
Version Control

Your friendly assistant

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Chair of Programming Methodology

The slides in this section are partly based on
“A Visual Guide to Version Control”

1. What is Version Control?
2. Why use Version Control?
3. Lingo
4. Demos
5. Resources
6. Project submissions

VERSION CONTROL

What is Version Control?

- A way to track files over time
 - KalidAzadResumeOct2006.doc
 - KalidAzadResumeMar2007.doc
 - instacalc-logo3.png
 - instacalc-logo4.png
 - logo-old.png

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2. **Why use Version Control?**
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VERSION CONTROL

Why use Version Control?

- **Backup and Restore.** Files are saved as they are edited, and you can jump to any moment in time. Need that file as it was on Feb 23, 2007? No problem.
- **Synchronization.** Lets people share files and stay up-to-date with the latest version.

Why use Version Control?

- **Short-term undo.** Messed up a file? Throw away your changes and go back to the “last known good” version in the database.
- **Long-term undo.** Suppose you made a change a year ago, and it had a bug. Jump back to the old version, and see what change was made that day.

Why use Version Control?

- **Track Changes.** As files are updated, you can write messages explaining why the change happened.
- **Track Ownership.** Every change is tagged with the name of the person who made it.

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Lingo – Setup

- **Repository:** The database storing the files.
- **Server:** The computer storing the repository.
- **Client:** The computer connecting to the repository.
- **Working Set/Working Copy:** Your local directory of files, where you make changes.
- **Trunk/Main:** The primary location for code in the repository.

Lingo – Basic Actions

- **Check out:** Download the repository.

svn checkout --username *username* *url*

- **Add:** Add a new file to the repository.
(commit required)

svn add *filename*

- **Delete:** Remove a file from the repository.
(commit required)

svn delete *filename*

Lingo – Basic Actions

- **Commit:** Upload a changed file to the repository. **Attention!**

`svn commit -m “message” filename`

- **Changelog/History:** View a list of commit messages associated with a file.

`svn log filename [-l n]`

Lingo – Basic Actions

- **Status:** View the status of your repository: A, D, M, G, C, ?

svn status

- **Diff:** View the local changes to a file.

svn diff *filename*

- **Revert:** Throw away any local changes to a file.

svn revert *filename*

Lingo – Basic Actions

- **Update:** Bring your repository up-to-date.

svn update

- **Merge:** Merge your local changes with the latest version of the repository.
- **Conflict:** <<<<<, =====, >>>>>
- **Resolve:** Manually resolve the conflicts.

svn resolved *filename*

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Resources

- **Manual**

<http://svnbook.red-bean.com/>

- **GUI-Client for Windows**

<http://tortoisesvn.tigris.org/>

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VERSION CONTROL

Submission of the deliverables

- Each team should create an **SVN repository**
 - at e.g. svn.vis.ethz.ch, Google Code, SourceForge, ...
- The file system should have the following structure
 - ...\\svn\\trunk**Assignment** <{1,2,3,4,5}>
 - The name of the final file should be:
[SAE-<team name>]Assignment<{1,2,3,4,5}>.pdf
- Send the link to the repository to your TA.
- The answers will be collected at **midnight** of the submission day.

Any questions?