Github is a repository site that is used to share code with other users and work together in a team in an easy fashion. The main thing that is different between Git and other sources is how it thinks about data. For Git, data is more like a snapshot and less as file-based changes. It will take your commits and takes a “snapshot” or picture of the code and saves it to their cloud. This is good for users who may commit unchanged code, as since the “snapshot” hasn’t changed, Git does not save or make any changes to the code. Git also knows every since change and commit that's being made to any code. This means it is a lot harder for files to become corrupted and adds on to Git’s integrity.

Git workflow is the team aspect of Github. Git “enables all team members to make changes directly to the main branch”, with every change being saved to a history, or changelog, that every member has access to. There are many different types of Git workflow, including; centralized, feature branching, trunk-based, personal branching, forking, and gitflow.

A repository is a spot that holds all code, files, and folders put into it and is the most basic element of using Github. From the repositories a user can choose to view the code, clone the code or file, push or pull code, merge code, and more. Users can add other users to their repositories for teamwork on projects or just overall help with coding.

Pushing and pulling is also a part of Github. A push request is a request to update the remote branch with a user’s commits. This is the only way to fully commit any changes a user has made to code to the repository, as just sending a commit does not update the entire repository. A pull request is a request sent by someone who pushed some change to a program on a repository. The pull request will let other collaborators know that a push was made and will allow everyone to discuss the push before completely merging the push with the code on the repository.

A commit, as discussed a little bit earlier, is a small save of meaningful changes. When committing to a Github repository, a user must always write a message about what the commit is. This helps users keep track of their commits in a human-friendly manner. Github also sets a unique ID, or a hash, to every commit that identifies the specific changes, when the changes were made, and who changed them. This helps Github keep track of all the information.

Github is a great tool for all computer science majors to learn about and learn how to use, as many companies in the real world use Github or similar sites like Github for their projects. Github and sites like it have been found to be the easiest way for multiple people to work together on one project, without having to worry about messing up another member’s work in the process. This also allows multiple users to work on the code at the same time and commit or push their code to the repository while the other users are still working on it.

