1. 電子郵件

justme11012@gmail.com

1. 嗨嗨，你的名子是?

林潔君

1. What’s git, why we need it?

Git is a **distributed** **version control system and** helps you control the versions of the files in your project. As a distributed system, which is a big difference between Git and other VCSs, you can copy a complete repository with the full project history to every developer's machine. It makes Git much safer and good for collaboration. And common commands of Git are easy. That’s why 70% of developers use Git and also the reason why we need it.

1. Here are some git and GitHub commands we usually use in software development,  please explain the meanings and use cases of them.
   * **git status**  
     Displays the state of the working directory and the staged snapshot.
   * **git add**  
     It’s used for staging untracked files, as well as tracked files that have been modified.
   * **git commit**  
     Takes the staged snapshot and commits it to the project history. Combined with git add, this defines the basic workflow for all Git users.
   * **git log**  
     Lets you explore the previous revisions of a project. It provides several formatting options for displaying committed snapshots.
   * **git branch**  
     It’s for general-purpose branch administration tool and lets you create isolated development environments within a single repository.
   * **git push [ repo\_name ] [ branch\_name ]**  
     The command is used to upload local repository content to a remote repository.
   * **git merge [branch\_name]**  
     It’s a command to integrate changes from divergent branches. After forking the project history with git branch, git merge lets you put it back together again.
   * **git remote –v**  
     The command is to list the remote connections you have to other repositories and the option –v means it have to show remote URL of each connection as well.
   * **fork**

A fork is a new repository that shares code and visibility settings with the original “upstream” repository.

1. Please describe how to establish a GitHub repo and how to upload the local projects to GitHub. Try to explain your answers with as much detail as possible.

The most important thing before getting starts to establish a GitHub repo is to create your own account. Then open the GitHub page and login. There is a plus sign button in the upper-right corner, and click “**New repository”**. At the “**Create a new repository**” page, choose the owner with dropdown box and fill the repository name. The optional fields can be filled according to your demands or keep it as default. Choose a repository visibility and Click “**Create repository**”. Then a GitHub repository URL is establish successfully and it can be used to upload local project to GitHub.

To upload the local projects, use the Git Bash is the most efficient way to work the process.

**The steps are shown as below:**

* + - **cd <project directory>**  
      First of all, you should ensure the terminal point the command line to the correct directory.
    - **git init**

Initialize the project directory. The command creates a new Git repository. It can be used to convert an existing, unversioned project to a Git repository or initialize a new, empty repository.

* + - **git status (optional)**  
      Normally I will check the status before I add file to the stage. The command displays the state of the working directory and the staging area. It lets you see which changes have been staged, which haven’t, and which files aren’t being tracked by Git.
    - **git add <filename> or git add .**

It’s used for staging untracked files, as well as tracked files that have been modified!

The dot of “git add . “ means to add/stage all of the files in the current directory. It’s a useful command option for lazy me.

* + - **git commit -m "description"**  
      After checking the stage files, use the “git commit” command to capture a snapshot of the project's currently staged changes.
    - **git remote add origin <repo URL>**

Use the GitHub repository URL here! Add a remote named, normally is origin, for the repository at <URL>

* + - **git push -u origin master**

Last but not least step, use “git push” is to upload local repository content to a remote repository. And the option –u means you want Git sets that repo and branch by default, and use it in the “git push” command next time.

After these steps, the local project is upload to GitHub repository successfully and you can see the files on the GitHub Page.

1. When we talk about web application, what is client and server? \*

This idea of a Client and Server communicating over a network is called the "Client-Server" model. It's what makes viewing websites and interacting with Web applications possible.

The client refers to a web application that runs in the user’s browser. It deal with user interactions and send request (like viewing a new route, clicking buttons, submitting forms) to the server.

The server refers to a web application is to service client request. It deals with the logic behind the web application, like processing form data, accessing databases, dynamic contents and so on.

1. What is terminal, shell, CLI, GUI?

The terminal is a way to control your computer using just text.

Shell is a computer program which terminal runs. There are many different shell programs available, most of them with names ending in SH, like ZSH, KSH, etc. Most OS today run a shell called Bash.

The Apps that run in the terminal use what’s called a command-line interface , or a CLI.

And GUI or graphical user interface uses a different way with CLI to control your computer. It operates through visual elements such as icons, buttons, windows, dialog boxes, etc. Generally, the CLI is more efficient and faster than GUI since all the processing power is directed at completing the required task but GUI is more intuitive, simple for users to use and reduces psychological feature load.

1. GitHub Page 網址（作業成品）

<https://chiehchunlin.github.io/remote-assignments/Week-1/Assignment-2/>

1. GitHub 網址（作業程式碼）

<https://github.com/ChiehChunLin/remote-assignments.git>