

Concurrent Version Control
 CSULA CS 491B
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CVS Overview

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CVS Goals

- Two types of development styles
 - "Cathedral-style"
 - "A Great Babbling Bazaar"
- Ground work for CVS
 - Diff and Patch
 - Revision Control System (RCS)

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CVS Description

- What CVS is not:
 - The Lock-Modify-Unlock Model
 - "File-Locking"
- What CVS is:
 - The Copy-Modify-Merge Model
- Reviewing terms:
 - check out, commit, conflict, Log message, repository, revision, update, working copy

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Copy-Modify-Merge Model

- CVS enables developers to edit simultaneously
- CVS assumes the burden of integrating changes
- CVS keeps track of conflict
- ***ALWAYS HAVE MASTER COPY AT RUNNABLE STATE**

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CVS keeps track of conflict

- When 2 or more developers work in the same area
- CVS alerts the conflict and it is up to the developers to communicate

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Other Revision Control Systems

- BitKeeper
 - scalable configuration management system
 - Distributed = every developer gets their own repository
- BitKeeper License
 - restrictions of pseudo-open-source license

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Other Revision Control Systems

- Microsoft Visual Source
 - manages projects regardless of file type by saving them into a database
 - VSS integrates
 - MS Access
 - VB
 - VC++
 - VisualFox Pro
- Distinction between text and binary

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Procedures

- Unix environment
- Other environments
 - There are Windows GUI versions
 - www.win cvs.org
 - Java CVS
 - www.jcvs.org

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Unix environment

- Setup CVSROOT
 - `unix$ CVSROOT=/usr/local/cvs`
 - `unix$ export CVSROOT`
 - `unix$ echo $CVSROOT`
 - `unix$ cd /cvs`
 - `unix$`
 - If you need access to many repositories, don't set CVSROOT
- Telling cvs location of repository
 - `unix$ cvs -d /usr/local/cvs command`

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Unix environment

- Starting a new Project
 - general syntax
 - `unix$ cvs import -m "log msg" projname vendor tag release tag`
- Running in port
 - example
 - `unix$ cvs -d /opt/cvs/ -m "log message" htmlatigobeta`

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Unix environment

- Checking out working copy
 - example
 - `cvs checkout html`
- Making changes
 - modify source
- Finding out changes
 - `cvs update` and `cvs diff`

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Unix environment

- Committing to changes
 - `cvs commit -m "my committed source"`
- Status of source
 - `cvs status sourcefile.txt`
- Resolving and Detecting Conflicts
 - finding out who did what
 - Examining and Reverting changes

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Resource

- [Http://cvsbook.red-bean.com/](http://cvsbook.red-bean.com/)
- PDF http://cvsbook.red-bean.com/OSDevWithCVS_3E.pdf

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