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# 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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# 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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# VERSION CONTROL

# 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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# VERSION CONTROL

# 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.

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# Any questions?