

# WDI 5/20

Welcome to the world of immersive programming

# Introductions

- Zhao
- Omar
- Dylan

# Student Introductions

- What was your previous job?
- Why are you here?
- Guilty pleasure?

# Expectations

- Course expectations
  - Developer toolchains (cmd, unix/linux, editor, ruby, rails, front-end, database)
  - Daily flow - lecture/workshop/homework
  - A whole lot of coding, during class and after, especially after
  - Final project/portfolio

# Week 1 Expectations

- Unix Shell
- Version control
- Ruby Basics (grammar, syntax, directives)
- Object-oriented Programming  
(Inheritance, mix-in)
- Exception handling

# Unix

- File System (kernel, device driver, IO)
- File listing and navigation(. ..)
- File creation and editing
- Permission system
- Directory/Symbolic link
- whoami/ping/finger/which - poking around

# File Lab

- Create a file named foo
- Put “Hello World, Foo” into the file
- Make a copy of foo and name it bar
- rename foo to foobar
- create a directory named tmp
- move foobar into tmp
- (touch, nano, mv, mkdir, and most importantly - man)

# Text Editing

- Vi/Emacs - The Unix Tradition
- IDE - Rubymine
- Sublime
  - file creation/directory opening
  - file switching/opening
  - text search



# Source Control

- Git - Distributed Version Control
- GitHub - Social Coding

```
zlu@zlu-mba:~/tmp (master)$ mkdir myproject
zlu@zlu-mba:~/tmp (master)$ cd myproject
zlu@zlu-mba:~/tmp/myproject (master)$ git init .
Initialized empty Git repository in /Users/zlu/tmp/myproject/.git/
zlu@zlu-mba:~/tmp/myproject (master #)$ git status
# On branch master
#
# Initial commit
#
nothing to commit (create/copy files and use "git add" to track)
zlu@zlu-mba:~/tmp/myproject (master #)$ echo 'foo' > foo
zlu@zlu-mba:~/tmp/myproject (master #)$ git status
# On branch master
#
# Initial commit
#
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#       foo
nothing added to commit but untracked files present (use "git add" to track)
```

```
zlu@zlu-mba:~/tmp/myproject (master #)$ git add .
zlu@zlu-mba:~/tmp/myproject (master #)$ git status
# On branch master
#
# Initial commit
#
# Changes to be committed:
#   (use "git rm --cached <file>..." to unstage)
#
#       new file:   foo
#
zlu@zlu-mba:~/tmp/myproject (master #)$ git commit -m'first commit - foo is foo'
[master (root-commit) 8dc3392] first commit - foo is foo
 1 file changed, 1 insertion(+)
 create mode 100644 foo
zlu@zlu-mba:~/tmp/myproject (master)$ git status
# On branch master
nothing to commit (working directory clean)
zlu@zlu-mba:~/tmp/myproject (master)$ git log
commit 8dc3392d80f826c7c381ea898324318d8e061d5c
Author: zlu <zlu@me.com>
Date:   Sat May 18 12:42:16 2013 -0700

    first commit - foo is foo
```

```
zlu@zlu-mba:~/tmp/myproject (master)$ git show 8dc3392d80f826c7c381ea898324318d8e061d5c
commit 8dc3392d80f826c7c381ea898324318d8e061d5c
Author: zlu <zlu@me.com>
Date: Sat May 18 12:42:16 2013 -0700

    first commit - foo is foo

diff --git a/foo b/foo
new file mode 100644
index 0000000..257cc56
--- /dev/null
+++ b/foo
@@ -0,0 +1 @@
+foo
zlu@zlu-mba:~/tmp/myproject (master)$
```

# GitHub

- Built on top of git
- Free for opensource projects
- Create account
- Create new repository (repo)
- Add remote
- Git push



```
zlu@zlu-mba:~/tmp/myproject (master)$ ll
total 8
-rw-r--r--  1 zlu  staff  4 May 18 12:41 foo
zlu@zlu-mba:~/tmp/myproject (master)$ cat foo
foo
zlu@zlu-mba:~/tmp/myproject (master)$ echo 'bar' >> foo
zlu@zlu-mba:~/tmp/myproject (master *)$ cat foo
foo
bar
zlu@zlu-mba:~/tmp/myproject (master *)$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
#       modified:   foo
#
no changes added to commit (use "git add" and/or "git commit -a")
zlu@zlu-mba:~/tmp/myproject (master *)$ git add .
```

```
zlu@zlu-mba:~/tmp/myproject (master +)$ git status
# On branch master
# Changes to be committed:
#   (use "git reset HEAD <file>..." to unstage)
#
#       modified:   foo
#
zlu@zlu-mba:~/tmp/myproject (master +)$ git ci -m'added text into foo'
[master 7aaab63] added text into foo
1 file changed, 1 insertion(+)
zlu@zlu-mba:~/tmp/myproject (master)$ git status
# On branch master
nothing to commit (working directory clean)
zlu@zlu-mba:~/tmp/myproject (master)$ git push
```

# git branch

- Ease of collaboration
- Conflict resolution
  - It's very hard to mess up in git



```
zlu@zlu-mba:~/tmp/myproject (master)$ man git-branch
zlu@zlu-mba:~/tmp/myproject (master)$ git branch
* master
zlu@zlu-mba:~/tmp/myproject (master)$ git branch -r
zlu@zlu-mba:~/tmp/myproject (master)$ git branch bug-fix
zlu@zlu-mba:~/tmp/myproject (master)$ git branch
  bug-fix
* master
zlu@zlu-mba:~/tmp/myproject (master)$ git checkout bug-fix
Switched to branch 'bug-fix'
zlu@zlu-mba:~/tmp/myproject (bug-fix)$ git branch
* bug-fix
  master
zlu@zlu-mba:~/tmp/myproject (bug-fix)$ git status
# On branch bug-fix
nothing to commit (working directory clean)
zlu@zlu-mba:~/tmp/myproject (bug-fix)$ echo 'bug fixed' >> foo
```

```
zlu@zlu-mba:~/tmp/myproject (bug-fix *)$ git status
# On branch bug-fix
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
#       modified:   foo
#
no changes added to commit (use "git add" and/or "git commit -a")
zlu@zlu-mba:~/tmp/myproject (bug-fix *)$ cat foo
foo
bar
bug fixed
zlu@zlu-mba:~/tmp/myproject (bug-fix *)$ git add .
zlu@zlu-mba:~/tmp/myproject (bug-fix +)$ git commit -m'fixed my first bug'
[bug-fix 1617779] fixed my first bug
 1 file changed, 1 insertion(+)
zlu@zlu-mba:~/tmp/myproject (bug-fix)$ git status
# On branch bug-fix
nothing to commit (working directory clean)
zlu@zlu-mba:~/tmp/myproject (bug-fix)$ git checkout master
Switched to branch 'master'
zlu@zlu-mba:~/tmp/myproject (master)$ cat foo
foo
bar
```



```
zlu@zlu-mba:~/tmp/myproject (master)$ git merge
HEAD      bug-fix  master
zlu@zlu-mba:~/tmp/myproject (master)$ git merge bug-fix
Updating 7aaab63..1617779
Fast-forward
 foo |    1 +
 1 file changed, 1 insertion(+)
zlu@zlu-mba:~/tmp/myproject (master)$ git status
# On branch master
nothing to commit (working directory clean)
zlu@zlu-mba:~/tmp/myproject (master)$ cat foo
foo
bar
bug fixed
```

# Pairing Lab

- Find a partner
- Add partner as a collaborator on GitHub (GH)
- You make changes and have collaborator pull the changes
- Collaborator makes a new branch and push to GH
- You pull the new branch to **local machine**

# Daily Review

- Unix and Unix commands (file system)
- Text Editing
- Git and GitHub

# Homework

- Git pull your home!
- git clone TBD