

# Git for GlueX, Proposal

## Offline Software Meeting

Mark M. Ito

Jefferson Lab

July 8, 2015

# Director's Review of 12 GeV Software Computing, June 7-8, 2012

## Committee Recommendations:

...

17. While we encourage the move to git as a code management system, be sure not to underestimate the extent of the paradigm shift. Identify a workflow model for your use of git. Communicate clearly the new paradigm (easy branching, no central repository, etc.). Set up (or link to) tutorials for users with a mapping of routine CVS tasks to their git equivalents (such as cvs diff, etc.). Document or link to documentation for standard git tasks without obvious equivalent in CVS or SVN, such as git rebase, or bisect.

...

# Proposal for GlueX Move from Subversion to Git

There are two parts:

- 1 Workflow
- 2 Switch-Over Procedure

# Workflow I

- Goal: topic branch off master branch in the public repository
- The Workflow:
  - ▶ create local repository
    - ★ `git clone https://github.com/jeffersonlab/sim-recon`
  - ▶ create a local topic branch
    - ★ `git branch my_work`
  - ▶ move to the new topic branch
    - ★ `git checkout my_work`
  - ▶ ... work on topic branch, make changes, add them, commit them...
  - ▶ push local topic branch to public topic branch
    - ★ `git push origin my_work:new_bug_fix`
    - ★ creates branch "new\_bug\_fix" on public repository

# Workflow II

- The Workflow (continued):
  - ▶ issue pull request on GitHub
    - ★ navigate to the branch, click on "pull request"
    - ★ creates action item on GitHub
    - ★ requests that changes on branch "new\_bug\_fix" be merged onto master branch on public repository
  - ▶ someone else acts on pull request on GitHub
    - ★ navigate to open pull requests
    - ★ merge in changes
- Notes on this Workflow
  - ▶ Everyone needs an account on GitHub.
  - ▶ Anyone can update the master branch.
  - ▶ Changes should go onto topic branches, but enforced only administratively.

# Switch-Over Procedure

- 1 Comment: Only HDDS and sim-recon will be converted.
- 2 Comment: Having two authoritative repositories is a contradiction in terms.
- 3 Schedule switch-over for COB, Wed., July 15.
- 4 Between now and then, people should check in changes to the Subversion repository.
- 5 Continue to get experience using practice repositories.
- 6 Do final conversion from Subversion to Git overnight, Wed. to Thu.
  - ▶ Practice repositories will be deleted.
- 7 Open for business for Git after all-clear announcement Thursday morning.

# Help Resources

- 1 Pro Git (online book) <http://git-scm.com/book/en/v2>
- 2 GitHub Help Site <https://help.github.com/>
  - ▶ GitHub Bootcamp <https://help.github.com/categories/bootcamp/>
  - ▶ Good Resources for Learning Git and GitHub  
<https://help.github.com/articles/good-resources-for-learning-git-and-github/>
- 3 Naomi's Links <https://mailman.jlab.org/pipermail/halld-offline/2015-May/002037.html>
- 4 Command-Line Help: `git help`
- 5 Google <http://www.google.com>
- 6 Practice Repositories:
  - ▶ <https://github.com/jeffersonlab/sim-recon>
  - ▶ <https://github.com/jeffersonlab/hdds>
  - ▶ [https://github.com/jeffersonlab/git\\_test](https://github.com/jeffersonlab/git_test)

## 1 How are we notified of pull requests?

- ▶ Those interested in acting on pull requests should “watch” the appropriate repository.

On GitHub, go to settings/notification to configure how you are notified (email/website). Go to the repository page to mark the repository as being watched/not-watched/ignored by you.

## 2 What if I miss the deadline and have changes in Subversion that need to be checked in?

- ▶ Check them into Subversion. The diffs from after the deadline will be obvious. Mark I. will work with you to make the corresponding changes in the Git repository.

## 3 What if I get stuck in a Git situation that I don't understand?

- ▶ Ask for help: Mark I., Nathan, Justin, Hovanes, Richard Jones, Brad Sawatzky, Steve Wood, Mark Jones, Ed Brash, Balint Joo, halld-offline@jlab.org...

## 4 What if we want to go back to Subversion?

- ▶ There are tools to create Subversion repositories from Git repositories. We don't have experience with them. We should view this as a one-way street.

## 5 What is likely to be the biggest problem with the conversion?

- ▶ Lack of communication.