using time wisely in research:
computer tools for keeping up + collaborating

jake hofman
department of physics, columbia university
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outline

- rss feeds
- paper/reference management
- version control/back up
- scripting/shell tips
disclaimer

- mac osx & linux > windows
- get cygwin for windows: http://www.cygwin.com/
- not an expert, but have some experience
- please interrupt with comments, suggestions, etc.
rss feeds

- rss = "really simple syndication"
- compact format for summarizing internet content
- published by source on internet
- user subscribes and reads with client or "feed reader"
- advantages over email alerts:
  - inboxes are for mail, not news
  - centralized
  - easily flag/tag/share individual items
feed readers

- stand-alone applications

- browsers w/ integrated readers
  - safari
  - firefox

- website readers
  - [http://reader.google.com](http://reader.google.com)
**google reader**

- accessible from any web browser, e.g. mobile
- flag items for followup
- tag interesting items to share
- integrated email
- keyboard navigation
example feeds: news

- http://news.google.com
example feeds: blogs

- gelman: http://www.stat.columbia.edu/~gelman/blog/
- machine learning: http://hunch.net/
- structure + strangeness: http://www.cs.unm.edu/~aaron/blog/
example feeds: journals/jobs

- by publisher:
  - http://feeds.aps.org/
- by third party:
  - http://www.citeulike.org/rss/journal/mitpress-jmlr
- search over journals
  - http://www.pubmed.org
manipulating feeds: yahoo pipes

- many feeds = too much info
- http://pipes.yahoo.com
- filter feeds on keywords
- combine multiple feeds
- ... much, much more
example pipes

- generic feed filter: http://pipes.yahoo.com/pipes/pipe.info?_id=4uqGy9Vt3BGgxgTdy6ky6g
- PNAS filtered: http://pipes.yahoo.com/pipes/pipe.info?_id=xqBLH5tG3BG5Pq3HdLq02Q
- scientific grant search: http://pipes.yahoo.com/pipes/pipe.info?_id=PhKiFckZ3BG2kyovn0artA
- nytimes through youtube: http://pipes.yahoo.com/pipes/pipe.info?_id=GrnthQ3d2xGYXqOolfxiAA
creating feeds: feed43

- not all pages offer feeds
- but many have regular structure
- create feeds from any page
example: ego feed

▶ original url: http://www.google.com/search?as_qdr=d&as_q=jake+hofman

▶ feed43 edit: http://feed43.com/feed.html?name=google_jake_hofman_24hr

▶ resulting feed: http://feed43.com/google_jake_hofman_24hr.xml
example: bishop’s publications

- original url: http://research.microsoft.com/users/cmbishop/publications.htm
- feed43 edit: http://feed43.com/feed.html?name=cmbishop_publications
- resulting feed: http://feed43.com/cmbishop_publications.xml
example: sciencemag postdoc

- original url: http://aaas.sciencecareers.org/js.php?view=1&lookid=aaas&tmplId=&q=postdoc&qMatch=all&qField=All&qSort=date&qCity=&qCountry=&qMiles=&qRegion=aaasregionnortheast&qInd=categoryphysics&qDate=&pp=20&fromSearch.x=57&fromSearch.y=5

- feed43 edit: http://feed43.com/feed.html?name=sciencemag物理学_postdoc

- resulting feed: http://feed43.com/sciencemag.physics_postdoc.xml
example: columbia career events

- original url: http://www.cce.columbia.edu/events/index.php
- feed43 edit: http://feed43.com/feed.html?name=cu-cce-events
- resulting feed: http://feed43.com/cu-cce-events.xml
sharing via feeds

- http://www.google.com/reader/shared/{user-id}
- tags (e.g. wigginslab)
- shared
- starred
- http://del.icio.us
- tags
- public
- popular
organizing papers/references

- papers (mac): http://mekentosj.com/papers
- zotero (firefox plugin): http://www.zotero.org
version control for writing/coding

- keeps and organizes all paper/code revisions
- automatic merging of multiple users’ simultaneous changes
- store repository locally (network-free access)
- store repository remotely (collaborate, backup)
version control software

- concurrent version system (cvs): http://www.nongnu.org/cvs/
- subversion (svn): http://subversion.tigris.org/
- comparisons:
  - http://users.footprints.net/~kaz/mcvs-svn-comparison.html
cvs demo

- import existing project on laptop to repository on cunix
- checkout copy of module to laptop
- make changes on laptop
- view log, diff (xxdiff?), etc.
- merge changes
scripting shell tips

- *bash* aliases (e.g. `ls`, `cd`, `emacs`, `pdflatex + bibtex`, `ssh`, `cvs`, `apps`, `proxy`)
- `sshkey` (e.g. `cvs`)
- `sed/awk/perl foo` (e.g. `gml`, `svmlight`)
- `wget/imagemagick` (scripts for figures, movies)
- `books/links`
thanks.