LATEXWorkshop

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This version is dated January 18, 2010

Outline

1. **LATEXPrimer**
   - What is LATEX?

2. **Software requirements**
   - Interfaces for a Windows PC
   - Interfaces for a Mac

3. **Installation**

4. **Further info**
   - Add-ons (from winedt.org)
   - Add-ons (for Mac)

5. **An example**

What is LaTeX?

- LaTeX is a document preparation system for high-quality typesetting. It is based on Donald E. Knuth's TeX typesetting language. LaTeX was first developed in 1985 by Leslie Lamport, and is now being maintained and developed by the LaTeX3 Project.

- LaTeX is a markup language (like HTML, but much smarter).

- LaTeX is most often used for medium-to-large technical or scientific documents, but it can be used for almost any form of publishing.

- LaTeX is not a word processor! Instead, LaTeX encourages authors not to worry too much about the appearance of their documents, but to concentrate on getting the right content.

- More info here: ▸ Jump to the end

What is LATEX?

What is a markup language?

- Well, for starters, consider the LATEXcode for the beginning of this presentation:

```
13  \title[research skills]{\large \\ \LaTeX Workshop Graduate School of Governance
    Maastricht}
14  \author{\normalsize Jaap Bos (Utrecht \emph{University} School of Economics)}
15  \institute[USE]{\emph{This version is dated June 18, 2009}}
16  \date{\small June 18, 2009}
17
18  \begin{document}
19
20  \begin{frame}
21  \titlepage
22  \end{frame}
23
24  \begin{frame}
25    \frametitle{Outline}
26    \tableofcontents
27  \end{frame}
28
29  \section{\LaTeX Primer}
```

A bit more about markup languages

- So somewhere you or someone else has defined what e.g. title should look like....

- A collection of those features is called a **shell**.

- Once you've chosen your shell, you no longer worry about layout....

- In the end, you *compile* the document, and a software package turns it into readible and printable output.

What is LATEX?

Who uses LATEX?

- Scientists (physics, etc.), and other geeks, nerds (www.tug.org, or www.dante.org)
- Increasingly many people working in economics and finance.
- The publishers of the journals that you read and submit to...
- Many people in your science.
- Yours truly.

What is LATEX?

What kind of a LATEXuser am I?

- For 99% of my work I use the same shell (which I dowloaded from Elsevier (it's what they use for their journals as well)).
- It makes me much more productive and helps me avoid some of the wordprocessing problems I hate the most.
- I've occasionally used it to do math as well (more later, or ask me!).
- It helps now that I'll be writing a book and integrating some papers in that book.
- I really like the combination with Stata.
- I sometimes use SWP like old-school Wordperfect (with the underwater screen).
- Every now and then I like to do some of my own programming...

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An example

What is LATEX?

How does Scientific Workplace relate to LATEX?

- Scientific Workplace (SWP) is one of those programs used for programming in LATEX. The key difference with most of the other programs: it is (almost) completely windows based. So you don't have to worry about all that code.

- LATEXsnobs will tell you SWP is for dummies, but the truth is, it can almost completely be integrated with LATEX.

- So in principle you don't have to choose: you can start with SWP and later switch to LATEX.

- SWP is a commercial package, so you (or USE) will have to pay....

- SWP has MUPAD (remember the math I talked about?)

What is LATEX?

How does Word relate to SWP and LATEX?

- Word is not a markup language (yet!)...

- ...but HTML is.

- Word becomes more and more like HTML (try opening a website in Word, and you'll see what I mean).

- Word2TEXis relatively simple.

- TEX2Word is more troublesome.

- A bit about writing papers with Word users...

Pros of Scientific Workplace

1. It is very stable.

2. It is easy to use (easier than LATEX)

3. It is somewhat (!) more compatible to Word than LATEX.

4. Your documents will look great.

5. Almost all types, shapes and looks of documents are available.

6. SWP5 now has pdftex....

7. You can use a lot of LATEXprogramming, should you choose to do so.

Cons of SWP

1. It is definitely not as flexible as Word.

2. To get more flexibility you'll still have to learn how to program (big minus, unless you know and like html).

3. It comes at a price (albeit a reasonable price).

4. You'll have to learn a new program.

Pros of LATEX

1. It is the best package for documents containing mathematics.

2. It is free on virtually every computer in the world.

3. It is portable: stick to the standard commands and everyone can read and exchange documents.

4. The source file is purely alphanumeric so it can be read by eye or posted by e-mail with no problems associated with different versions or binary files.

5. LATEXhas the reputation of being hard, but in fact it is effectively the same as HTML!

6. It is very stable (graphs, tables, citations, reference lists, table of contents, etc.).

7. It can be integrated with Stata.

What is LATEX?

Cons of LATEX

1. It is perhaps not as flexible as Word.

2. To get more flexibility you have to learn how to program (big minus, unless you know and like html).

3. It is very difficult to write with non-LATEXusers.

4. In a way, you're still more lay out focussed, just like a Word-user.

Interfaces for a Windows PC

Winedt.com

http://www.winedt.com

Interfaces for a Windows PC

Winedt.com – other programs to install

http://www.winedt.com

Interfaces for a Windows PC

MikTeX

http://www.miktex.org/

...typesetting beautiful documents...

○ Web ○ miktex.org

Google Search

Home

About

MiKTeX
MiKTeX Tools

Download

MiKTeX 2.7

DVD/CD

MiKTeX on DVD-R
MiKTeX on CD-R

Help & Support

Documentation
Support
Feature Requests
Troubleshooting

Welcome to the MiKTeX project page!

MiKTeX is an up-to-date TeX implementation for the Windows operating system.

TeX is a typesetting system written by Donald E. Knuth, who says that it is "*intended f* *and especially for books that contain a lot of mathematics*".

Learn more...

MiKTeX Releases [compare]

2.8 [status]
    xetex 0.997, pdftex 1.40.4, LuaTeX, mpost 1.001
2.7 [status] [download] [issues]
    xetex 0.997, pdftex 1.40.4, mpost 1.001
2.6 [status] [download] [issues]
    pdftex 1.40.4, mpost 1.000
2.5 [status] [download] [issues]
    pdftex 1.30.6, mpost 0.901

MiKTeX Package Repository [status]

Version: 2948
    Date: 1/27/2008
Packages: 1542

Interfaces for a Windows PC

Ghostscript and Ghostview

http://www.ghostscript.com/awki

Interfaces for a Mac

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Ghostscript Website

Welcome to Ghostscript, an interpreter for the PostScript language and for PDF.

Releases and **News**

The leading edge of Ghostscript development is now under GPL license, as is the latest release, Ghostscript 8.60.

Ghostscript can be downloaded from cs.wisc.edu and sourceforge.net.

Documention

We keep online documentation for the development tree and many previous releases in the documentation archive.

Developers

- Mailing lists
- Bugzilla
- Source repository
- Bug bounty program

Related projects

Other page description languages:

- Ghostpcl
- Ghostpdf
- Ghostxps
- MuPDF

A user-friendly viewer:

- GSview

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     after compilation.

4. You're set to go!

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3. Once the download is finished load the disk image (if it doesn't happen automatically) and run the installer (MacTeX-2007.mpkg) contained within.

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4. The package includes programs such as TeXShop which enables you to create full LaTeX documents.

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5. Check out http://guides.macrumors.com/Installing_LaTeX_on_a_Mac

Life, the LATEXway

1. Take care when you work: be precise.

Life, the LATEXway

1. Take care when you work: be precise.
   - If things go really bad, trash your auxiliary files (all the extra stuff latex creates) and compile gain. Oh, and just create a new version of your paper every day (e.g. by dating it). TeX papers are REALLY small.

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3. You *will* have a steep learning curve in the beginning.
   - But things go much smoother after a short while (my co-authors wrote their first draft of our joint paper in a week after they first used LATEX).

Most common mistakes

1. If you \begin something, you should also \end it....

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Add-ons (from winedt.org)

JabRef

http://jabref.sourceforge.net/

Add-ons (from winedt.org)

TexAide

http://www.dessci.com/en/products/texaide/

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Add-ons (from winedt.org)

Excel2Latex

http://www.ctan.org/tex-archive/support/excel2latex/

Add-ons (from winedt.org)

Tablas (also in English)

http://www.informatica.us.es/˜calvo/latex.html

Tablas versión 3.0.0.4 (2-6-2004)

Programa que permite exportar e importar tablas LaTeX de forma visual.
Algunas características de este programa son:

- Admite distintos idiomas (por ahora, español, inglés).
- Tiene fichero de ayuda para windows en español o inglés.
- Permite exportar a formato JPEG.
- Se pueden utilizar bordes, colores de fondo, colores de letra, columnas de ancho automático o fijo, justificar el texto en las celdas, crear multicolumn, etc.
- Permite el intercambio de información en los dos sentidos con Winedt.
- Permite ver el aspecto de la tabla si tenemos instalado LaTeX (por ejemplo: MikTeX con Yap).
- También puede crear código Pstricks para representar Redes y Árboles.
- Etc.
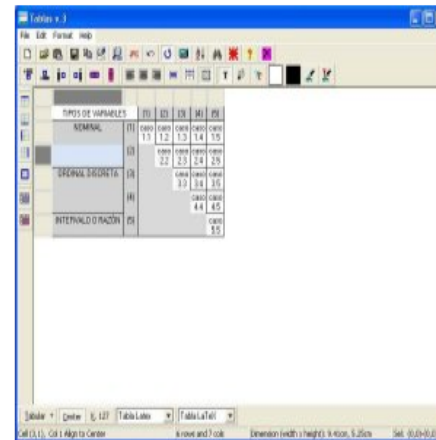
Download:

- tablas3sp.zip (con ayuda en español).
- tablas3.zip (con ayuda en inglés).
- **Versiones anteriores de tablas:**

Nota:

Ayuda en línea de Tablas en su versión actual en español o inglés.

Versiones anteriores de Tablas.

Add-ons (from winedt.org)

Latable

http://www.g32.org/latable/

Add-ons (for Mac)

TeX FoG (for Mac)

http://homepage.mac.com/marco_coisson/TeXFoG/
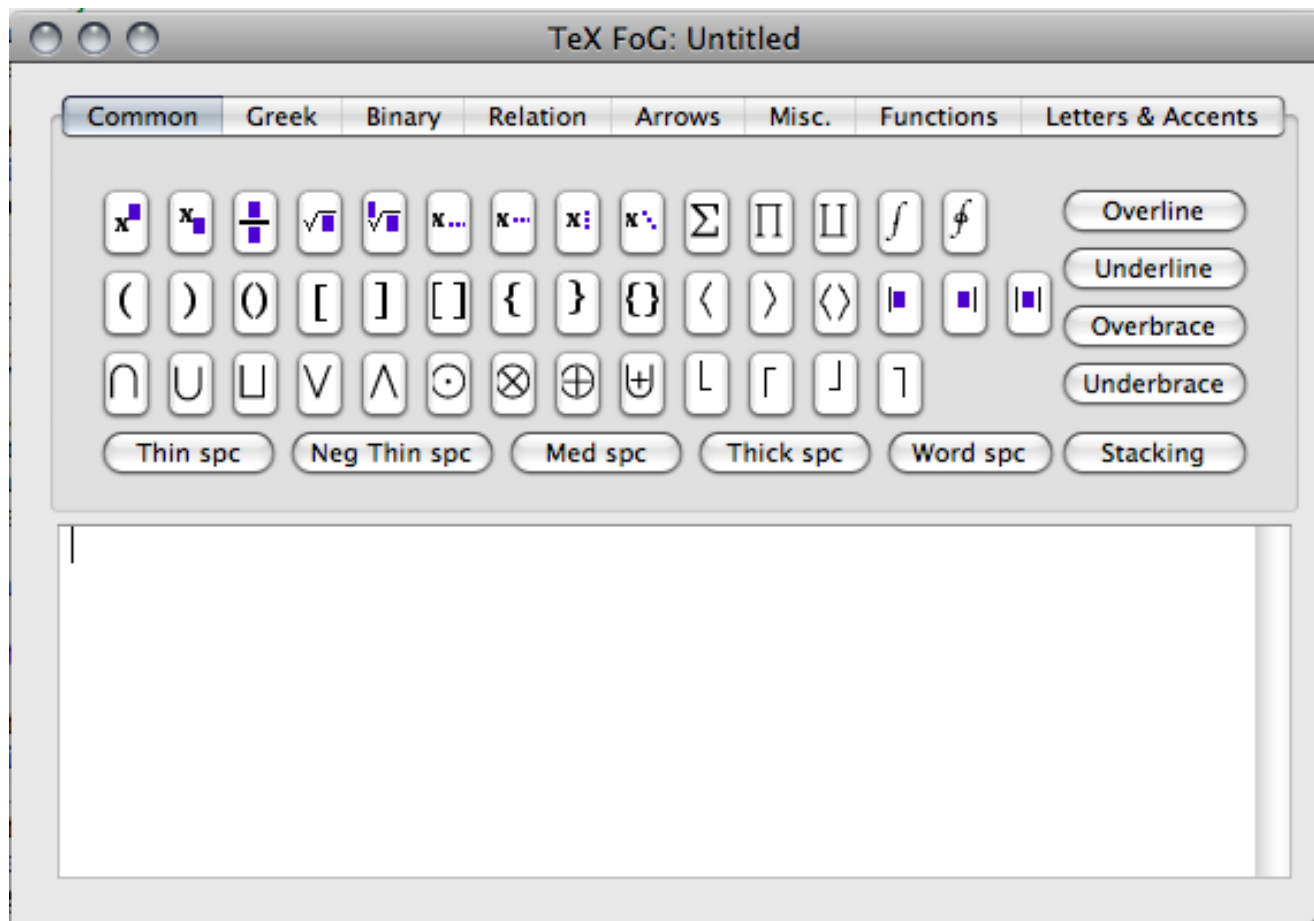
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An example

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- Now we'll go through a simple paper, with:
    - A graph
    - A table
    - A reference list, and two types of references

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- The paper will be in the Elsevier Preprint style (see my blog at http://www.jwbbos.com, under "**Code**", entitled "**LaTeX Links**" for info on this).

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- The paper will be available at the same place where all other material for this seminar is available.

Where to find this information

- You can visit http://www.jwbbos.com/LaTeX .

- Also, visit my website at http://www.jwbbos.com . Go to "**Code**", and find the post that is entitled "**LaTeX Primer**."