CS697 - Tools of the Trade

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April 6, 2012
Categories of Tools

- Search: finding and accessing papers
- Organization: ideas, notes, papers
- Writing: text editors, typesetters
- Programming: source control
- Presentation: slides, diagramming
Search

- Google
- Google Scholar
- CiteSeer
- ACM
- IEEE
- Other Journals...
Organization

- Things that need organization:
  - Research papers
  - Ideas and notes
  - Bibliography management
  - Scheduling

- Features to consider
  - Searchable
  - Network-accessible
  - Data privacy
Example Tools For Organization

- Evernote
- Papers
- CiteULike
- Google Calendar/iCal
- Jabref
- EndNote
Writing

- \LaTeX{} or word processor?
- Choice of text editor: vim, emacs, others
- Features to consider
  - Ease of learning vs flexibility and power
  - Integration with organizational tools: citation management
  - Ease of managing large documents (thesis will get pretty large).
  - Revision control
Programming

- Languages (C, Java, Matlab, ATS, ...)
- IDE, text editor
- Debuggers
- Source code management (SCM) tools: CVS, Subversion, Git, Mercurial
- SCM can be used on your thesis too!
  - These slides are maintained with Mercurial
## Source control

<table>
<thead>
<tr>
<th></th>
<th>SVN</th>
<th>Git/Mercurial</th>
<th>Fossil</th>
<th>Darcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributed</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Locking</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Branch/Merge</td>
<td>Hard</td>
<td>Easy</td>
<td>Easy</td>
<td>Very Easy</td>
</tr>
<tr>
<td>Model</td>
<td>Versioned FS</td>
<td>Change History</td>
<td>Change History</td>
<td>Patch Algebra</td>
</tr>
<tr>
<td>File Format</td>
<td>Custom</td>
<td>Custom</td>
<td>SQLite</td>
<td>Custom</td>
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<tr>
<td>Other Notes</td>
<td>Many Hosting Options</td>
<td>Many Hosting Options</td>
<td>Integrated Bug Tracker and Wiki</td>
<td>Change Centric</td>
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</tbody>
</table>
Presentation

- Powerpoint
- OpenOffice.org Impress
- Keynote
- Beamer - \LaTeX\ package used for these slides
Resources At BU

- Library – www.bu.edu/library
- Writing Center –
  www.bu.edu/writingprogram/the-writing-center
References

- http://www.darcs.net
- http://www.fossil-scm.org
- http://mercurial.selenic.com
- http://www.git-scm.com
- http://subversion.apache.org
- http://www.tug.org
- http://www.evernote.com
- http://www.mekentosj.com/papers
- http://jabref.sourceforge.net
- http://www.citeulike.org
- http://www.math.umbc.edu/~rouben/beamer