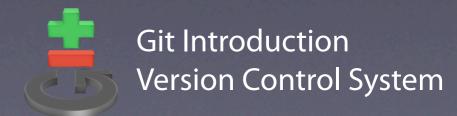


Introduction to Git

Version Control System

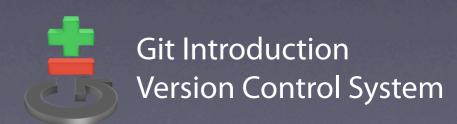
Who am I

- LittleQ, junior student@ NCCUCS
- Software engineer @ Genie Capital
- Co-organizer @ Taipei Google Tech User Group
- Instructor @ Geego system, Inc
- http://about.me/littleq
- Python, Linux and everything geeky!



What is Git

- Version control system
- Coding history
- Distributed version control



Version

False True

Diablo I
Diablo II
Diablo III
Diablo III (5/15)
Starcraft I
Starcraft II

commit 296fad37b4e3e78bd952d419625d87f52a3d52d4

Merge: e5fb1da fe68f70

Author: Jacob Thornton < jacobthornton@gmail.com>

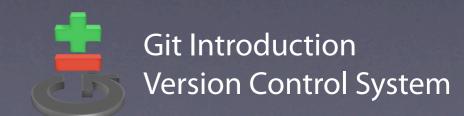
Date: Thu Nov 24 11:13:33 2011 -0800

新增一行很重要的code,把bug給修好了!

commit fe68f708ce723cef640c1cf784cb29da513bca22
Author: Martin Bean <martin@mcbwebdesign.co.uk>

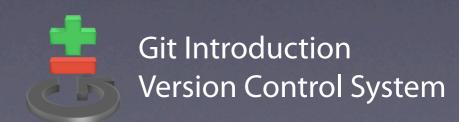
Date: Thu Nov 24 19:06:00 2011 +0000

樓上對不起!我不小心把你code給砍了= =



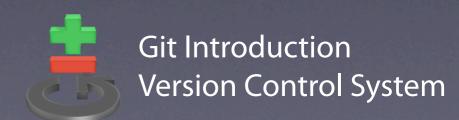
Why Git

- Maintenance
- Debug
- Responsibility



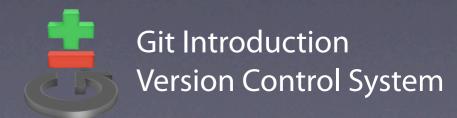
History

- Developed by Linus Torvalds
- Born for improving the development of Linux Kernel



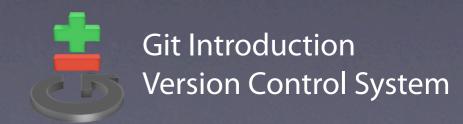
Who need Git

- Real Engineer
- Engineers who is working with thousands of thousands of lines of code
- Wanna being a contributor of open source projects



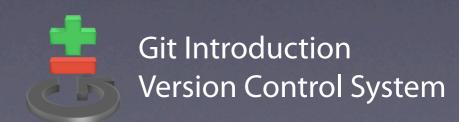
Requirement

Google



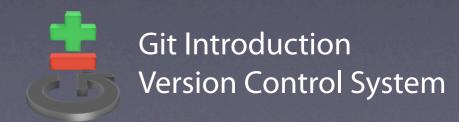
Scenario

- Team work
- Code management



Terminology

- commit
- stage
- repository

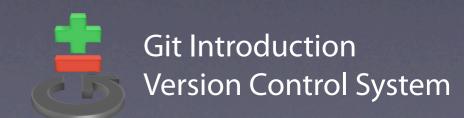


Commit

commit bf74427f03bc80927f97755772d87e579604cf35

commit 72da l eb5da5596432b0b36534169756f44bae70f

commit a9718b877b45f987502357204fdbe0ec7599b46c

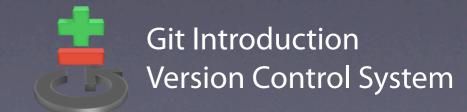


Commit

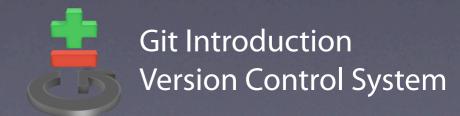
commit inside:

```
diff --git a/omgtt/configs/staging/settings.py b/omgtt/configs/
staging/settings.py
index a17ad10..932c66a 100644
--- a/omgtt/configs/staging/settings.py
+++ b/omgtt/configs/staging/settings.py
@@ -10,7 +10,7 @@ ADMIN_MEDIA_PREFIX = '/static/admin/'
DOWNLOAD_DIRECTORY = '/tmp/'

SITE_DOMAIN = 'omg.demo.gd:3377'
+SITE_ID = '4ef4509316d5ad652a00001c'
-SITE_ID = ''
INTERNAL_IPS = ()
```

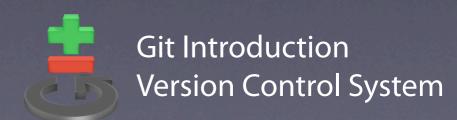


Let's rock!



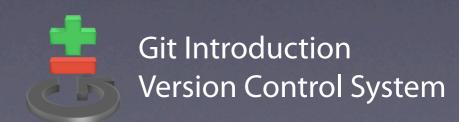
Steps

- Install Git
- Setup Git
- Initialize your first local repository
- Commit, commit and commit!



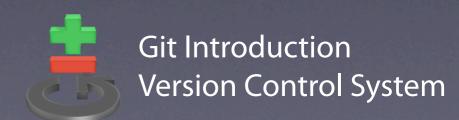
Install Git

- In Linux, it is just a piece of cake
- In Windows, google it



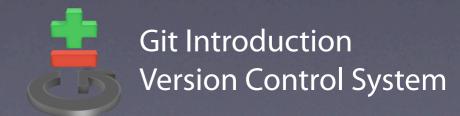
Using Git on ghost

- For using the latest version of git:
 `export PATH="/opt/csw/bin:\$PATH"`
- Write it down in your ~/.profile
- And login again



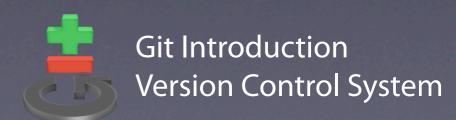
Setup Git

- Username
 git config --global user.name "LittleQ"
- Email
 git config --global user.email "your email"



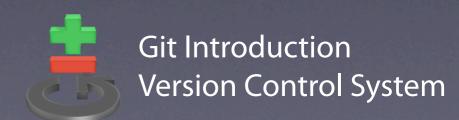
Repo init

- Get into your project's root directory
- `git init`
- `git add .`
- `git commit -m"first commit"`



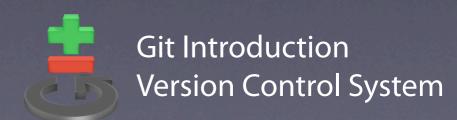
Commit

- the basic unit of modified records
- changes can be on single file or multiple files
- can be deleting files or adding files



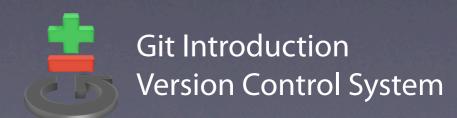
Make a commit

- Make the modifications
- git status`
- git add <modified-files>`
- `git commit -m "message"`



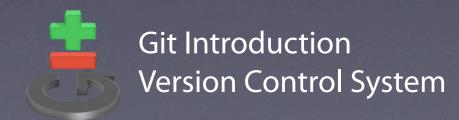
Push & Pull

- Push: send your modifications to the server
- Pull: receive the modifications from others
- `git pull`
- git push origin master`



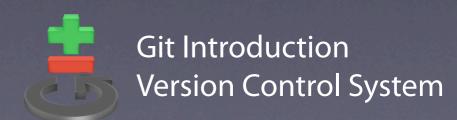
Clone a Repo

git clone <git-repo-url>



Github

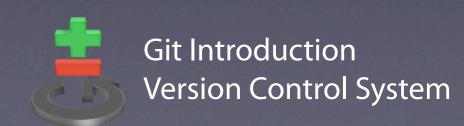
- A social website of engineers (Engineering version Facebook)
- Easy to manage your git repo
- Socialize your work



Exercise

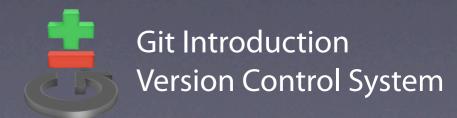
- Here we are going to create a repo and build a simple Hello World program on it
- We won't do much programming stuff, so please concentrate
- Now pick up 3 members (Included yourself) to form a group

goo.gl/C2vFG



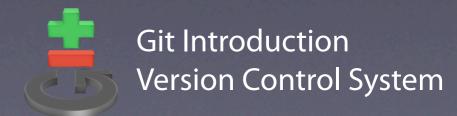
Sign Up

- Just go to sign up an account on Github
- Find out the profile page of your teammates and follow them on github
- Choose one as the leader and the one need to create a repo and add others members as the repo members



Create a Repo and Push to Server

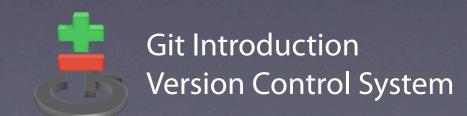
- mkdir teamXX; cd teamXX;
- git init
- git remote add origin <url-of-repo>
- git add.
- git commit -m "first commit"
- git push origin master



Prototype of HW

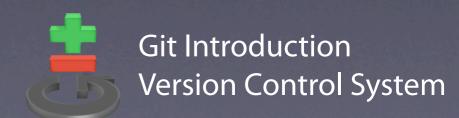
cp /usr/local/class/mathcp/materials/git ~/TeamXX

```
# comments
# teamXX
# 99XXXXXX, 99XXXXXX, 99XXXXXX
function hello1() {
  print("hello, member1's name");
function hello2() {
  print("hello, member2's name");
function hello3() {
  print("hello, member2's name");
function main() {
  hello1();
 hello2();
  hello3();
```



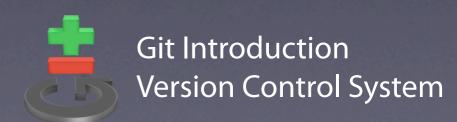
Notice

- Each function can only be completed by one and different from others
- Need to push onto github
- If someone got stuck, help each other



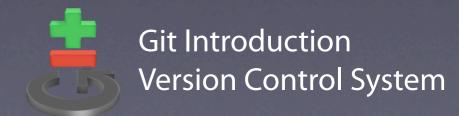
And More...

- Branch
- Merge
- Remote



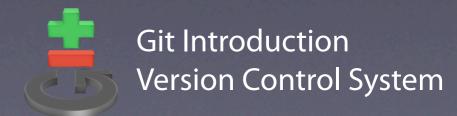
Repository Hosting

- Google Code (free)
- Github (free)
- Bitbucket (free, private repo)
- unfuddle
- repositoryhosting



Resource

- Githttp://git-scm.com/
- Github help
 http://help.github.com/
- iHower blog <u>http://ihower.tw/blog/posts</u> > Git category



The End

