

Version Control with Subversion (0.1)

Ian Johnson

<http://www.cems.uwe.ac.uk/~irjohnso/fsse.html>

Why Version Control?



*"I know this may be an awkward time,
but do you recall him ever mentioning source code?"*

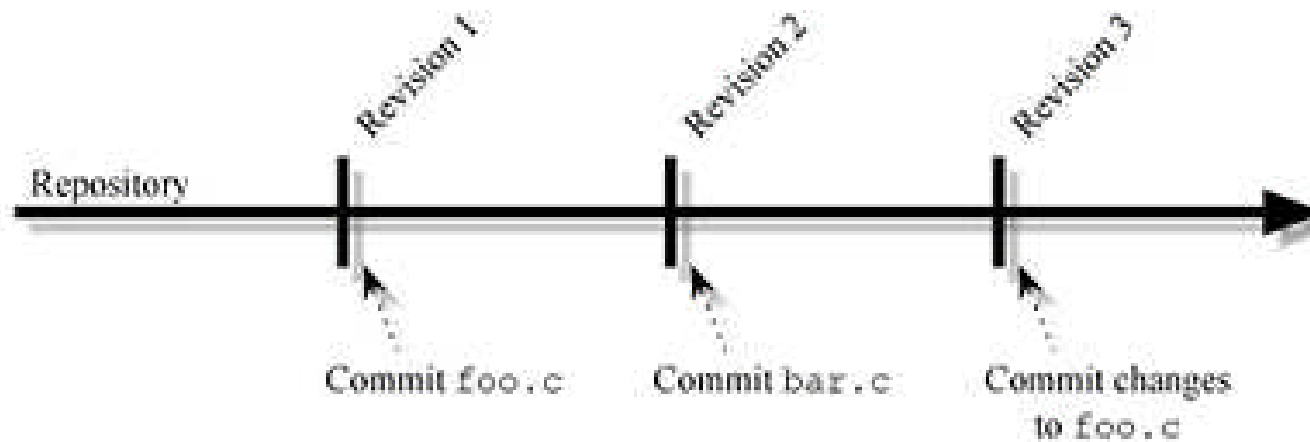
- Enforce Code checking
 - MISRA
 - Splint
- Enforce Company standards
- Maintain Source Availability
- Maintain multiple versions
- Retrieve older versions to either start again or replicate customer faults

- Data integrity
- Productivity
- Accountability
- Engineering process support
- Development Branching
- Rapid Development
 - Extreme Programming (XP)
 - Agile

VC Concepts

- The Repository (R)
 - Holds definitive version
- Working Directory (WD)
 - Active Development copy
- $WD \rightarrow R = \text{Commit}$
 - Management of this process can be extended to support in-house standards, e.g. only allowed: if peer-review completed, goes through splint cleanly etc.

- Revisions
 - Different versions of the project. Some VCS's do this at file level. Modern ones tend to be project orientated.
- Subversion is project orientated

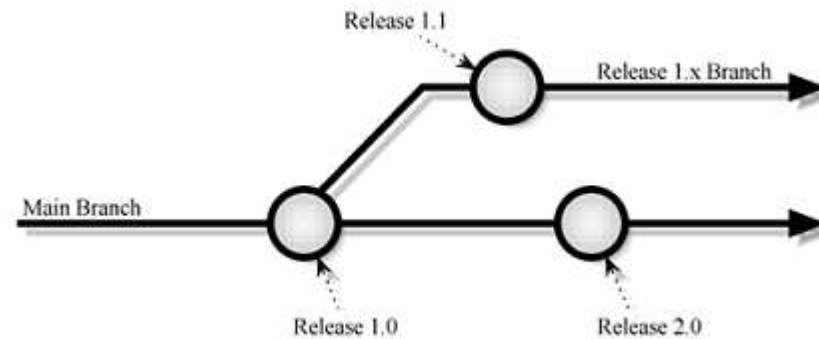


Other Key Concepts

- **Logs**
 - We want to know WHY changes were made
- **Tags**
 - Revision snapshots with meaningful names
- **Atomic Commit**
 - A commit either completes totally or fails
- **Hook Scripts**
 - A method to associate scripts (e.g. running splint) with actions

- Branching

- Parallel lines of development



- Locking

- “keep out” – MS sourcesafe approach

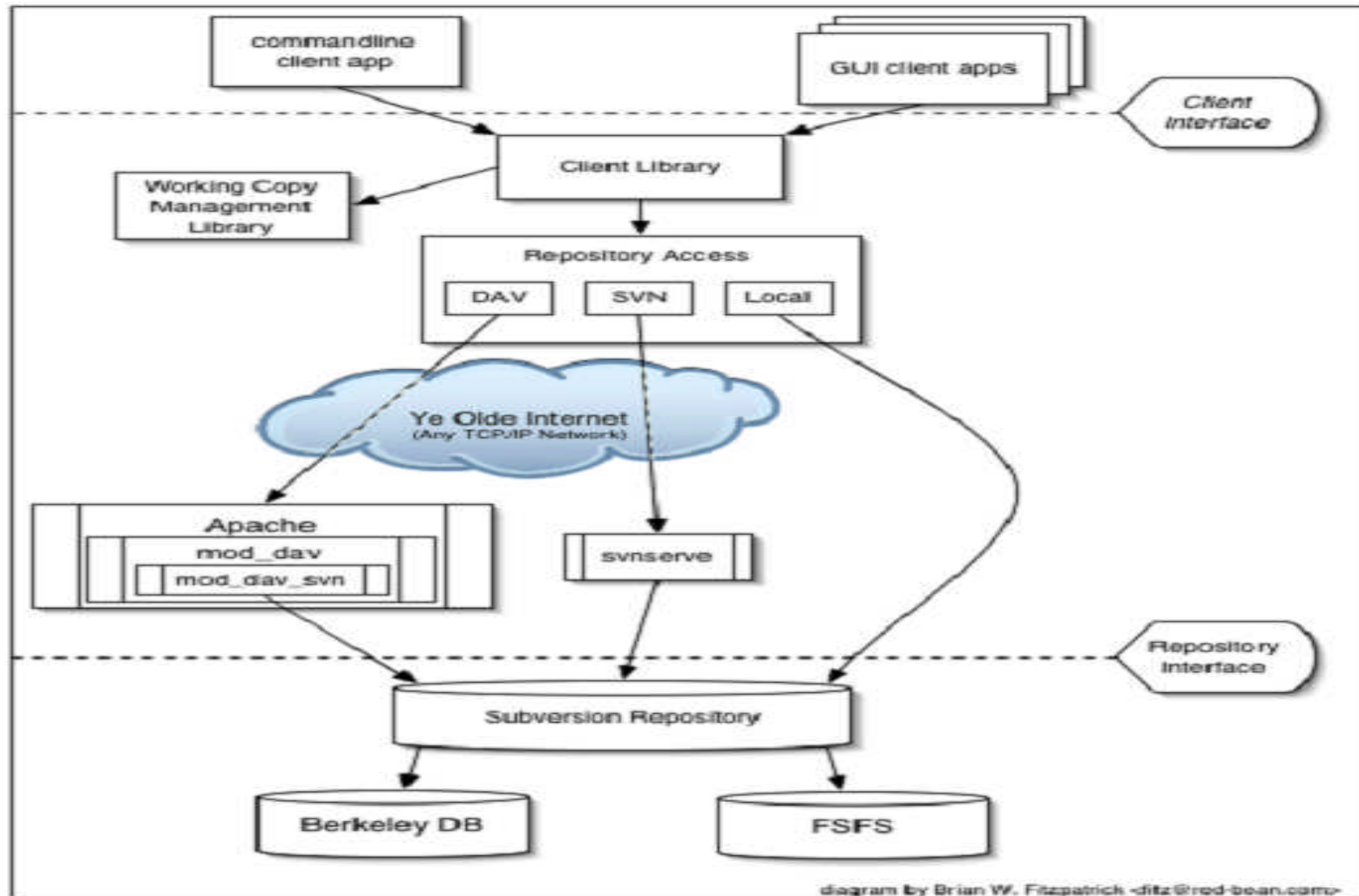
- Merging

- Combining branches back together

*nix VC

- In the beginning was RCS
 - Built into emacs (Nigel's worksheet)
- 1986 CVS
 - Probably showing its age a bit
- 2004 Subversion
 - Popular, open source standard
 - hosted at tigris.org
 - clients installed on Netlab machines
 - command line / windows shell extension

Svn architecture



Getting started

- There is a web based repository
 - <http://164.11.131.73/svn/CSITEST>
 - password?
- Local repositories
 - Recommend you get into groups and have a play
 - The subversion book is available free from tigris.org.

