

# Git Bootcamp

*Computer Student Society*

Nate Dolny

# What is Git?

- One of the many popular version control systems available



- Git is a tool used to manage code but can also be applied to any other type of document (**does not have to be code**)

## Version Control

*Records changes a person made to a document overtime. It can be used by one person or multiple people.*

# When should you use Git?

- **ALWAYS!!**
- Git is your best friend when it comes to any project big or small

# Setting up Git

## Create a Profile

### *Set Profile Name*

- `git config --global user.name "Peter Parker"`

### *Set Profile Email*

- `git config --global user.email "Parker.P@midtown.net"`

### *Set Default Editor*

- `git config --global editor="vim"`

### *View our configuration (Optional)*

- `git config --global list`

## PRO TIP

*Git allows for multiple profiles, so you could have a personal and school profile.*

# Command-line Text Editors

- A text editor that can run directly in a terminal without a graphical user interface



```
      :::  
iLE88Dj. :jd88888Dj:  
.LG1te888D.f8GjjL8888E;  
iE :8888Et. .G8888.  
;i  E888,      ,8888,  
    D888,      :8888:  
    D888,      :8888:  
    D888,      :8888:  
    D888,      :8888:  
    D888,      :8888:  
    888W,      :8888:  
    W88W,      :8888:  
    W88W,      :8888:  
    DGGD:      :8888:  
          :8888:  
          :W888:  
          :8888:  
          E888i  
          tW88D
```



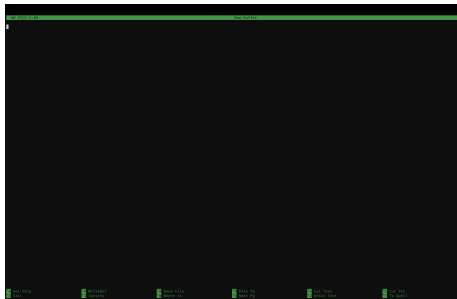
# GNU Nano Text Editor

```

                                :ii
iLE88dJ. :jD8888dJ:
.LGiTe888d.r0GjjjL8888E;
iE :8888Et. .G888E.
;i E888,      ,8888,
   D888,      :8888:
   D888,      :8888:
   D888,      :8888:
   D888,      :8888:
   888W,      :8888:
   W88W,      :8888:
   W88W,      :8888:
   DGDd:      :8888:
                        :8888:
                        :W888:
                        :8888:
                        t888i
                        tW88d

```

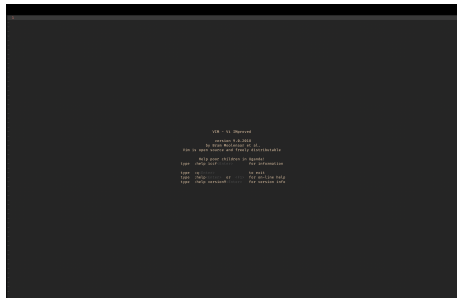
- Released in November 18, 1999
- User-friendly and easy to learn
- Developed and maintained by volunteers



# Vim Text Editor



- Released in November 2, 1991
- Modal editor
- Highly customizable, many plugins available

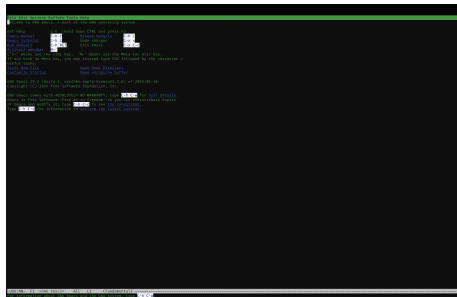


# Emacs Text Editor



- Released in March 20, 1985
- Created by GNU Project founder Richard Stallman
- Highly customizable

- Many modes for different purposes such as browsing the web





# What makes a good commit?

- Detailed messages that someone can read that informs others about the changes you made to a document.

```
Changes 4000 lines of code  
> git commit -m "minor changes"  
> git push origin main  
Leaves
```



# What makes a good commit?

## A better approach to making commits

- *Title*: Add a topic
- *Changes*: Add details about changes made to file(s)
- *State*: Add a brief summary of the state of program or feature
- *TODO*: Make notes about things to fix

### PRO TIP

Pretend you are sending an email to your friends, group mates, or professor informing them of the changes you made to the document.

# Making a Commit

## Step 1. *Add a document to staging*

- `git add <document>`

## Step 2. *View documents that have been staged (Optional)*

- `git status`

## Step 3. *Remove a document from staging (Optional)*

- `git reset <document>`

## Step 4. *Record changes to repository*

- `git commit`

## Step 5. *Upload changes to remote repository*

- `git push`

# Remote Version Control Platforms

- Allows you to store code some place other than your local machine
- Allows for multiple people to collaborate on a project

# GitHub



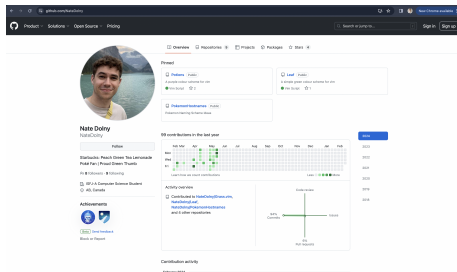
# GitLab



# Bitbucket

# GitHub

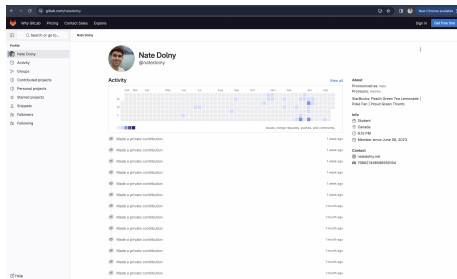
- Released in April 2008
- Microsoft acquired Github in 2012
- Over 100 million users
- Hosts millions of open source projects





- Released in 2011
- Over 30 million users
- More secure than GitHub
- Focuses on collaboration, efficiency, and automation

- Only platform that self-hosting is free



# Introduction to OpenSSH Suite



- Encrypts all traffic to eliminate eavesdropping, connection hijacking, and other attacks.
- ssh-keygen: Generates, manages, and converts authentication keys for ssh
- ssh-add: Adds private keys to the authentication agent

- ssh-scp: copies files between hosts on a network

