bclogo</td>
<td>Creating colourful boxes with logos</td>
<td>Installed</td>
</tr>
<tr>
<td>dsplot</td>
<td>Macros for Digital Signal Processing plots</td>
<td>Installed</td>
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<tr>
<td>makeplot</td>
<td>Easy plots from Matlab in LaTeX</td>
<td>Installed</td>
</tr>
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<td>pdftext</td>
<td>Support for PSTricks in pdiTEx</td>
<td>Installed</td>
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<tr>
<td>pdffig</td>
<td>Use PSTricks in pdiTEx</td>
<td>Installed</td>
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<tr>
<td>pedigree-perl</td>
<td>Generate TeX pedigree files from CSV files</td>
<td>Mixed</td>
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<tr>
<td>nshan</td>
<td>Draw Ban diagrams</td>
<td>Installed</td>
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Search: __________________________ Go Reset

Tlmgr status: Idle

- Experts only
- Debug
$ tlmgr shell

Conversation starts

tlmgr> install lshort-english
[1/1, ??:??/??:??] install: lshort-english [696k]
running mktexlsr ...
done running mktexlsr.

OK

tlmgr>

Conversation continues
$ <path>/install-tl -gui text

Conversation starts

======================> TeX Live installation procedure <=====================

======> Letters/digits in <angle brackets> indicate <=======

======> menu items for actions or customizations <=======

...

<S> set installation scheme: scheme-full

...

<D> set directories:

\texttt{TEXDIR} (the main TeX directory):
\begin{verbatim}
/usr/local/texlive/2019
\end{verbatim}

\texttt{TEXMFLOCAL} (directory for site-wide local files):

...

Actions:

<I> start installation to hard disk

<P> save installation profile to ’texlive.profile’ and exit

<H> help

<Q> quit

Enter command:
Conversation continues

Enter command: D

Directories customization:

<1> TEXDIR: /usr/local/texlive/2019
    main tree: /usr/local/texlive/2019/texmf-dist

<2> TEXMFLOCAL: /usr/local/texlive/texmf-local
...
...
Actions:
<R> return to main menu
<Q> quit

Enter command:
Divert interaction through a GUI

User  
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Front ends
Implementation

• New front ends are separate programs
• No third-party language bindings: one dependency less
• Data exchange between front end and back end
• Tcl/Tk:
  – tcl mode for installer
  – tlshell for \TeX\ Live Manager
• Java: tlcockpit for \TeX\ Live Manager (Norbert Preining)
Tcl/Tk

- Same Tk as in Perl/Tk, but several versions ahead
- Light-weight, easy to work with
- Cross-platform and part of Mac OS
- 6.3MB runtime for Windows
Localization

- Built-in `msgcat` provides default locale
- Home-made translation function uses `gettext .po` files directly.