SVN Totorial

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Why SVN?

Version Control

- Is a database which holds a complete history of what has happened to a file and the reasons why it changed.
- A system for managing changes to files to ensure a single consistent view of changes comming from multiple locations.

How does it work?

- keeps a copy of all registered files
- keeps a history for these files
- keeps info on who changed the file
- keeps a log, provided by the modifier, of what the change was supposed to do
- allows multiple local copies of a project
- automatically merges changes from different locations/people/branches to generate a consistent project



Why SVN?

The big idea

Allows multiple people with multiple local-copies of a project to edit files in the same project and keep all these copies consitent.

Does this by;

- checking if someone has edited the same file
- forcing you to resolve the different changes
- before allowing your changes to enter the repository

Nomclameture

repository the actual location where the "real" copy of the files lives
checkout the process of making a local copy of the repository
update the process of ensuring your local copy is up-to-date with the
current repository state
commit the process of merging your local changes into the repository

Typical project usage

• checkout an initial copy of the repository
U1: svn co

svn+ssh://mmmxserver.nici.ru.nl/Volumes/Xserver_RAID/BCI_code/svn/BCI P1 U2: svn up svn+ssh://mmmxserver.nici.ru.nl/Volumes/Xserver RAID/BCI code/svn/BCI P2

update local copies to get everyone elses changes
 U1: cd project; svn up

U2: cd project; svn up

edit files on the local copy U1: edit P1/file1.m

U2: edit P2/flie2.m

add new files to the local copy

U1: svn add P1/file11.m

U2: svn add P2/flie21.m

commit local changes to the repository (when tested and working)

U1: svn ci P1/file1.m -m "fixed bug 1"

U2: svn ci P2/file2.m -m "fixed bug 2"

goto 2 and repeat

Suggested workflow

```
9:00am Get to work, ;-)
9:01am SVN update (Finder->(ctrl-click)->more->Subversion->Update)
9:02am Get coffee (while update runs)
9:10am Make lots of changes
9:50am Fix lots of bugs
10:20am test the fix
11:20am SVN commit the bug fix with a comment to say what you've done

• you can do this direct from Matlab File->source
control->commit OR
```

- Finder->(ctrl-click)->more->Subversion->commit
- don't forget to add any new files you've created

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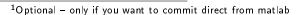
5:00pm SVN commit before you go home, just to check you haven't missed something!

bg-logo

Mac-OS SVN setup

- Install SCPlugin (Applications/Utilities/version control/SCPlugin-0.7.1.dmg)
- Install Matlab plugin¹ add this to Matlab path (BCI code/toolboxes/utilities/svn integeration/customverctrl.m)
- Setup password-less ssh run from terminal (BCI code/toolboxes/utilities/svn integeration/setup server pwless ssh.sh)
- Oheckout the BCI code repository:
 - svn co
 "svn+ssh://mmmxserver.nici.ru.nl/Volumes/Xserver RAID/BCI code/svn/BCI"
 - OR
 Finder->(ctrl-click)->more->Subversion->Checkout
 - Finder->(ctrl-click)->more->Subversion->Checkout From:

 $svn + ssh: //mmmxserver.nici.ru.nl/Volumes/Xserver\ RAID/BCI\ code/svn/BCI$



SVN got-yah's

- SVN only knows about registered files you need to add any new files you
 make
- the same applies when you move files to SVN this looks like a delete old+add new
- file deletion is treated as an (extreem) edit you need to commit deleted files to really delete them