A (quick) introduction to Git and version control

Coding and Data Management Festival

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What is Git?

- Git is a version control system
- History tracking of files
- Most famous Git platforms: **GitLab** and **GitHub**

You store files, like code or documents, in a Git repository.
When you want to edit the files, you **clone the repository to your computer**, *make the changes, and* **push your changes back to the repository**.
Each time you **push a change**, *Git records it as a unique* **commit**.
These **commits make up the history of when and how a file changed, and who changed it**.

Example I

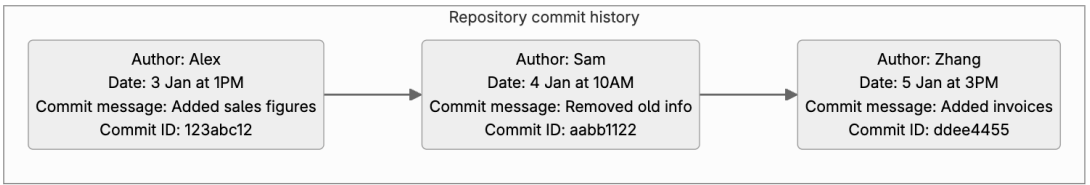

Figure: Commit history

Working in collaboration

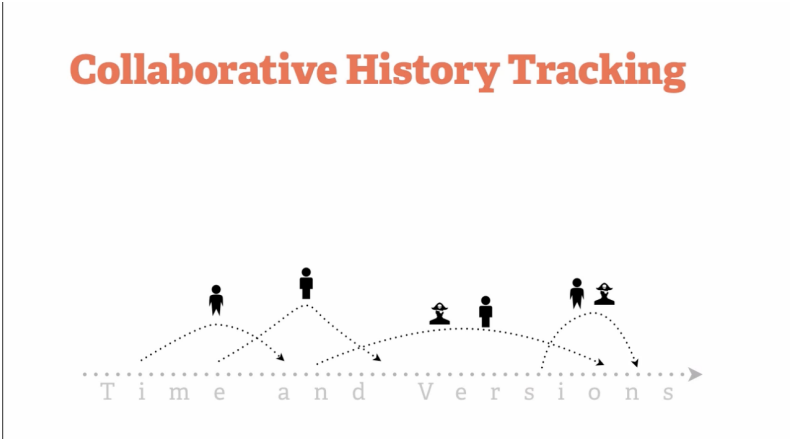

Figure: Multiple collaborators in a single project

Working in collaboration

When you work in a Git repository, you work in **branches**. *By default, the contents of a repository are in a* **default branch**. *To make changes, you:*

1. Create your own branch, which is a snapshot of the default branch at the time you create it.
2. Make changes and push them to your branch. Each push creates a commit.
3. When you're ready, merge your branch into the default branch.

Working in collaboration

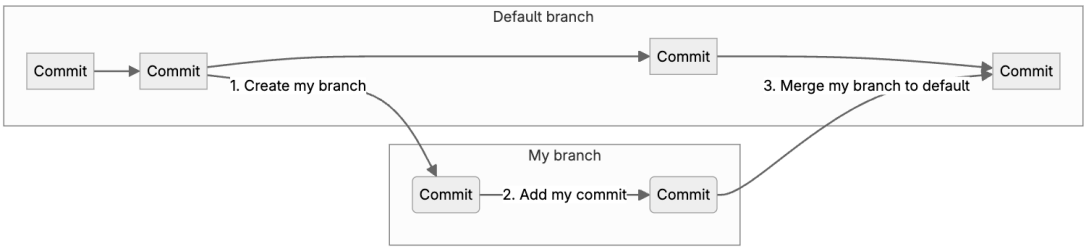

Figure: Multiple branches example

Links for extra references

- GitLab
  - Quick Tutorial
- GitHub
- git webpage
  - Manual
  - Videos
  - Book