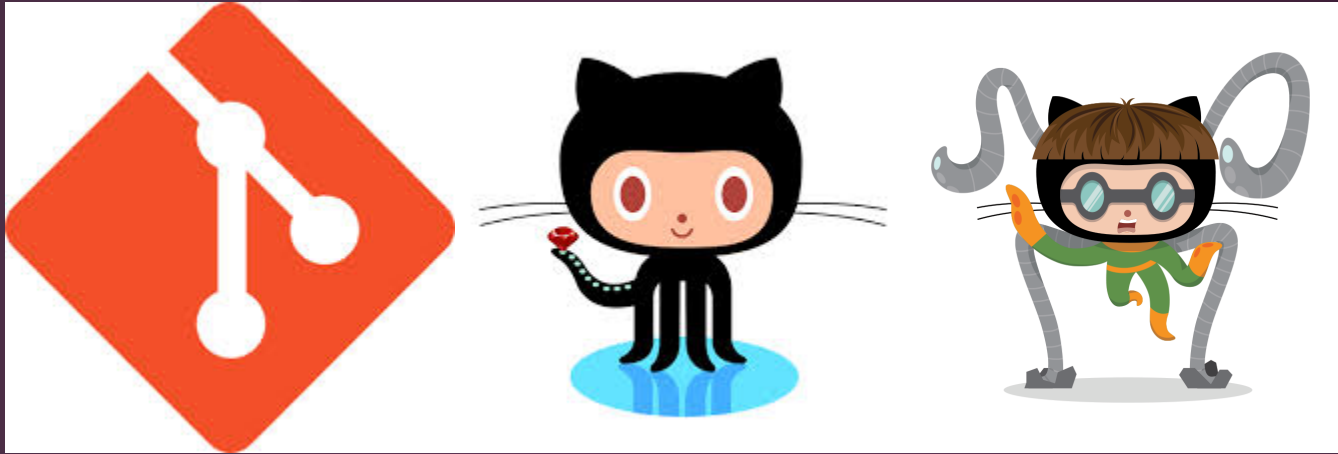


98-174 Modern Version Control With Git



by Jonathan Miedel and Alvin Wang

Class Logistics

- 15 Weeks
 - 13 Lectures
 - Midterm + Final
- Class materials hosted on GitHub
- For questions raise issues on GitHub or email us
- Class website
 - <http://dogfalo.github.io/git-stuco/>

Grading

- 8 Homeworks (40%)
- 1 Midterm (20%)
- 1 Final (30%)
- Participation (10%)
- Do not miss more than 3 classes

Reasons to Use Version Control Software

- Sharing code
- Difficult to tell if everyone has the latest code base

Problem Scenarios

Email Echoing

- Imagine you are sharing code with your team members through email...

Dropbox Duplicates

- Picture two people working on the same file they both save and...

Investigating Integrity

- Pretend a disgruntled employee tampers with your companies code base making small bugs...

Feature Fiasco

- Recall, those times working on a new feature before the deadline...

Version Control

- “The management of changes to documents, computer programs, large web sites, and other collections of information” - Wikipedia
- Version Control software is any software that aids in the above tasks

Advantages

- Allows for parallel programming (code sharing)
- Maintain multiple versions
- Back up
- Allow to view history
- Revert changes



Introduction to Git

- Distributed Version Control Software
- Source Code Management Software
- Free and Open Source

Features of Git

- Operates faster than most competitors
- Easy to use (particularly branching)
- One of the most common in industry
 - As of April 2014, there were 247,103 repositories (<https://www.openhub.net/repositories/compare>)
- Offers data assurance

Installing Git

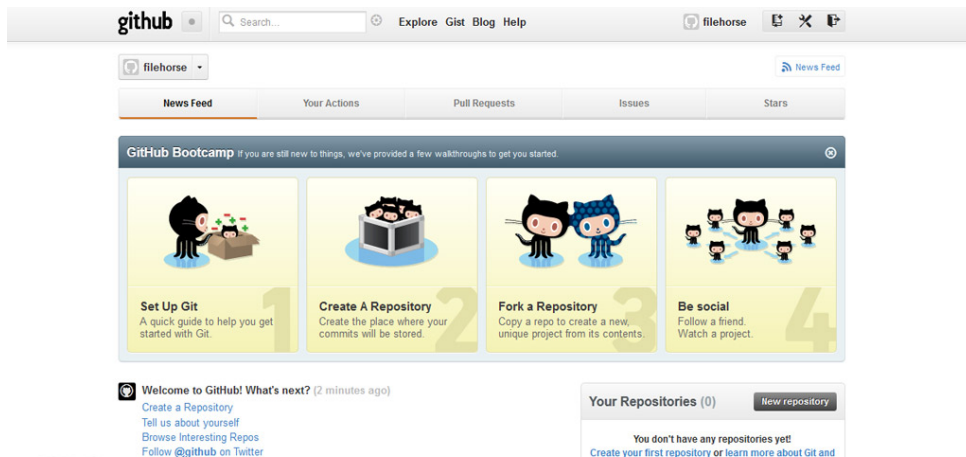
Windows: <http://git-scm.com/download/win>

Mac: <http://git-scm.com/download/mac>

Linux: `sudo apt-get install git`

Introduction to GitHub

- github.com
 - Create a new account and login
 - Sign up for GitHub!!!!
 - Confirm your email



Creating a Repo within GitHub

The screenshot displays the GitHub profile of a user named Alvin Wang, also known as Dogfalo. The profile includes a green Android robot avatar, the email address alvin7@gmail.com, and a join date of November 11, 2012. The user's statistics are: 3 Followers, 8 Starred repositories, and 2 Following. The 'Organizations' section shows a small profile picture. The 'Popular repositories' list includes acburst_world, ai, dellaz1993_world, dogfalo.github.io, and dogfalo_world, all with 0 stars. The 'Repositories contributed to' list includes acburst/acburst_world and Git-Stucco/Week1 (containing slides and HW), both with 0 stars. The 'Contributions' section features a calendar heatmap showing activity from September to August, with a summary of 340 total contributions, a longest streak of 21 days (February 13 - March 05), and a current streak of 0 days (Rock - Hard Place). The bottom of the page shows the 'Contribution activity' section with a period set to 1 week.

Search GitHub

Explore Gist Blog Help

Dogfalo

New repository
New organization

Contributions

Popular repositories

- acburst_world 0 ★
- ai 0 ★
- dellaz1993_world 0 ★
- dogfalo.github.io 0 ★
- dogfalo_world 0 ★

Repositories contributed to

- acburst/acburst_world 0 ★
- Git-Stucco/Week1 0 ★
Contains slides and HW

Alvin Wang
Dogfalo

alvin7@gmail.com
Joined on Nov 11, 2012

3 Followers 8 Starred 2 Following

Organizations

Contributions

Summary of Pull Requests, issues opened, and commits. [Learn more.](#)

Year of contributions
340 total
Aug 26 2013 - Aug 26 2014

Longest streak
21 days
February 13 - March 05

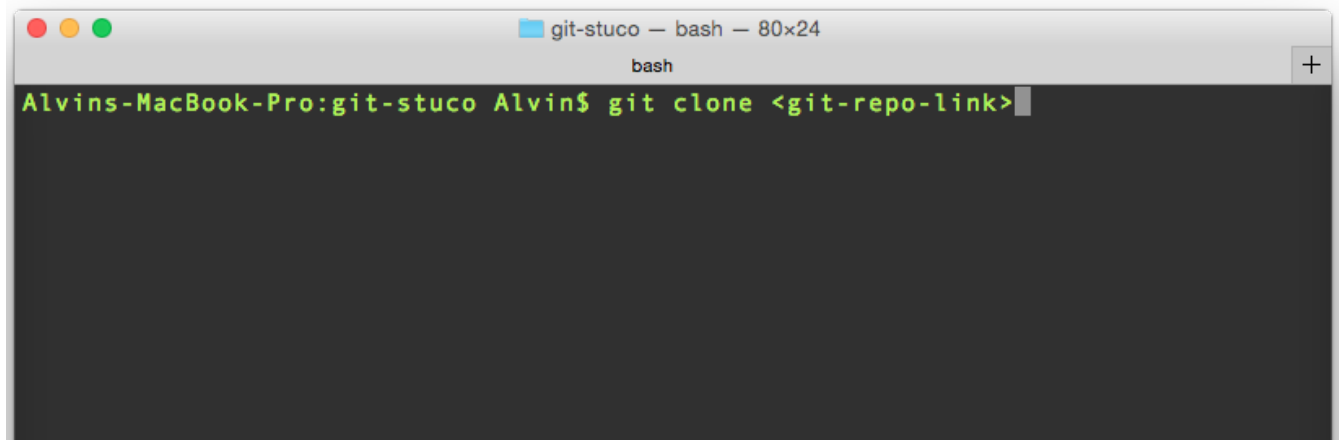
Current streak
0 days
Rock - Hard Place

Contribution activity

Period: 1 week

How to Clone a Repository

Git clone - clones a repository to the specified location

A screenshot of a macOS terminal window. The title bar at the top reads "git-stuco — bash — 80x24" and includes standard macOS window control buttons (red, yellow, green) on the left and a "+" button on the right. Below the title bar, the text "bash" is centered. The main area of the terminal is dark gray and contains the command "Alvins-MacBook-Pro:git-stuco Alvin\$ git clone <git-repo-link>" in a light green monospaced font. A white cursor is positioned at the end of the command line.

```
Alvins-MacBook-Pro:git-stuco Alvin$ git clone <git-repo-link>
```

2048 Example

How to Create a Repository

`Git init` - Initializes a Git repository in the current folder

Opening Issues on Github

Homework

- Fill out survey (2 mins)
 - <http://goo.gl/veEcTn>
- Clone the week 1 repo
 - <https://github.com/Git-Stuco/Week1>
- Follow link in repository to video (5 mins)

Next Week in 98-174

Basic Git Commands

- Clone in Detail
- Add
- Commit
- Push

Questions

