

A Brief Introduction to L^AT_EX

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What is it, and why should you care?

\LaTeX is:

- A typesetting system (an extension of \TeX written by Donald Knuth)
- Available for a wide variety of systems
- A simple way to create documents
- Ugly (or so some people will have you believe)

\LaTeX is not:

- HTML, XML, or PDF (but you could use it to produce any of those — with varying degrees of difficulty)
- Ugly (really!)

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Basically you're on your own:

- Installation is outside the scope of this talk
- Generally it will be provided as a package for proper operating systems, e.g.,
apt-get install tetex-bin
apt-get install tetex-extra
- For others try texlive:
<http://www.tug.org/texlive/>



But L^AT_EX documents are ugly!

- Knuth's Computer Modern fonts are distinctive, free and an acquired taste
- Fortunately it's really easy to choose something else
- For example, add this to your file

```
\usepackage[T1]{fontenc}
\usepackage{pxfonts}
```



A basic L^AT_EX document

Example

```
\documentclass[a4paper,12pt]{letter}
\usepackage[T1]{fontenc}
\usepackage{pxfonts}
\begin{document}
\address{1 Long Street\\Longwhitecloudland}
\signature{Mr Angry Worduser}
\begin{letter}{Mr Bill Gates\\ Seattle}
\opening{Dear Bill}
Word makes me very angry.
\closing{Yours irately,}
\end{letter}
\end{document}
```

A basic L^AT_EX document

Example

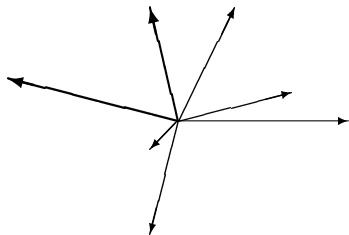
```
\documentclass[a4paper,12pt]{article}
\title{Report on important stuff}
\author{Matthew Hunt}
\date{\today}
\begin{document}
\maketitle
\tableofcontents
\section{Why this stuff is important}
This stuff is important because:
\begin{enumerate}
\item It is
\end{enumerate}
\end{document}
```

From here it's a short leap to:

- Mail merge
- Generating printed reports from your programs
- Use your imagination



Mapping imagination



Example

```
\setlength{\unitlength}{0.75mm}
\begin{picture}60,40
\put30,20{\vector1,0{30}}
\put30,20{\vector4,1{20}}
\put30,20{\vector1,2{10}}
\thicklines
\put30,20{\vector-4,1{30}}
\put30,20{\vector-1,4{5}}
\thinlines
\put30,20{\vector-1,-1{5}}
\put30,20{\vector-1,-4{5}}
\end{picture}
\end{figure}
```

L^AT_EX can do a lot:

- But CTAN lets you add even more
<http://ctan.org/>
- It's like CPAN, but they thought of it first



The End

Once you get used to the syntax, \LaTeX is a fine environment for creating good looking documents, PDF reports, letters, slideshows like this one, etc.

And you do get used to the syntax.

But...

*“Please don’t ask me how it works,
or I’ll start to whimper.”*



Useful sites with pointers to other sites (there's a lot of information out there):

- The T_EX User's Group <http://www.tug.org/>
- Cambridge University's T_EX pages
<http://www.eng.cam.ac.uk/help/tpl/textprocessing/>
- MacT_EX — A fully packaged T_EX and L^AT_EX distribution for MacOSX <http://www.tug.org/mactex/>
- The Comprehensive T_EX Archive Network <http://ctan.org/>

Some useful guides (generally typeset in \LaTeX and providing full source — a good place to look for ideas on how to do neat tricks):

- The Not So Short Introduction To $\text{\LaTeX} 2_{\epsilon}$
<http://www.tug.org/tex-archive/info/lshort/>
- \LaTeX Primer from the Indian \TeX User Group <http://www.eng.cam.ac.uk/help/tpl/textprocessing/ltxprimer-1.0.pdf>
- Making Friends with \LaTeX
<http://tug.ctan.org/tex-archive/info/MFwL/>
- The \LaTeX Wikibook <http://en.wikibooks.org/wiki/LaTeX>
- \LaTeX for Beginners
<http://www-lmmb.ncifcrf.gov/~toms/latexforbeginners.html>
- And many, many others

Perl Stuff:

- Template::Latex – Latex support for the Template Toolkit
<http://search.cpan.org/~andrewf/Template-Latex-2.17/>
- LaTeX::Parser - Perl extension to parse LaTeX files
<http://search.cpan.org/~svenh/LaTeX-Parser-0.01/>
- L^AT_EX::TOM — LaTeX :: TeX Object Model, a perl module
http://br.endernet.org/~akrowne/elaine/latex_tom/
- ltxtemplate — A Perl script to create L^AT_EX templates
<http://theoval.cmp.uea.ac.uk/~nlct/latex/apps/ltxtemplate/ltxtemplate-man.html>
- latex2html — A Perl script that converts L^AT_EX documents to HTML
<http://www.latex2html.org/>
- Search CPAN for “latex” and “tex” to find more good stuff

GUIs – if you ever tire of editing \LaTeX by hand in vi:

- LyX — The Document Processor <http://www.lyx.org/>
- Kile — an integrated \LaTeX environment
<http://kile.sourceforge.net/>