Welcome to CSE 331!

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Version Control

(in which we build big software without losing our sanity)
Overview

• System for tracking changes to code
• Essential for managing big projects
  o Learn it now – you WILL use it again and again!
• Makes it easy to:
  o See a history of changes
  o Revert back to an older version of your code
  o Back up your work in case of hardware failure or stolen laptops
  o Merge multiple developers’ changes
  o Avoid overwriting each others’ changes
  o …and more!
• You’ll use Subversion (SVN) this quarter
  o There are others: Mercurial, Git, CVS, …
Organization

• A repository stores the master copy of the project
  o Someone creates the repo for a new project
  o Then nobody touches this copy directly
  o Lives on a server everyone can access

• Each person checks out her own working copy
  o Makes a local copy of the repo
  o You’ll always work off of this copy
  o The version control system syncing the repo and working copy (with your help)
Common Actions

Most common commands:

• **Commit / checkin**
  - integrate changes *from* your working copy *into* the repository

• **Update**
  - integrate changes *into* your working copy *from* the repository
More common commands:

- **Add, delete**
  - Add or delete a file in the repository
  - Just putting a new file in your working copy **does not add it to the repo**!

- **Revert**
  - Wipe out your local changes to a file

- **Resolve, diff, merge**
  - Handle a **conflict** – two users editing the same code
This Quarter

• Use Subversion for your homework assignments
• We distribute starter code by adding it to your repo
• You turn in your files by adding them to the repo and committing your changes
• Run validator tool to make sure you added everything correctly, etc.
• See the version control handout:
  http://www.cs.washington.edu/education/courses/cse331/12sp/tools/versioncontrol.html
How to use SVN

• Subclipse: Eclipse plugin
  o Recommended approach
• Command line
• GUI interface: TortoiseSVN, NatilusSVN