TechClass

Mastering Version Control with Git

Course description

1st edition

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Course description

The goal of this course is for the student **to be familiar** with the concept of **Version Control** and the **advantageous** of using such systems in **software development**. Then the student will be fully introduced to **Git** as one of the **most powerful and popular** version control systems. After passing this course, the student will be able to **work in teams of development** and fully be able to participate simultaneously in order to **add features** to a software developing project in **parallel** with other team members. Finally, the student will get familiar with **Github** as a **web-based Git repository hosting service**.

Topics

A. INTRODUCTION

1. What is Version Control?
2. Benefits of Version Control
3. Continuous Integration (CI)
4. What is Git?
5. How does Git work?
6. Who needs Git?
   - Git for Developers
   - Git for Marketing
   - Git for Product Management
   - Git for Designers
   - Git for Customer Support
   - Git for anyone managing a budget
7. Installing Git
8. Git repository hosting services
9. Introduction to GitHub

B. INTERMEDIATE

10. Setting up a repository
    - git init
    - git clone
    - git config
11. Saving changes
    - git add
    - git commit
    - git stash
12. Inspecting a repository
    - git status
    - git log
13. Viewing old commits
    - git checkout
14. Undoing Changes
    - git revert
    - git reset
    - git clean

C. ADVANCED

15. Rewriting history
    - git commit –amend
    - git rebase
    - git rebase –i
    - git reflog
16. Syncing
    - git remote
    - git fetch
    - git pull
    - git push
17. Making a Pull Request
18. Using Branches
    - git branch
    - git merge

✍ Assignments - Introduction

The **assignments** has been designed for the students to have a **better understanding** over course's topics and **personally** be able to **follow the instructors** and do the **assignments** in an innovative and interactive way. A big portion of **assessments** will be dedicated to the assignment, and the students need to **return it to the teacher** after the course in order to be assessed.

Assignments - Parts

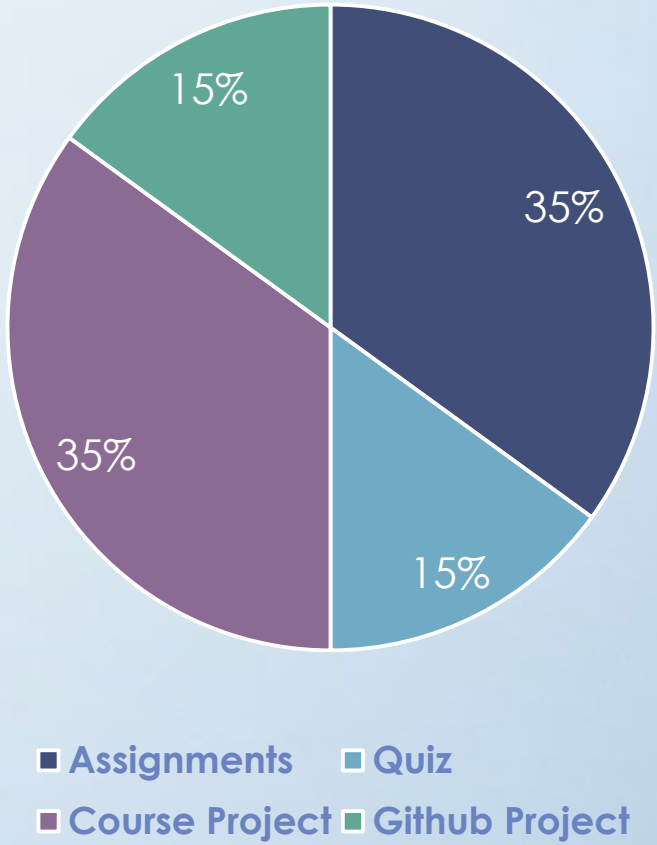
- Exercises
  - Problems/Solutions
  - Videos
- Sessions diary
- Feedback

Practical arrangements

Items	Time
Lectures	5x4 = 20h
Labs	5x4 = 20h
Assignment	30h
Diary	3h
Self-study	40h
Quiz	2h
GitHub Project	5h
Course Project	10h
Total:	**132 hours**

☑ Assessment

- the students need to return the **assignments** to the teacher after the course in order to be assessed.
- **Quiz** will be held in the last session. The student must do it on her/his own, and it is going to contain 40 simple questions regarding the course material.
- **Github Project** will be done individually by the student.
- **Course Project** will be held in the last session. Any type of materials are free to use (Just like real life situations, when you are working on a project!)



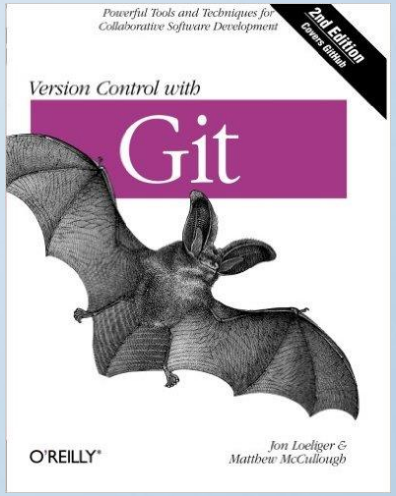
Grading

Points	Grade	Description
90-100	5	Excellent performance: not only fulfils all standard requirements, whether, demonstrates originality and imagination.
80-89	4	Very good performance: fulfilling all tasks in an appropriate manner.
70-79	3	Good performance: showing strong understanding of basic concepts and good grasp of techniques, but with certain minor problems still requiring further attention.
60-69	2	Satisfactory performance: demonstrating basic grasp of concepts and techniques but less adept at more advanced application of these.
50-59	1	Sufficient performance: showing just enough understanding of the subject to merit a pass grade but requiring greater effort to achieve a more satisfactory result.
0-49	☹	Fail: 30-49: insufficient to pass but capable of achieving a more satisfactory result if greater effort is made. 0-29: a result indicating a significant lack of effort on the part of the student.

🕮 References

- Tutorial videos
- Slides
- Reference content
  - Atlassanian Git
  - Book: O'REILLY: Version Control with Git (2nd Edition)

Atlassian



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Thank you for your consideration!

I hope you have a wonderful class! ☺

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