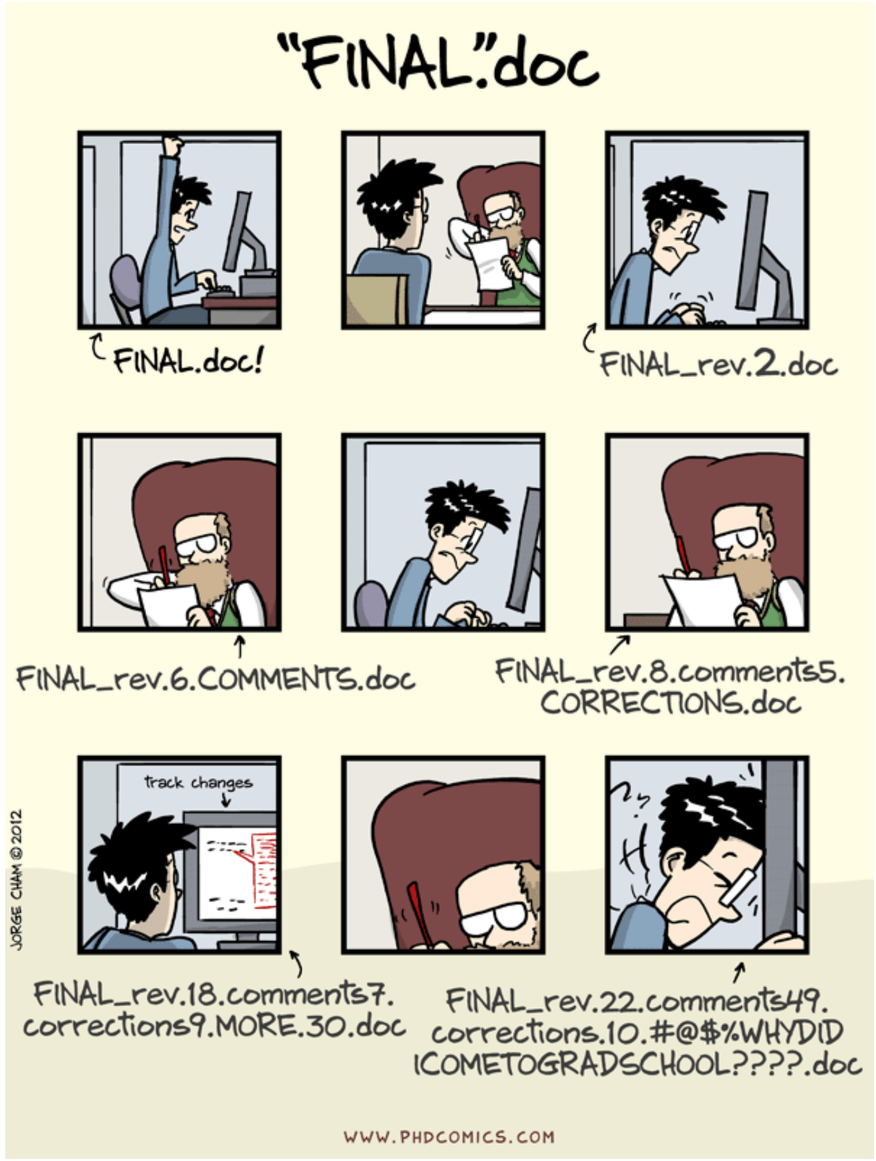
Version Control with Git and GitHub

Liz Beard - COG Summer Workshop Series

WHY DO WE NEED VERSION CONTROL?



PROS OF IMPLEMENTING VERSION CONTROL

MACRO:

Good data management practices enhance scientific rigor by simplifying reproducibility efforts, promoting collaboration, etc.

MESO:

Larger-scale projects are often passed down from student to student. PIs work across projects with lots of different students.

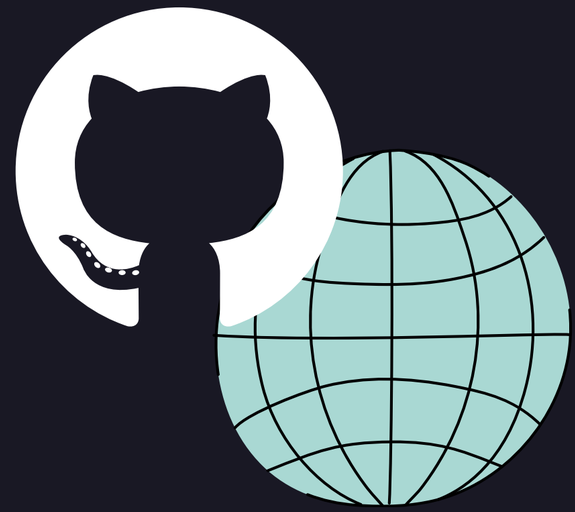
MICRO:

Your #1 collaborator Is you from the past. Be nice to your favorite collaborator!

NOBODY'S PERFECT

- *Something* is better than nothing
- You can start incorporating version control practices at any point in your research cycle
- Do what works for you with the time/effort trade-off in mind
- Look into existing standards for data management
- Consistency is key

WHAT IS GIT AND GITHUB, EXACTLY?

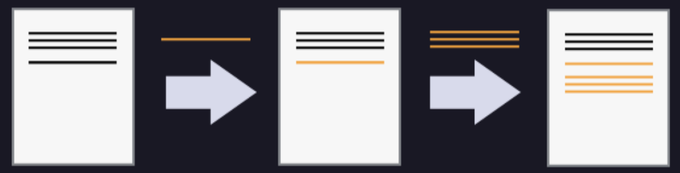


git is a system for implementing local tracked changes to files on your computer, you can think of It as taking *snapshots* of changes over the life of a project

GitHub provides storage for remote git repositories online. It allows users to store and share their source code, as well as provides tools for browsing, collaborating on, and documenting code.

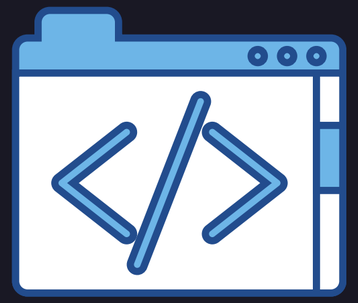
WHAT IS GITHUB TYPICALLY USED FOR?

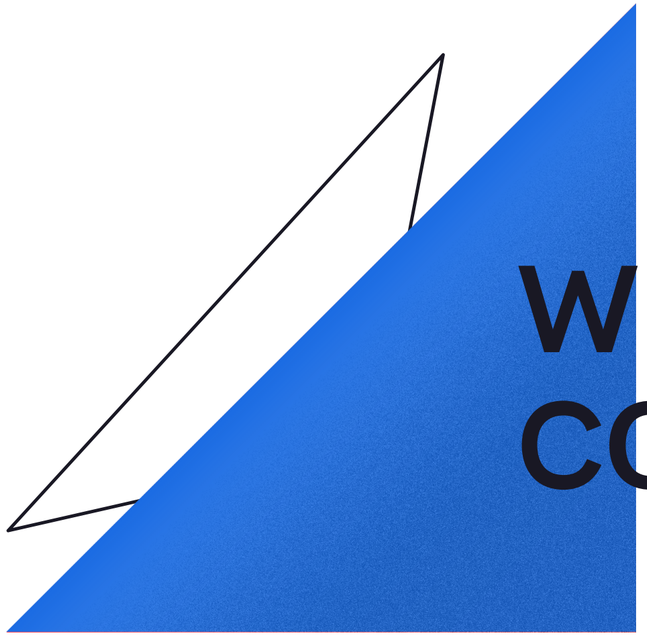
Version Control



Collaborating

Software Distribution





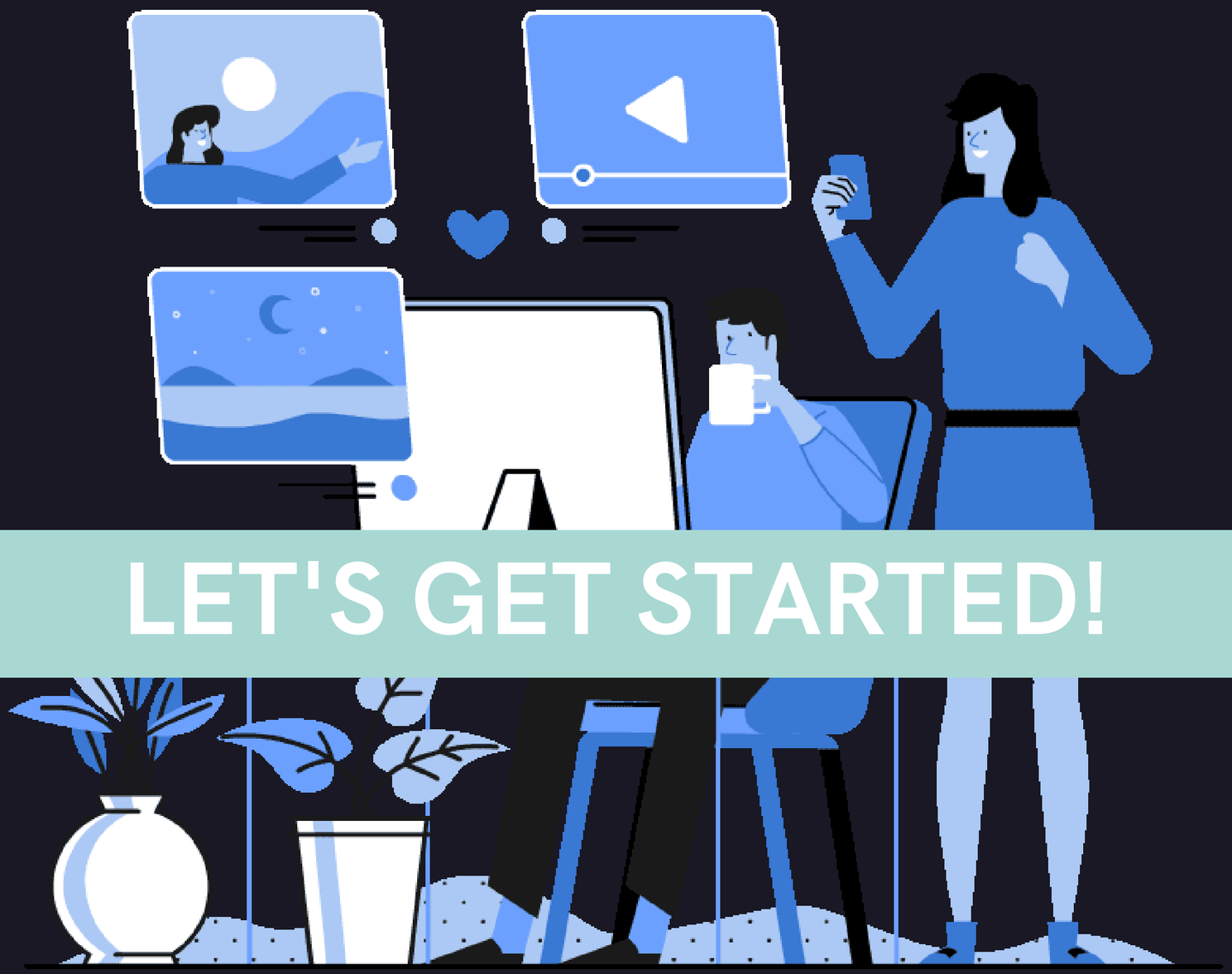
WHAT WILL WE COVER TODAY?

Tutorial 1

Setting up git
Create a local repo
Commit changes to a local repo
Add files to a GitHub repository

Tutorial 2

Forking and cloning a repo from GitHub
Updating a local repo with changes from the forked repo
BONUS: Pull Requests



LET'S GET STARTED!