An Introduction to Git and GitHub

Lan Peng
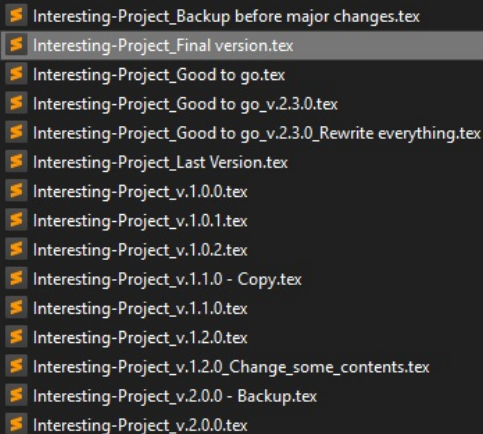
Department of Industrial and Systems Engineering, University at Buffalo, SUNY

February 12, 2020

Outline

Version Control

Version Control

The disadvantage of control version in this way

- Too messy, hard to find the latest (time stamps sometimes can't help)
- Cannot compare the difference between each version
-

Solution: Git

Installation

- Windows: https://git-scm.com/downloads
- Linux: sudo apt-get install git
- Mac OS:
    1. Install Xcode from AppStore
    2. Run Xcode
    3. In Xcode -> Preferences find Downloads
    4. Choose Command Line Tools, install it

Installation

After installation, open the terminal and input `git` to see if it is successfully installed. There should be something like this:

GitHub

- A/the global company that provides hosting for software development version control using Git
- A website Microsoft just bought for $7.5 billion dollar
- A website that you can goof around when you are bored at coding and don't need to worry about getting caught by your manager (she/he might be doing the same thing)

Version control and Git
Git and GitHub
Using Git and GitHub

Initialize/Clone
Branch
Commit
Merge

Initialize/Clone

- git init

Create a .git folder in current path, making current path a git repository

- git clone

From a remote repository clone to current path

Version control and Git
Git and GitHub
Using Git and GitHub

Initialize/Clone
Branch
Commit
Merge

Branch

Version control and Git
Git and GitHub
Using Git and GitHub

Initialize/Clone
Branch
Commit
Merge

Commit

Version control and Git
Git and GitHub
Using Git and GitHub

Initialize/Clone
Branch
Commit
Merge

Merge

Version control and Git
Git and GitHub
Using Git and GitHub

Initialize/Clone
Branch
Commit
Merge

Tip

- Design by module
- Sync with master branch more often
- Commit with small changes (it depends)