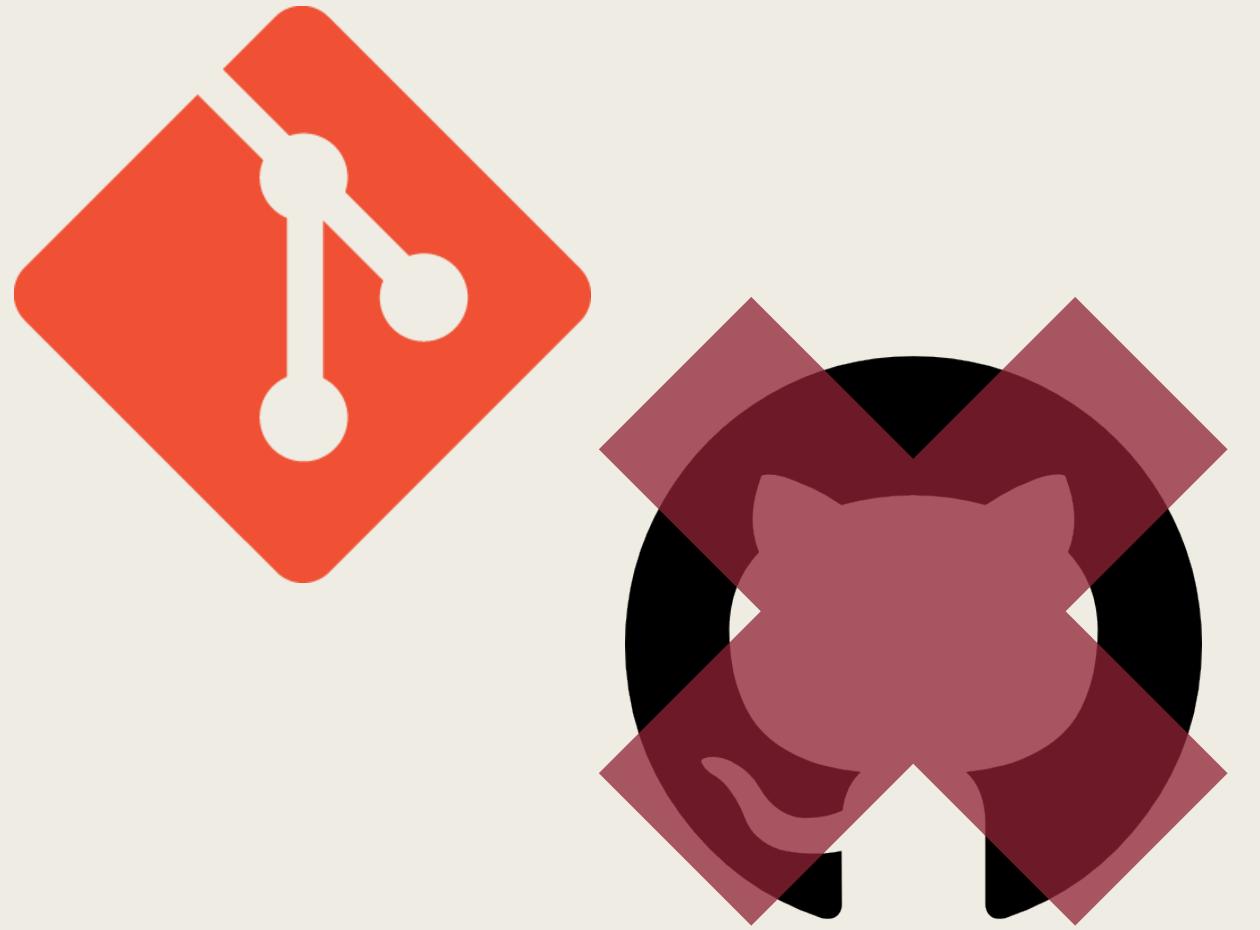


# GIT, VERSION CONTROL & GITHUB

# What is version control?

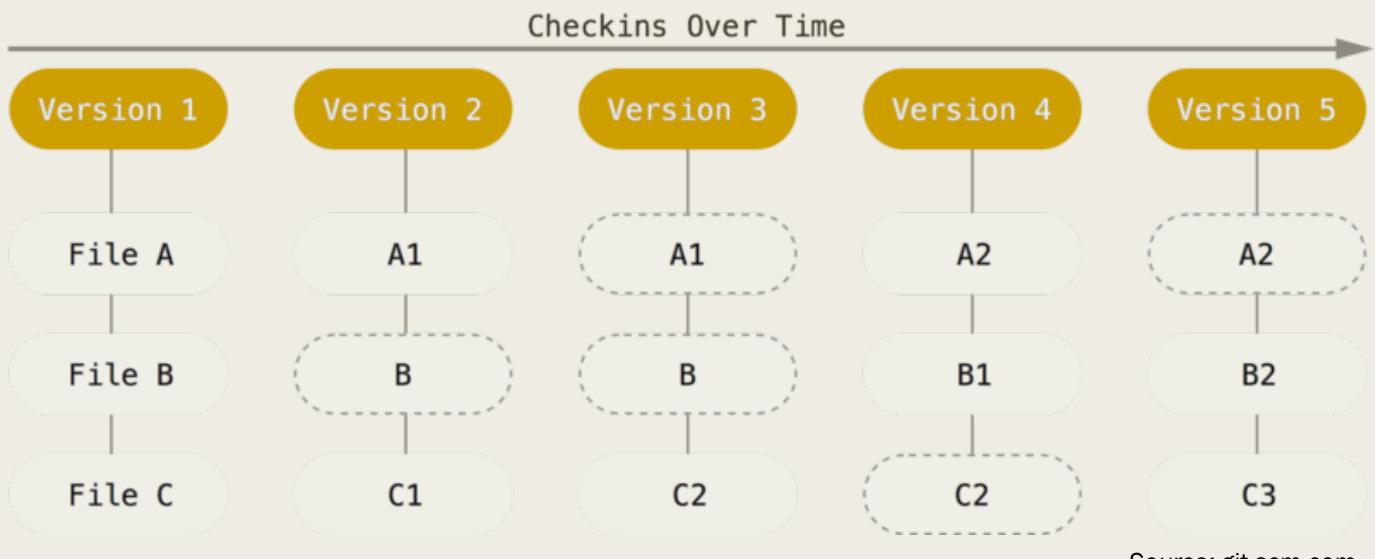
- A program that tracks changes to files and stores older "versions" for the user to recall later
- Types of version control:
  - *Copying a file into a different directory or renaming it with a version label*
  - *Google Drive (Docs, Spreadsheets, etc.)*
  - *Dropbox*
  - *git*



WHAT IS  
GIT?

# What is git?

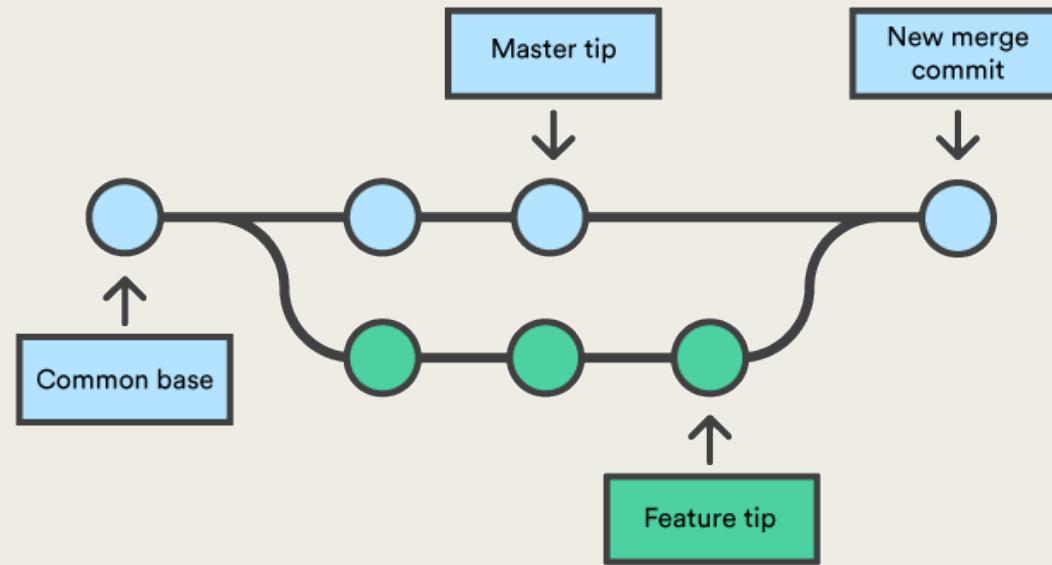
- It's a version control program that comes pre-installed on most unix and unix-adjacent operating systems
- Git stores snapshots of your file system



Source: [git-scm.com](http://git-scm.com)

# Working with branches

- Creating a branch off of your main file (master) system snapshot allows you to test out/make edits to your files without messing up/breaking your main file system
- Merge branches when you feel confident in your edits
- If something breaks after your merge, just go back



Source: stackoverflow.com

# Why git?

- Easy/FREE/accessible version control
- Ability to edit without harming your current work
- Easy to distribute
  - *Work collaboratively*
  - *Show the rest of the world*

# What is Github?



# What is Github

The screenshot shows a GitHub user profile for 'jcbain'. On the left, there's a sidebar with sections for 'Repositories' (listing 'jcbain/pink-plesiosaur-theme', 'jcbain/bioviz\_explore', etc.), 'Your teams' (listing 'augurlabs/ocho', 'SociallyCompute/team-bain', etc.), and a 'New' button. The main area displays four starred repositories: 1) 'rstudio-conf-2020/time-series-forecasting' by 'mkearney' (2 days ago), which is an R package for time series forecasting; 2) 'ryantimpe/brickr' by 'MarkEdmondson1234' (2 days ago), which generates 3D LEGO models from images using R and tidyverse; 3) 'davisking/dlib' by 'aleozlx' (3 days ago), a C++ toolkit for machine learning and data analysis; 4) 'lucasg/Dependencies' by 'aleozlx' (3 days ago), a C# rewrite of the 'depends.exe' tool for Windows.

- A website to store/distribute your git file systems
- Each file system is called a repository
- Gives you the ability to “clone” any public repo
- Private repos are also available \*

# DEMONSTRATION