

Plan:

1. Define version control
2. Explain why we're using git & GitHub
3. Discuss the problem version control solves

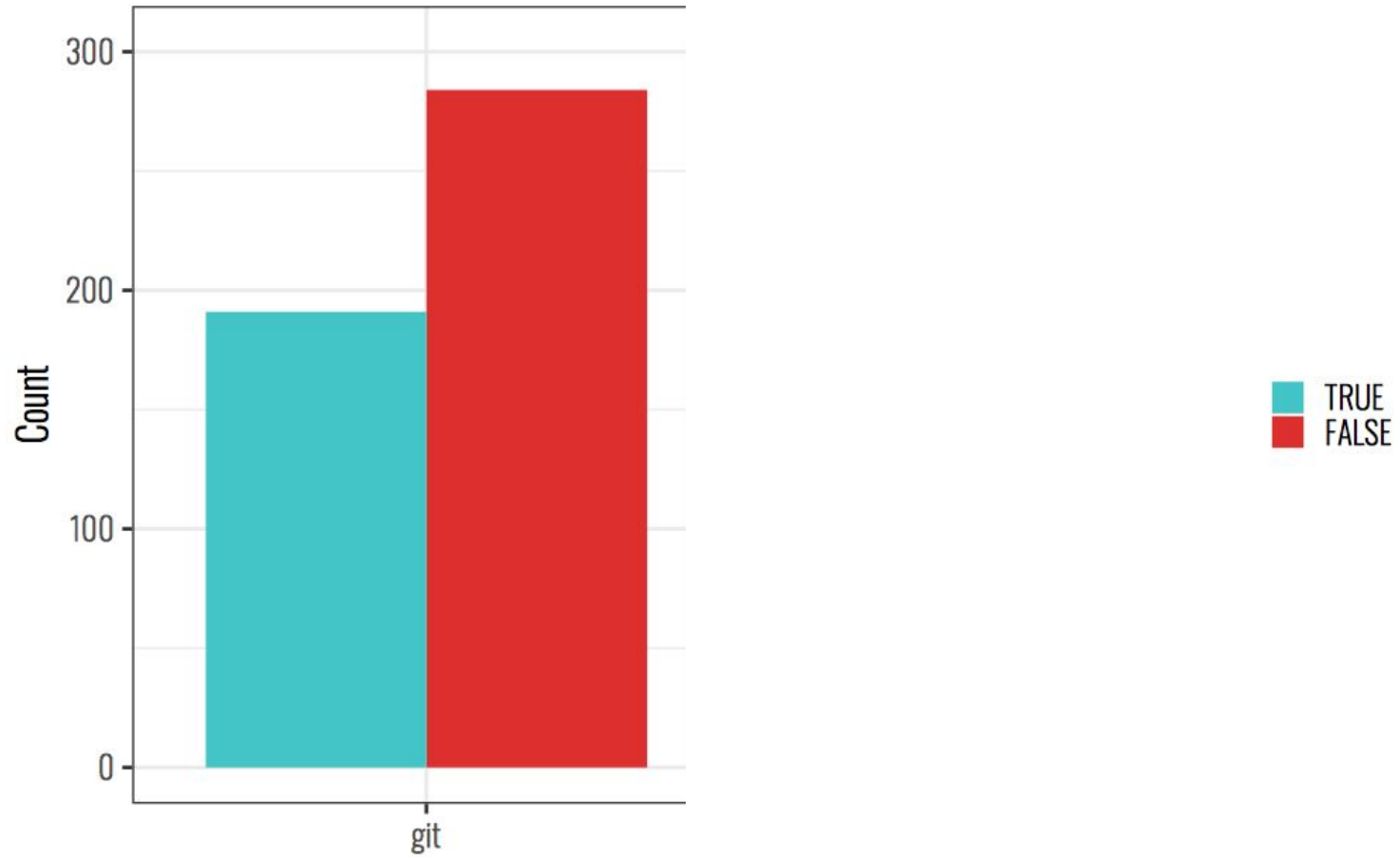
# Version Control: Basics

Shannon E. Ellis, Ph.D  
UC San Diego



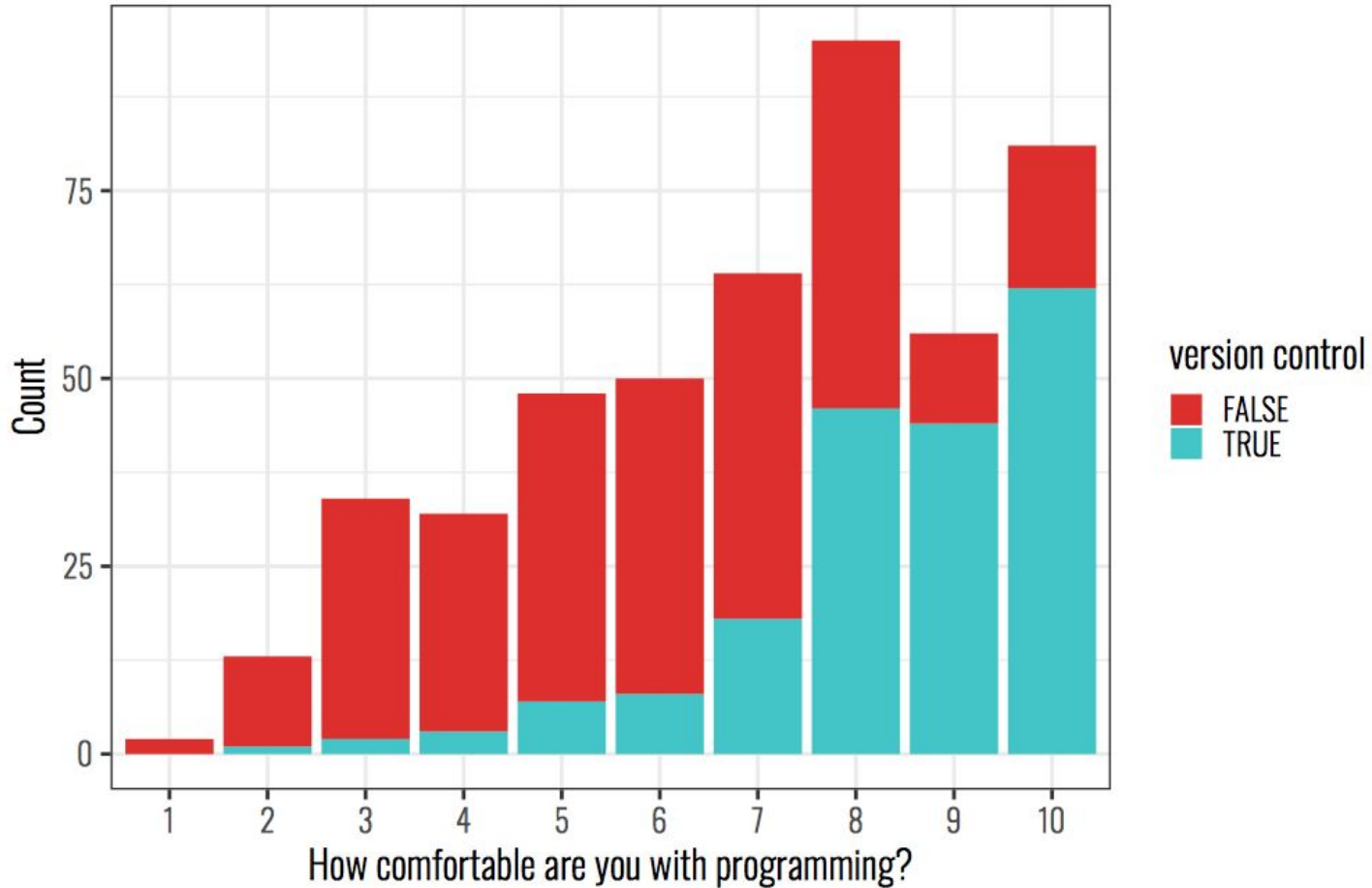
Department of Cognitive Science  
[sellis@ucsd.edu](mailto:sellis@ucsd.edu)

## Student Familiarity with Version Control










N = 475

## Student Familiarity with version control and programming



N = 475

# This sucks

Documents	Kind
 K99_Ellis_SpecAims_v2_ajEdits.docx	Micros... (.docx)
 K99_Ellis_v1_FAedit.docx	Micros... (.docx)
 K99_Ellis_v2	Micros... (.docx)
 K99_Ellis_v2_ajEdits.docx	Micros... (.docx)
 K99_Ellis_v2_FAedit.docx	Micros... (.docx)
 K99_Ellis_v3	Micros... (.docx)
 K99_Ellis_v4.docx	Micros... (.docx)

# Yup, this sucks too.

May 11



Thanks for chatting with me earlier today. I added the link to the visualization project into my resume and attached the resume. Thanks for any connections you can make for me. I'd love to know where you send it, so I can keep track of that. Thanks again!

Best,

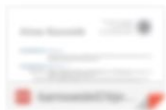


May 11



Actually, please use this one. I fixed a typo that was previously missed. Thanks!

...

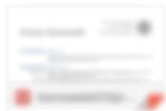


May 11



Final copy, I swear. Thanks for helping out.

...



# This is a step in the right direction

SDSS Teacher Workshop

Considering how to incorporate data science into your high school STEM classroom?

The goal of this workshop is for you to leave with data science skills and applicable examples that can be used in your classroom.

The goal of this workshop is for you to leave with data science skills and applicable examples that can be used in your classroom.

This workshop will answer questions like --

- What is data science?
- How can high schoolers prepare for data science courses in college?
- What does a career in data science involve?

issues answer questions like --

- What is data science?
- How can high schoolers prepare for data science courses in college?
- What does a career in data science involve? what data science is, what high schoolers can do to best prepare for data science courses in college, and what a career in data science involves.

•

We will walk through how data scientists carry out projects using RStudio, introduce the basics of the R programming language, and work with real datasets to generate visualizations and analyze data. The goal of this workshop is for you to leave with data science skills and applicable examples that can be used in your classroom.

Total: 9 edits

^ v

Version history

Only show named versions ☐

MARCH

▶ March 4, 7:27 AM

Current version

Shannon Ellis

▶ March 3, 9:47 AM

Donna LaLonde

Shannon Ellis

FEBRUARY

▶ February 27, 6:29 AM

Shannon Ellis

February 26, 5:44 PM

Shannon Ellis

▶ February 26, 4:57 PM

Shannon Ellis

▶ February 26, 3:50 PM

Kelly McConville

▶ February 25, 3:53 PM

Shannon Ellis

February 25, 3:33 PM

Shannon Ellis

☒ Show changes

# Version Control

- Enables multiple people to simultaneously work on a single project.
- Each person edits their own copy of the files and chooses when to share those changes with the rest of the team.
- Thus, temporary or partial edits by one person do not interfere with another person's work

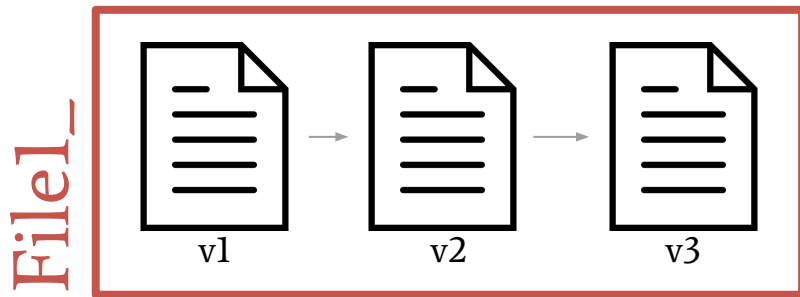
# What is version control?

A way to manage the evolution of a set of files



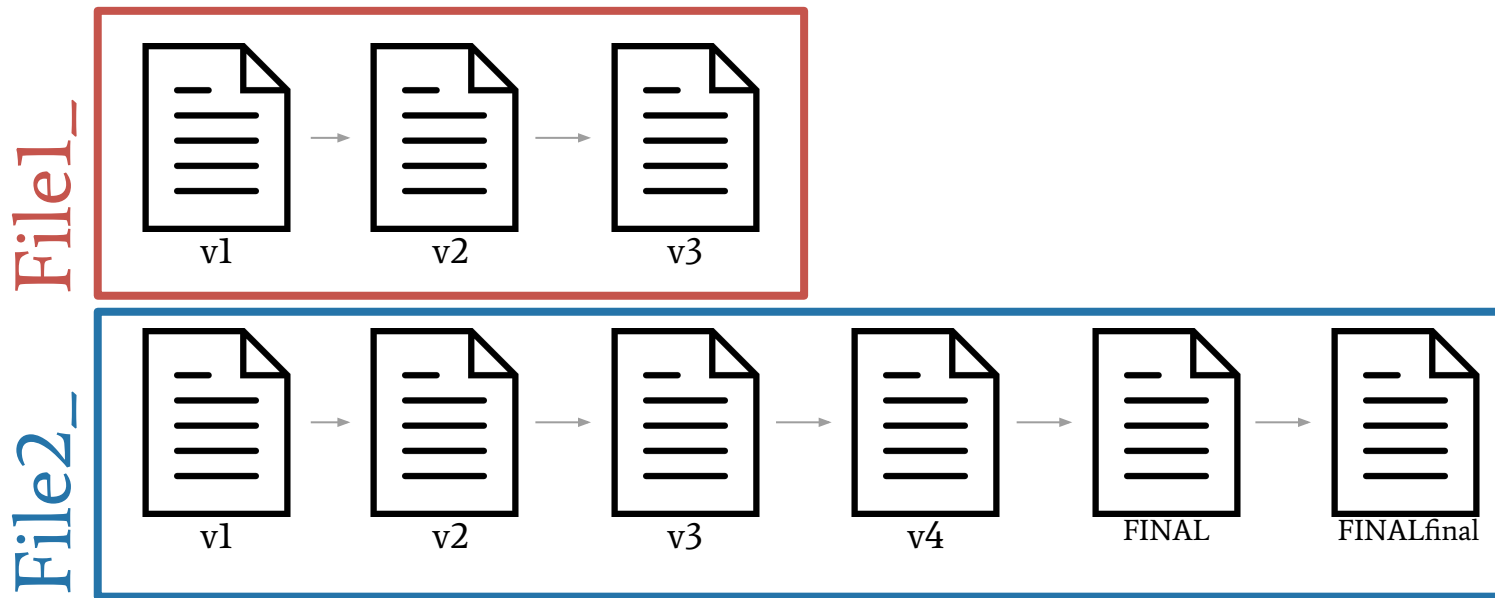
# What is version control?

A way to manage the evolution of a set of files



# What is version control?

A way to manage the evolution of a set of files



# What is version control?

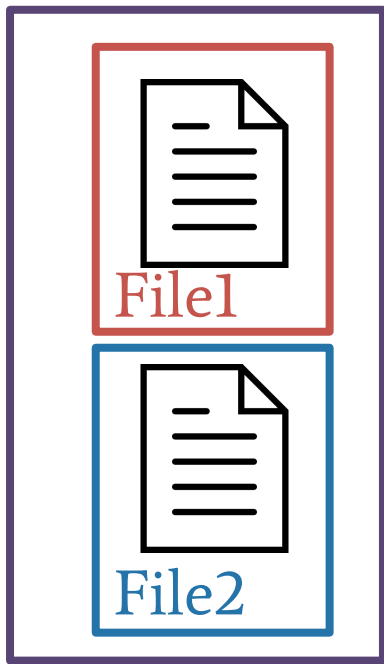
A way to manage the evolution of a set of files



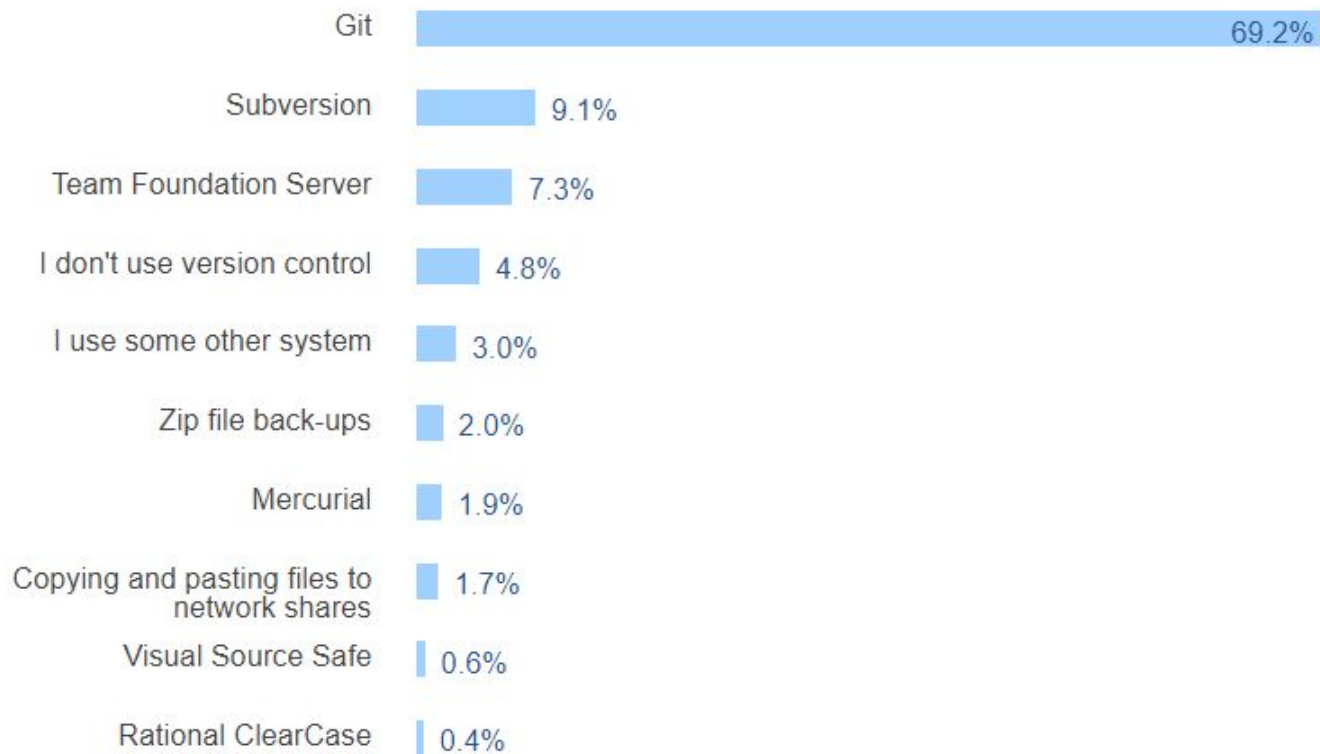
When using a version control system, you have **one copy of each file** and the *version control system tracks the changes* that have occurred over time

# What is version control?

A way to manage the evolution of a set of files



The set of files is referred to as a **repository (repo)**

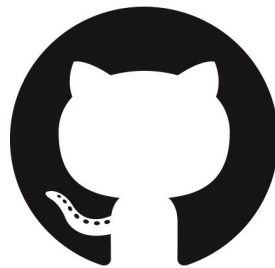


# git & GitHub

# git

the version control system

~ Track Changes  
from Microsoft  
Word....on steroids



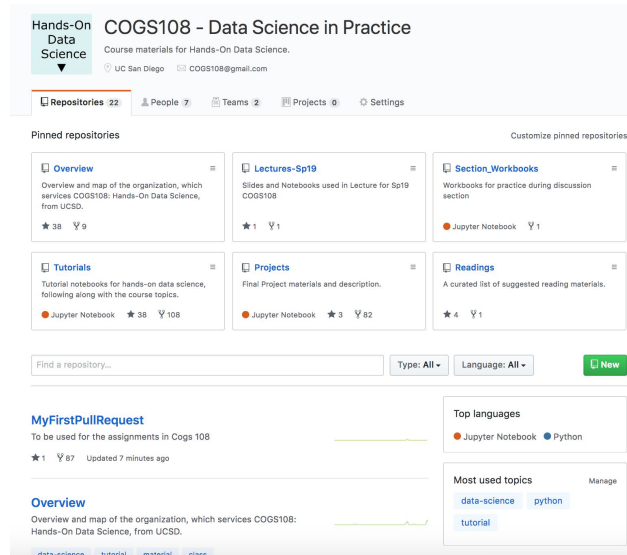
**GitHub** (or Bitbucket or GitLab) is the  
home **where your git-based projects**  
**live** on the Internet.

~ Dropbox....but  
way better

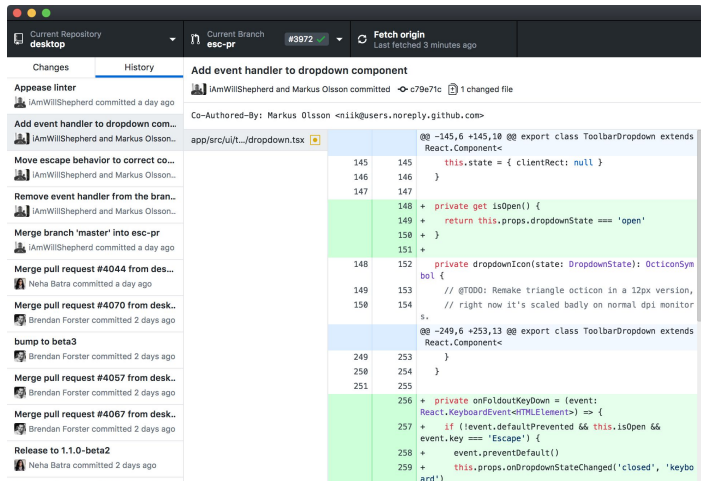
# What version control looks like

```
$ git clone https://www.github.com/username/repo.git
$ git pull
$ git add -A
$ git commit -m "informative commit message"
$ git push
```

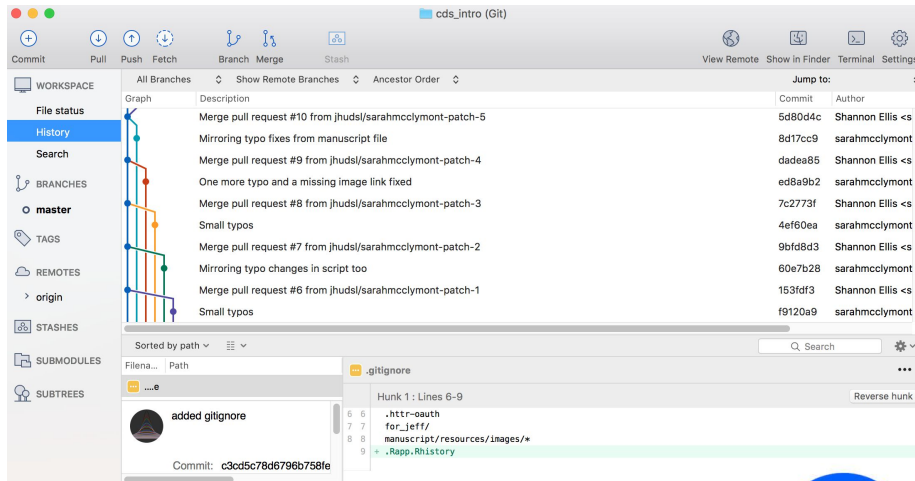
Terminal  
git



# GUIs can be helpful when working with version control



GitHub Desktop

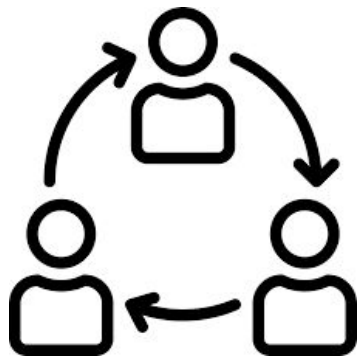


SourceTree





# Why version control with git and GitHub?



Collaboration



Returning to  
a safe state

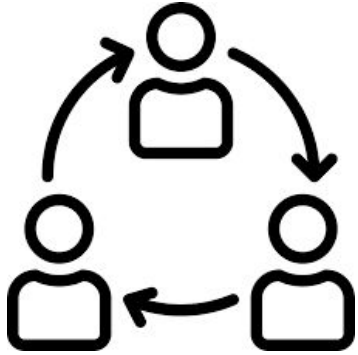


Exposure for  
your work

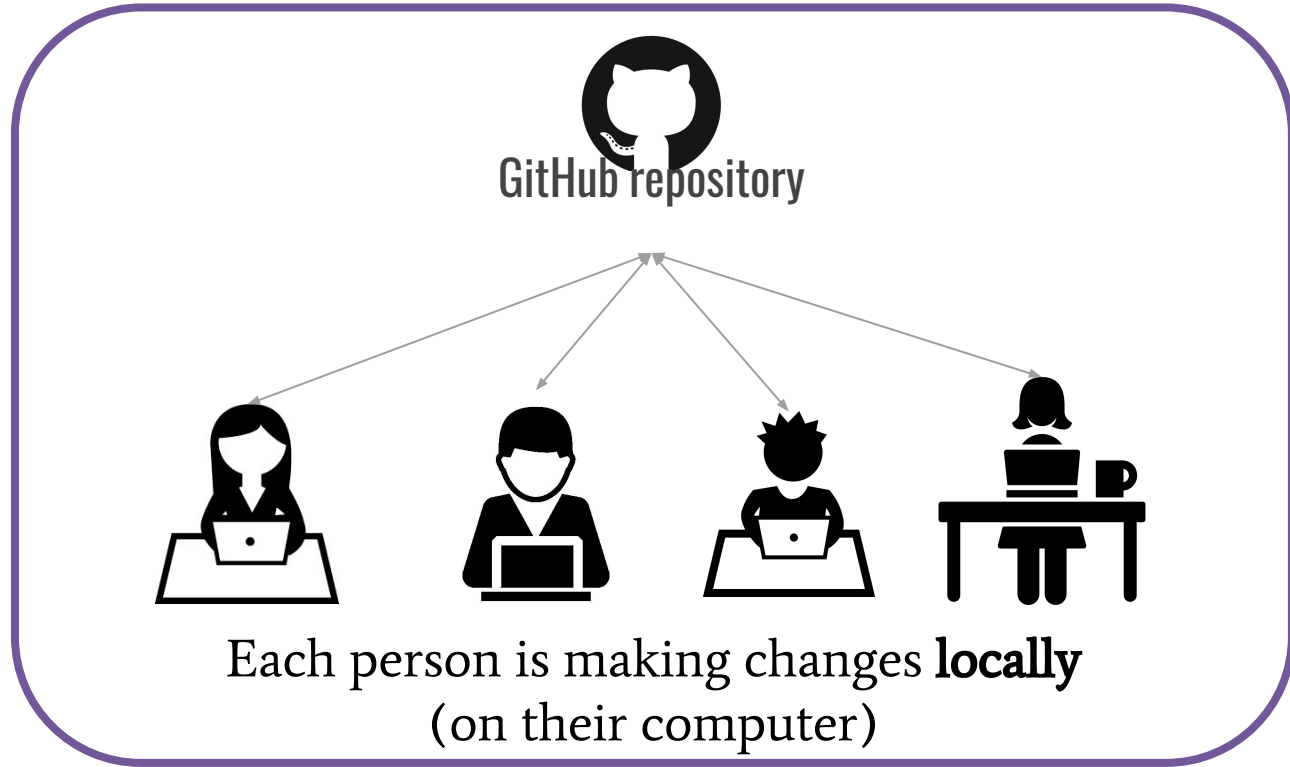


Tracking  
others' work

# Collaborate like you do with Google Docs



Collaboration



# Make changes locally, while knowing a stable copy exists



Returning to  
a safe state



You're free and safe to **try things out locally**. You'll only send changes to the repo when you're at a stable point

# Your repositories will be visible to others!



Exposure for  
your work

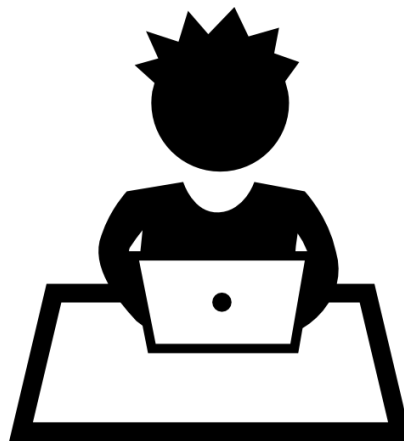


Your public GitHub repos  
are your coding social  
media

# Keep up with others' work easily



Tracking  
others' work



As a social platform, you  
can see others' work too!

# When you'll have to use git/GitHub in this course:

- Course materials
- Completing A1 (individual)
- Final Project
  - Proposal
  - Submission

Note: You're encouraged to put projects on GitHub.  
Please do not put assignments on GitHub.

# Version Control: Practice

- Assignment 1: Part 1
  - This will get you practice with git & GitHub
  - Understand what you're doing in the assignment!
  - You may have to google, ask others, spend some time with this!
  - Part II is a Python review; each part of this assignment is self-contained
  - Do this part of the assignment ASAP
- git & Github == How to get the course lectures/materials
  - Assignment 1 will have you fork the Lectures and Project repos
  - You can [keep the lectures up-to-date](#) throughout the quarter
- you'll be using GitHub for your final projects