Designing Manuals with \LaTeX

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Who developed \LaTeX? 

TEX is a typesetting system written by Donald Knuth at Stanford University in 1978. \LaTeX{} is, as a collection of T\TeX{} macros, a document preparation system initially written by Leslie Lamport in 1984.
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Basic \LaTeX\ syntax

\documentclass[a4paper,10pt]{memoir}
\usepackage{dhucs}

\makeindex

\begin{document}
\frontmatter
\tableofcontents
\listoftables
\listoffigures

\mainmatter
\chapter{Overview}
\section{Summary}\label{sec:summary}
\subsection{Features}
blah blah blah\ \ Refer to Section \ref{sec:summary}.
\include{Installation}
\input{Setup}

\backmatter
\printindex
\end{document}
How to compile a \TeX document?

\begin{itemize}
  \item \texttt{foo.tex} $\longrightarrow$ \texttt{foo.toc} $\longrightarrow$ \texttt{foo.pdf}
  \item \texttt{foo.tex} $\longrightarrow$ \texttt{foo.log} $\longrightarrow$ \texttt{foo.dvi}
  \item \texttt{foo.idx} $\longleftrightarrow$ \texttt{foo.ind}
  \item \texttt{c.bat}
    \begin{verbatim}
    latex foo
    makeindex foo
    latex foo
    latex foo
    dvipdfmx foo
    \end{verbatim}
\end{itemize}
What is the virtue of \LaTeX? 

Free, open and bug-free software.

3.14159 as of 1995
3.141592 as of 2002

Nothing exceeds \TeX in typesetting; $2^{-3} = -\frac{1}{8}$

Visual markup, plain text and cross-platform
You don't need an expensive computer.
You are inspired with document structure.
You can concentrate only on contents.
You can change the style in totally different way with no side effects. (There are so many classes and packages.)
You can modularize your documents.
You can automate publications in connection with database. (Phone book in India)
You can get the highest productivity.
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What kind of \TeX\ distribution should I install?

- **OzTeX** A popular and up-to-date \TeX\ implementation for OS X and Mac OS.
- **teTeX** One of the most popular distribution for Unix systems, developed primarily by Thomas Esser.
- **fpTeX** A \TeX\ distribution for Win32 systems, developed by Fabrice Popineau and based on teTeX.
- **MiKTeX** A popular and up-to-date \TeX\ implementation for Windows, developed by Christian Schenk.
  
  [http://www.miktex.org](http://www.miktex.org)
- **ProTeXt** An easy-to-install \TeX\ distribution for Windows, based on MiKTeX.
What editors are available in Windows?

**TeXmaker**  Free cross-platform \LaTeX{} editor.  
http://www.xm1math.net/texmaker/

**TeXnicCenter**  IDE designed for Windows, but incapable of handling two-byte characters.  http://www.texniccenter.org

**WinEdt**  Shareware IDE for Windows, but incapable of handling Unicode encoding (utf-8).  http://www.winedt.com

**EmEditor**  A text editor supporting every character encoding as well as Unicode.  http://www.emeditor.com
Is there anything else that I should install?


DviOut  An DVI viewer, developed by Toshio Oshima http://ftp.ktug.or.kr/mirrors/dviout/

GraphicxMagick  An image format converter http://www.graphicsmagick.org
What references should I refer to?

lshort-kr.pdf http://faq.ktug.or.kr/faq/lshort-kr
A Guide to \LaTeX\ 3rd edition, 1999, Addison-Wesley
The \LaTeX\ Companion 2nd edition, 2004, Addison-Wesley
memman.pdf /tex/texmf/doc/latex/memoir/memman.pdf
What is LaTeX?
What I need to use LaTeX?
Things you had better know
Designing manuals with LaTeX

Fonts in TeX
Graphics in TeX

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Graphics in \TeX

- BMP $\rightarrow$ Raster EPS $\rightarrow$ PDF (.bb)
- Vector EPS $\rightarrow$ PDF (.bb)
- `\includegraphics[\text{scale=\text{figscale}}]{\text{fig}}`
How do people read the manual?

They read it using the product at the same time.

They read it under severe stress.

They read it not wholly but partially.
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What is the best layout for manuals? I

- Enumerated section titles
- Captioned tables and figures
- Page header (and footer)
- Table of contents
- List of figures
- List of tables
- Cross-reference
- Index
- Graphics: charts, diagrams and illustrations.
- Sectional titles numbered to the level of subsection.
- All graphics to be consistent and optimum with a page format in size and proportion.
- Floating objects thrown into the discard.
What is the best layout for manuals? II

- Pages with ragged bottoms.
- Asymmetric two columns. The left column is allocated for section titles and graphics, and the right column is allocated for body text.
- Tables and figures flushed into the left with their captions.
- Paragraphs without indentation but wider line space
- No more than two types of fonts but with their bold faces; however, index entries in the same fonts.
What does the hozemanucs class provide?

\placecapfig{filename}{caption}{text}
% filename is also used as a reference label.
\listfig{filename}
\illustfig{filename}{text}
\placesidefig{filename}
\linefig{filename}
\figscale, \@flfig, \figframe, \entitytopsep, \interwidth
\illustcaptable[label]{caption}{tabular}{text}
\grayrow
\alert[Caution]{text}
\button{text}
\terms{initials}{words}
Why should we modularize manuals?

- To save time.
- To share common text and graphics.
- To unify all contents of manuals.
- The file name database and conditional text make it possible. 
  \include{foo}, \input{foo}
How can we reuse then again select correct figure files?

- A same name given to figure files with a same feature.
- Looking over figure folders according to priority.
The End.

Thank you.