LaTeX Primer

Clint Grimsley clint.grimsley@gmail.com

September 29, 2012

Outline

What is LaTeX

- TeX is a typesetting program
- LaTeX is a document preparation system
- The result of compiling a document created in LaTeX is typically a PDF document
- it's all plaintext, which means it has awesome features
  - version controllable with things like git, mercurial, subversion (gross) and CVS (grosser)
  - compressable
  - easily ported and emailed
  - highly programmatic
  - encryptable with GnuPG

LaTeX, isn't that paint?
Tell me more!

What is LaTeX
More reasons LaTeX is awesome

More reasons LaTeX is awesome

- Keeps awesome bibliographies (BibTeX)
- Can be made aware of different journal formats
  - APA
  - Chicago Style
  - MLA
- Programmatic
  - Means you can use fun languages like Python to generate really good looking reports from SQL databases
  - Or you can use with other usual suspects, like emacs org-mode and DocBook

LaTeX, isn't that paint?
Tell me more!

BibTeX
Tables

Tell me more!

- BibTex
  - Keep bibliographies in an easy-to-read plaintext document
  - example:

    ```
    @Book
    {ESR2001,
       author = {Eric S. Raymond},
       title = ``The Cathedral and the Bazaar'',
       booktitle = ``The Cathedral and the Bazaar'',
       publisher = www.snowballpublishing.com,
       year = {2010}
    }
    ```

  - The beginning (after the @Book) is the reference identifier, this can be used to create footnotes in your articles that will provide hyperreferential links within the resulting PDF document, as well as do things like paranthetical citations
  - the rest is self-explanatory

Tables

- Tables are the cornerstone of good reporting
- Be forewarned, tables take practice

Sample Table	
Data	1
Data	2

LaTeX, isn't that paint?
Tell me more!

BibTeX
Tables

Table Sample Code

```
\begin{table}
  \centering
  \begin{tabular}{|l|l|}
    \hline
    \multicolumn{2}{|c|}{Sample Table} \\
    \hline
    Data & 1 \\
    Data & 2 \\
    \hline
  \end{tabular}
\end{table}
```

- this is easily my favorite trick, inline shell execution
- Let's assume I have a script that will return output formatted in a certain way, generally by populating a file
- Example: a mysql batch script that will pull values from a database, pipe through sed, and then use awk to populate a LaTeX table.