Git & Github

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Attendance

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Git vs Github

Git:

- Source/Version Control
- The underlying technology for Github, Gitlab, Code-Commit, and Bitbucket
- Learn it once, Use it everywhere
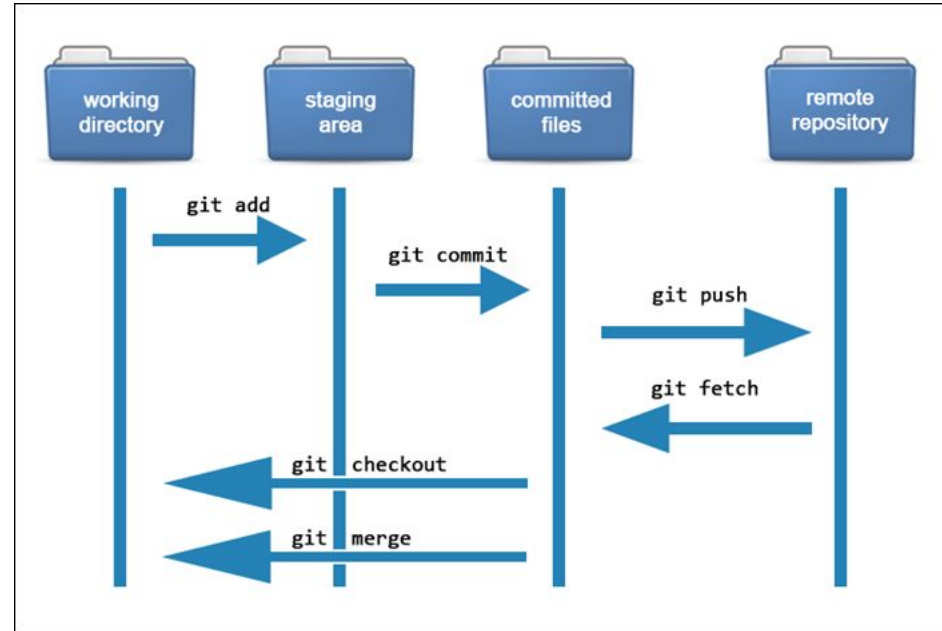- Can be self-hosted to create your very own Github

Github:

- Utilizes Git as it's underlying technology, hence "Git as a service"
- Graphical user interface to view files
- No need to know Git to use
- Super popular

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How Git Works

Git:

- **Working Directory**
  - Your current files, where you make changes
- **Staging Area**
  - Git starts keeping track of your files
- **Committed Area**
  - A screenshot of your working directory, ready to be sent to Github
- **Remote Repo**
  - Github, Gitlab, Bitbucket, etc

https://phoenixnap.com/kb/how-git-works#:~:text=Git%20allows%20users%20to%20track,and%20track%20each%20one%20independently.

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Why Source/Version Control?

- Keep track of changes within files regardless of the amount of users making those changes

- Create checkpoints as you work on a problem

- See your progress through time

- Access your files anywhere in the world

Live Demo: A live showcase of Git/Github working

- Download Git if you don't have it yet (https://git-scm.com/downloads)
- Creating an organization to host your UAB files
- Creating a repo for a class and some good practices for structuring files
- Git add
- Git commit
- Git push
- Git checkout
- Git pull

Git Exercise

Navigate over to https://acmatuab.org/github

Find the first contributions repo

Follow the instructions to use what you learned

Discover pull requests, branches and merging

Ask for help!

Questions?/Resources

Setting up your school organization: gathara.org/files/Github_Tutorial.pdf

Ry's Git Book: gathara.org/files/Git_Book.pdf

Ray Winderlich, How Git Actually Works:

https://www.raywenderlich.com/books/advanced-git/v1.0/chapters/1-how-does-git-actually-work

Version Control with Git: https://www.udacity.com/course/version-control-with-git--ud123