

GitHub in the Classroom

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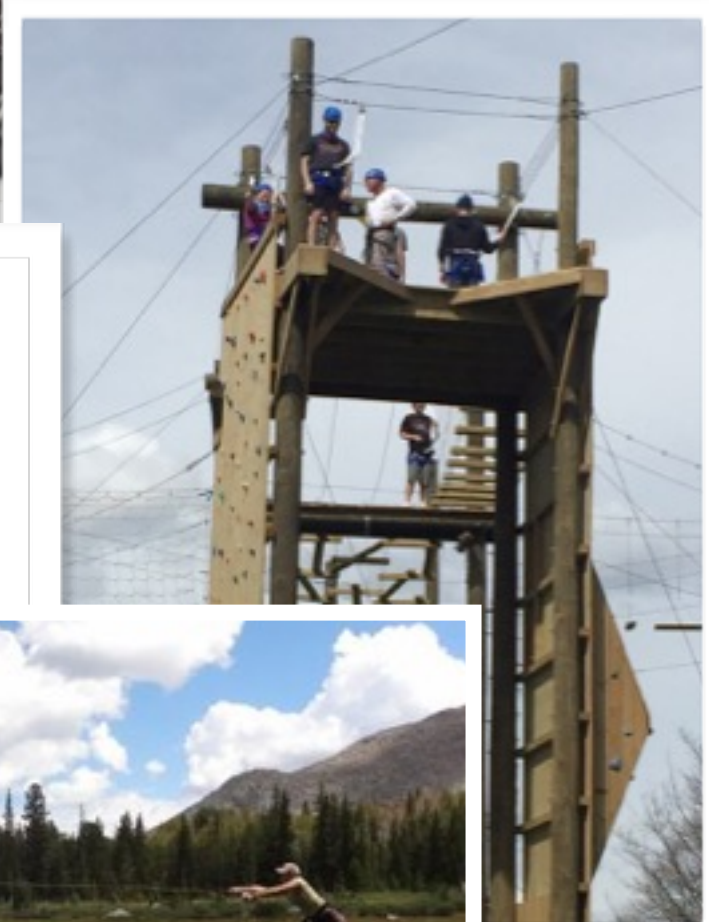
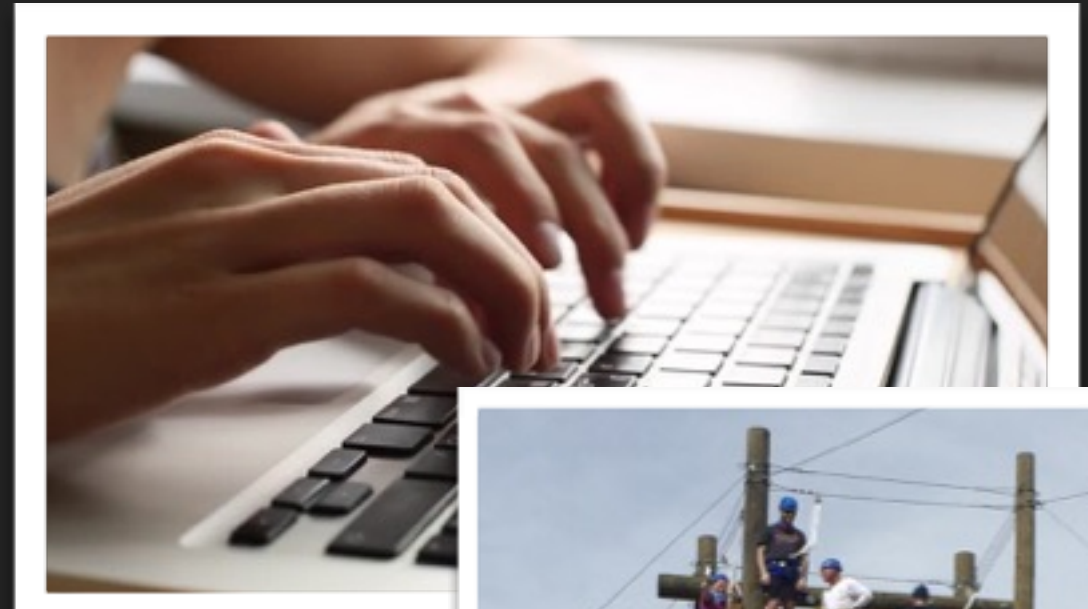
WHO AM I?

Software Developer

Programming Instructor

Student

Outdoor Enthusiast



GITHUB – AGENDA

Terminology

History

Uses: Collaboration, Content Hosting, Classroom

Tips and Tricks

Resources

References

Versioning

Repository

Git

GitHub

GitHub Organization

GitHub Classroom

TERMINOLOGY

VERSIONING



VERSIONING



VERSIONING

The screenshot shows the Dropbox web interface for a folder named "GitHub-In-The-Classroom". At the top right is a search bar. Below the folder name, there are icons for adding files and folders, and a trash icon. The file "GitHubForEducation.key" (3.47 MB) is listed with action buttons: Download, Comment, Delete..., Rename, Move..., and More. Below the file list, a context menu is open for the selected file, showing options: Share..., Download, Comment, Delete..., Rename, Move..., Copy..., and Previous versions (highlighted). The file's details show it was uploaded "ins ago" and has a "Share" button.

> GitHub-In-The-Classroom

Search





GitHubForEducation.key Download Comment Delete... Rename Move... More 3.47 MB

.git

GitHubForEducation.key ins ago Share

- Share...
- Download
- Comment
- Delete...
- Rename
- Move...
- Copy...
- Previous versions

VERSIONING

	GitHubForEducation.key • 8:34 AM	Edited by Paula Waite. • Desktop	3.47 MB	
	GitHubForEducation.key • 8:31 AM	Edited by Paula Waite. • Desktop	3.48 MB	
	GitHubForEducation.key • 8:27 AM	Edited by Paula Waite. • Desktop	3.5 MB	
	GitHubForEducation.key • 8:25 AM	Edited by Paula Waite. • Desktop	3.5 MB	Restore

Yesterday

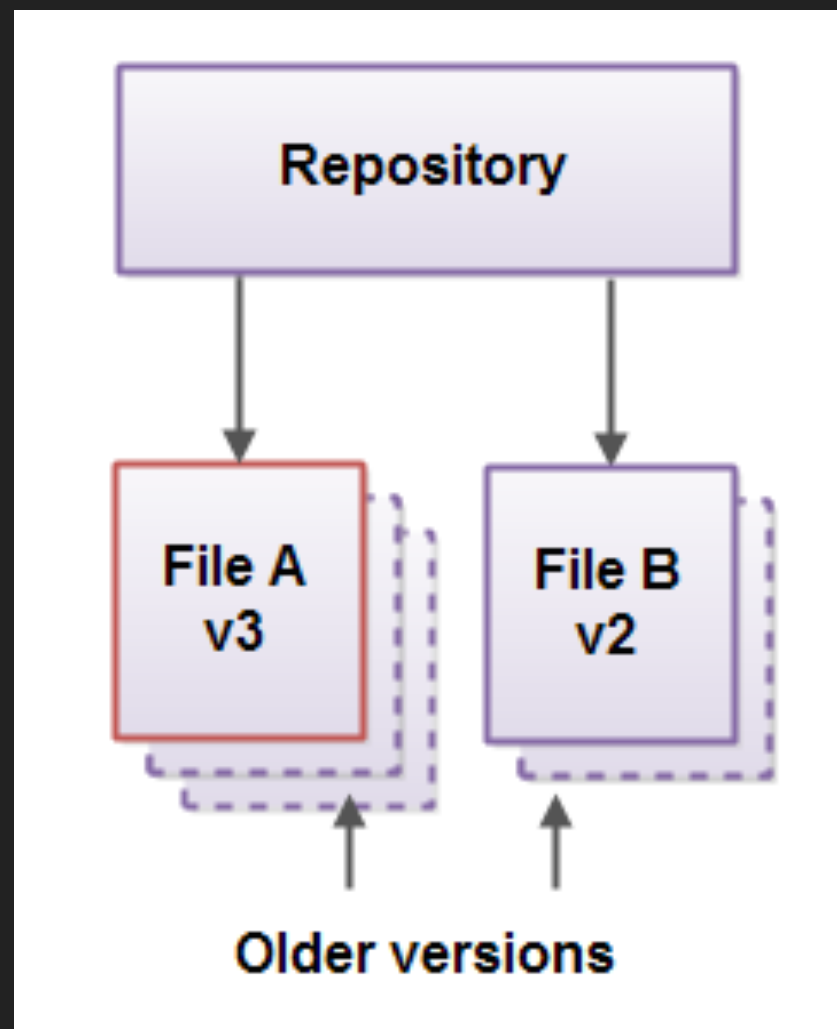
	GitHubForEducation.key • 11:26 PM	Edited by Paula Waite. • Desktop		
	GitHubForEducation.key • 11:25 PM	Edited by Paula Waite. • Desktop		
	GitHubForEducation.key • 11:23 PM	Edited by Paula Waite. • Desktop	3.5 MB	
	GitHubForEducation.key • 10:44 PM	Edited by Paula Waite. • Desktop	3.51 MB	

GOOGLE DOCS

File >> See Revision History

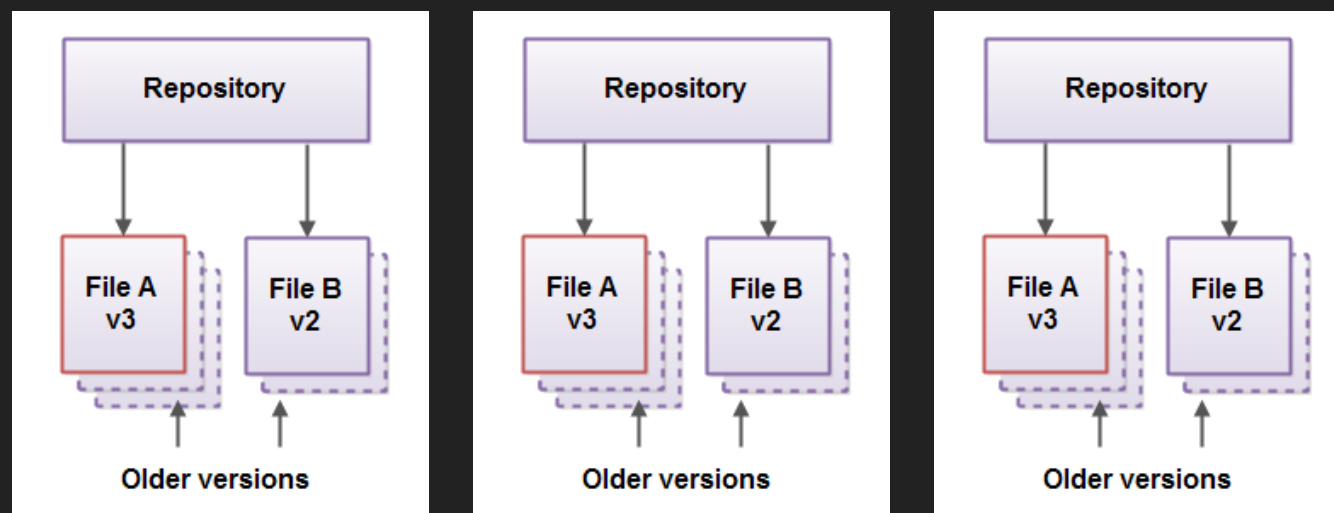
REPOSITORY

A collection of files and their versions that we want to manage.



GIT

Free, open-source software program to manage versioning of files.



GITHUB

Web-based Git repository hosting service

TERMINOLOGY

Versioning

Git - software that manages your project or files as they change over time

Repository - the files and information about changes in those files

GitHub - web-based Git repository hosting service

GitHub Classroom- an application designed to automate repository creation and access control, making it easy for teachers to distribute starter projects and collect assignments on GitHub

Organization - school, course, or class. You can have one classroom per organization.

GITHUB – AGENDA

Back up

Versioning - computer programs and other work

Collaborate

HISTORY

Versioning/backup/collaborate - computer programs

Versioning/backup/collaborate - curriculum materials

Sharing Examples Completed in Class

Sharing Content

Assignments

NOT JUST FOR PROGRAMMERS!

"A social network for all knowledge workers"

Event organization

Medical Research

Collaborative Writing

Recipe Sharing and Remixing

Blogging

Portfolios

THREE MAJOR USES

Collaboration

Content Hosting

Classroom

COLLABORATION

Imagine a small group of college students assigned to write a group paper:

I start writing the paper, implementing a basic structure and some initial facts.

Jacob clicks a button and grabs his own version of the document. He doesn't have to download a file, make a copy, and rename it. Git takes care of that. He can make changes at will, without worrying about affecting anybody else (unlike real-time tools like Google Docs or Dropbox). He adds a new section, and also fixes some of my factual errors.

Jacob thinks his changes are ready to be merged into the main document, so he creates request to merge with the click of a button.

The team is automatically notified via email that Jacob opened a request. Everyone can quickly see exactly what changed - line for line, word for word.

Marva looks over Jacob's work and notices a few grammatical issues, which she points out in a comment on Jacob's request.

Jacob fixes the errors, Marva approves his request (again, with the click of a button), and the changes are merged into the main document.

This workflow may sound complex, but it's actually incredibly simple and efficient in practice.

COLLABORATION BENEFITS

Free

Reliable

Efficient

Backup

Versioning

Issues/Discussions

Notifications

CONTENT HOSTING

Static websites

Harvard CS109 Data Science: <http://cs109.github.io/2015/>

York College CS 101: <http://ycpcs.github.io/cs101-summer2016/>

<https://github.com/blog/1871-github-3-first-robotics>

Blogs

Portfolios

CONTENT HOSTING BENEFITS

Free

Lots of support

Reliable

Searchable

Instant updates

GITHUB CLASSROOM

Lots of support for educators

Free unlimited private repositories

Student Pack

Step-by-Step Instructions, How-to-Videos, Community (Forums)

Students and colleagues can contribute to content

Assignments

Inline feedback, discussions, issues

TIPS AND TRICKS

Request the educator discount in advance of when you need it

Create an organization for each course

GitHub recommends keep repositories under 1 GB

Files must be under 100 MB

Word docs - cannot easily view differences

RESOURCES

Git Tutorial: <https://try.github.io/levels/1/challenges/1>

GitHub Classroom/Education: <https://education.github.com>

GitHub Pages (Host a Site): <https://pages.github.com>

GitHub Classroom - Getting Started Videos: https://www.youtube.com/watch?v=ChA_zph7aao

REFERENCES

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<https://github.com/skilstak/github-classroom-tips>

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<http://www.slideshare.net/TimStaley1/a-brief-introduction-to-version-control-systems>