CSC290 Communication Skills for Computer Scientists

Tutorial 5

October 8/11, 2019

Agenda

- git
- github
- repository setup
- git markdown
- group work

Why git?

The purpose of git:

▶ keep a record of your changes (so you can go back to a previous version if you screw up)

▶ be able to work with other people (so you can work on your project without overwriting each others' work as easily)

Using git helps avoid messy filenames like this one:

```
csc290_project_v6_final7_nov4 (edited)-1 (2)
```

You can think of git as something that sits on top of your file system, and manipulates files [1]

Install git

https://git-scm.com/downloads

Git is a command line tool, but there are GUI clients available

Github

- Github is a place where you can store your work using git
- Free account at www.github.com
- Free *public* git repositories, with as many contributer as you want

Git Terminology

- **Repository**:
  - a repository usually corresponds to a project, and contains all the code/files related to that project
  - a repository is organized into a set of commits
- **Commit**:
  - a commit is introduces some changes to the code/files
  - each commit has a *commit message* describing the change
  - each commit has a *hash* or a unique identifier

Git commands (simplified)

- `git clone`
  - clone a repository (e.g. from a github URL)
- `git add`
  - add a new file to git (tell git to track the changes to a file)
- `git commit`
  - introduce new changes to files tracked by git
- `git pull`
  - get new commits from github
- `git push`
  - upload commits to github

Git commands (detailed)

Not required for this course

- https://marklodato.github.io/visual-git-guide/index-en.html

Git basics

https://www.academind.com/learn/web-dev/git-the-basics/

What to do

Spend about 20 minutes to set up a repository for your group.

Resources:

1. Set up git (everyone in your team):
   https://help.github.com/en/articles/set-up-git
2. Create a repo (one person from your team):
   https://help.github.com/en/articles/create-a-repo
3. Invite collaborators (same person from step 2):
   https://help.github.com/en/articles/inviting-collaborators-to-a-personal-repository

I'll be around to help!

GitHub README

You can add a README file to your repository to tell other people why your project is useful, what they can do with your project, and how they can use it. README files typically include information on:

- ▶ What the project does
- ▶ Why the project is useful
- ▶ How users can get started with the project
- ▶ Where users can get help with your project
- ▶ Who maintains and contributes to the project

(from https://help.github.com/en/articles/about-readmes)

Your GitHub README

Your final repository submission must have a README.

Example: `https://github.com/kwpark23/Zeros_Matter`

Github Markdown

- **Markdown** is a lightweight markup language in plain text
- You can specify headings, tables, italics, bolding in Markdown

Example:

- Raw README.md
- Rendered README.md

Guide:

- https://guides.github.com/features/mastering-markdown/

Rest of the tutorial

- Learn git (I'll be around to help)
- Work on your project plan

References

[1] https://www.slideshare.net/YanVugenfirer/introduction-t
[2] https://www.slideshare.net/HubSpot/git-101-git-and-gith