Version Control Using Git

Overview:

The students have become familiar with using the terminal, so this in class lecture introduces Git through short demos and exercises. Students will learn about workflow and how to organize their filesystem.

Goal:

Students will gain an understanding of what version control is and how to use git to improve their development workflow.

Objectives:

By participating in this lesson, students should be able to:
- explain what version control is and why it is useful
- create a local git repository
- make commits to their repository
- reverse unwanted changes to their commits
- create branches and switch between them
- demonstrate proper git workflow

Anchor Vocabulary:

- Version control
- Repository
- Working directory
- Index
- HEAD
- Staging
- Commit
- Branching

Topics to Cover:

Only review terminal if the majority of the class is confused on how to run basic commands in the terminal.

Lesson Outline	Lesson Description
Terminal Review (if necessary)	- What is a terminal? - Basic commands - cd - ls - less / more - mkdir - touch
Introduction	What is Git?

	● Why is it used? ● What problem does it solve? ● Structure of a git project ● How does git keep track of history? ● Decentralized approach to version control
Basic Commands	● init ● add ● commit ● status ● log ● branch ● revert / reset
Extras	● Atomic commits ● Commit often ● Git workflow

Related Technology:

- SVN
- CVS

Related Exercises:

Version Control Using Git

Related Workshop:

Byte Sized Commits

Related Visuals:

Git and Github Work Flowchart
Git vs Github

Additional Resources:

- Git Homepage
- Git Simple Guide
- Code Academy: Learn Git
- TeamTreeHouse: Git Basics
- CodeAcademy: Git Branching
- Github Workflow