SENG 371
SOFTWARE EVOLUTION

SUBVERSION & GIT

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Reference :-
http://git-scm.com/book/en
http://svnbook.red-bean.com/en/1.7/svn-book.pdf

LAB OUTLINE

- Introduction to VersionControlSystem
- Subversion and Git
- Github

SUBVERSION CHECKOUT

- $ svn checkout http://svn.example.com/repos/calc
  A calc/Makefile
  A calc/integer.c
  A calc/button.c
  Checked out revision 56.
- $ ls -A calc
  Makefile button.c integer.c .svn/

SUBVERSION ADD & STATUS

- **svn add float.c** :- This command is used to add file, directory or symbolic link to repository. When you next commit, float.c will become a child of its parent directory.
- **svn status :-** This command will tell us the status of files. Files are modified, added or scheduled for deletion.

SUBVERSION COMMIT

- Lets assume we have changed button.c
- $ svn commit button.c -m "Fixed a typo in button.c."
  Sending button.c
  Transmitting file data .
  Committed revision 57.

SUBVERSION UPDATE

- $ pwd
  /home/pratik/calc
- $ ls -A
  Makefile button.c integer.c .svn/
- $ svn update
  Updating '.':
  U button.c
  Updated to revision 57.

Mixed revisions are normal

- The fact is, *every time* you run **svn commit** your working copy ends up with some mixture of revisions.
- Like if you have revision 5 in your working directory and you commit one particular file then it will get revision 6.

Work cycle

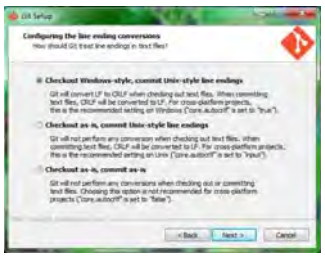
- **Update working copy :** - svn update
- **Make changes :-** svn add, svn delete, svn copy, svn move
- **Review Changes :** - svn status, svn diff
- **Fix mistakes :** - svn revert
- **Publish Changes :** - svn commit

Git

- Speed
- Simple Design
- Strong support for thousand of branches(non linear development)
- Fully distributed

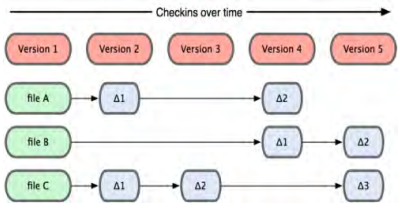
Installing Git Windows I

Installing Git Windows II



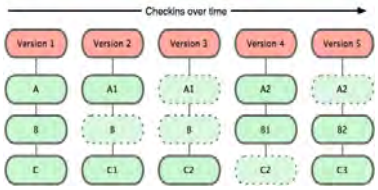
Other Vcs Systems

- Other systems tend to store data as changes to a base version of each file.



Git stores snapshots

- Git thinks of its data more likely as snapshots not differences. Like a mini filesystem.



Three States

- Git has three states in which file resides: committed, modified and staged.

Git Work Cycle

- Modify files in your working directory.
- Stage the files, adding snapshots of them to your staging area.
- Commit, which takes the files as they are in the staging area and stores that snapshot permanently to your Git directory.

Lab Exercise

- Please follow lab manual for Git.

References

- SVN-Book
- GIT- Book
- GIT - Quick Reference