CAIA Infrastructure Series:
Revision Control

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What & Why

- What is a revision control system?
  - It automates the management of changes to a set of files

- Why would you want to use it?
  - In a nut shell, to avoid this: Is ~/badpractice/

- Common usage scenarios around CAIA:
  - Software development, paper writing, PhD work, website management
**Benefits**

- Incremental, documented history
- Protects your work
- Centralised access from anywhere
- Automatic merging for text-based formats
- Useful skills in industry
- Saves time
- Eases collaboration
- Encourages rapid development and prototyping
- Preserves sanity

**Revision Control @ CAIA**

- Both Subversion and Mercurial
  - Subversion is used for most things
  - Mercurial is used for development against third-party code
    e.g. FreeBSD
- Available for use by all of CAIA
- Backed up to our redundant RAID servers
- Currently administered by Lawrence, soon to switch to self-administered
- A tool which *everyone* should be using
Demo

- Create a local repository
  - Key concept: repository
- Import and commit some files
  - Key concept: working copy
- Create a tag
  - Key concepts: branching and cheap copies
- Create and resolve a conflict
  - Key concepts: collaboration and conflict resolution

Links

- Subversion
  - http://subversion.apache.org/
  - http://svnbook.red-bean.com/
  - http://tortoisesvn.net/
- Mercurial
  - http://mercurial.selenic.com/
  - http://hgbook.red-bean.com/
  - http://tortoisehg.bitbucket.org/
- Git
  - http://git-scm.com/
- Free online hosting:
  - https://github.com/
  - https://bitbucket.org/
  - http://gitorious.org/