Revision Control
(short version)

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September 10, 2014
TLAs

- RCS - Revision Control System
  - aka Source Control Management (SCM)
  - aka Source Control
  - aka Version Control
- cvs - Concurrent Versions System
- svn - Subversion
- p4v - Perforce
- git - Git
- hg - Mercurial
What is Revision Control?

- You copy files from a central server
- You make changes to your local files
- You copy files to the central server
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What is Revision Control?

Authoritative Server

You

Teammate

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What is Revision Control?

- A backup system
- A way to share code
- A history of your project
- An undo button
- A way to simultaneously edit the same files
Operations

- Copy from server
- Submit changes to server
- Check status of local files
- Lock files so no one else can change them
- Compare different versions of the same file
- Merge changes by two different people
Operations

- Copy from server
  - aka get update pull checkout revert (down)
- Copy changes to server
- Check status of local files
- Lock files so no one else can change them
- Compare different versions of the same file
- Merge changes by two different people
Operations

- Copy from server
- Copy changes to server
  - aka submit commit put push checkin (up)
- Check status of local files
- Lock files so no one else can change them
- Compare different versions of the same file
- Merge changes by two different people
Operations

- Copy from server
- Copy changes to server
- Check status of local files
  - aka status
- Lock files so no one else can change them
- Compare different versions of the same file
- Merge changes by two different people
Operations

- Copy from server
- Copy changes to server
- Check status of local files
- Lock files so no one else can change them
  - aka *lock*
- Compare different versions of the same file
- Merge changes by two different people
Operations

- Copy from server
- Copy changes to server
- Check status of local files
- Lock files so no one else can change them
- Compare different versions of the same file
  - aka diff
- Merge changes by two different people
Operations

- Copy from server
- Copy changes to server
- Check status of local files
- Lock files so no one else can change them
- Compare different versions of the same file
- Merge changes by two different people
  - merge and then resolve
Remember this?

p4v, svn

Diagram:
- You
- Teammate
- Teammate
- Teammate
- Teammate
- Authoritative Server
Distributed Source Control

git, hg

You

Teammate

Not Really Authoritative Server

Teammate

Teammate

Teammate
Don’t Break The Build!!!

- The version of the project in your authoritative server should *always* build and run.
- With 0 errors.
- And 0 warnings.
- Use a check build
Tips

- **ignore** unneeded files
  - don’t submit object files!
- **lock** binary files
Revision Control

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