

GitHub

CMSE 890-602

Issues

- Records text and files about specific topics
 - Bugs
 - Improvements
 - Anything you want!
- Can be:
 - Assigned to developers
 - Labeled
 - Attached to “projects” and “milestones”
- Automatically closed if a commit or pull request references the issue as “fixed” or with similar language

Pull Requests

- Control branch merging
- Multiple merge options
 - Squash
 - Merge
 - Auto-merge
- Can be reviewed, labeled
- Connect to projects, milestones, releases...

Projects

- Collect issues and pull requests
- Can contain notes
- Great for organizing development areas

Actions

- *Workflows for your code*
- Written in YAML
- Typically runs bash commands
- Works using a “runner”
 - Virtual machine that runs a container
 - Executes your commands following the workflow

Other features

- Milestones: track versions and group issues/PRs
- Discussions: threads for...discussion
- Wiki: markdown pages on the repository
- Statistics

Not-GitHub

- GitLab
- BitBucket
- Both have most of the same features as GitHub

In-class assignment

1. Create a repository
2. Commit your unit test files and functions from **In-class assignment 3**
3. Create a project board with the rest of the tasks as **issues**:
 - a. Commit documentation markdown files
 - b. Add an Action to run the unit tests
(<https://docs.github.com/en/actions/automating-builds-and-tests/building-and-testing-python#testing-your-code>)
 - c. Add an Action to build and deploy the documentation
(<https://parkererickson.github.io/portfolio/blog/MkDocsCD/>)
4. **Clone** the repository you made
5. Create a branch for each Action file
6. Create the Actions following the above guides
7. Create a pull request from each branch
8. Merge the PRs and run the Actions!

Pre-class 7

Take a look at some of these links to learn a little about code review:

<https://about.gitlab.com/topics/version-control/what-is-code-review/>

<https://google.github.io/eng-practices/review/>

<https://google.github.io/eng-practices/review/reviewer/>

https://en.wikipedia.org/wiki/Code_review

<https://blogs.oracle.com/javamagazine/post/five-code-review-antipatterns>

In the spirit of code review, please put your semester project ideas onto the **D2L discussion** as your pre-class assignment, and **comment on at least one other project idea**.