

Git & GitHub

Including project management

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Learning objectives

What are versions?

Basic Git and GitHub terminologies

Have a GitHub user account

Markdown styling of the text

Introduction

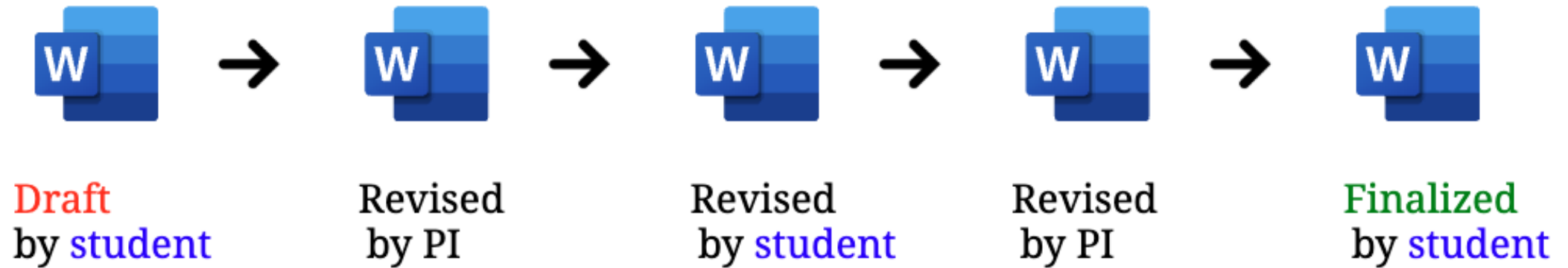
Name

Designation

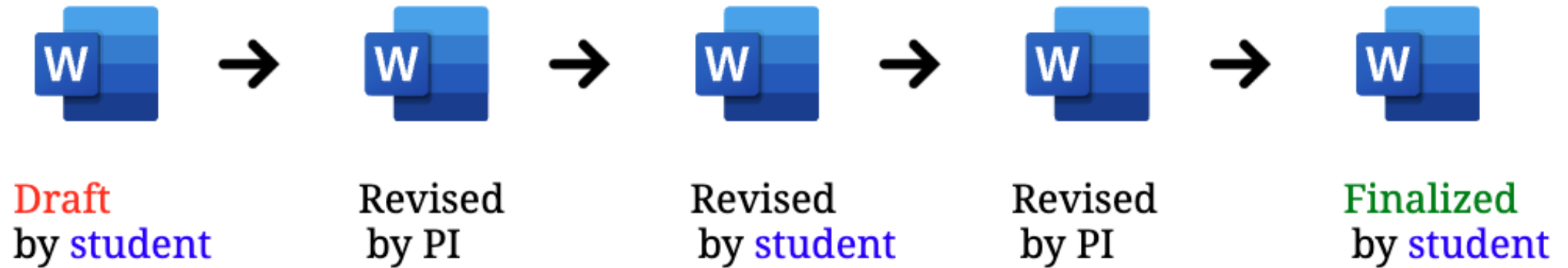
Research group & Institution

Experience with Git and/ or GitHub

A general example of manuscript revision

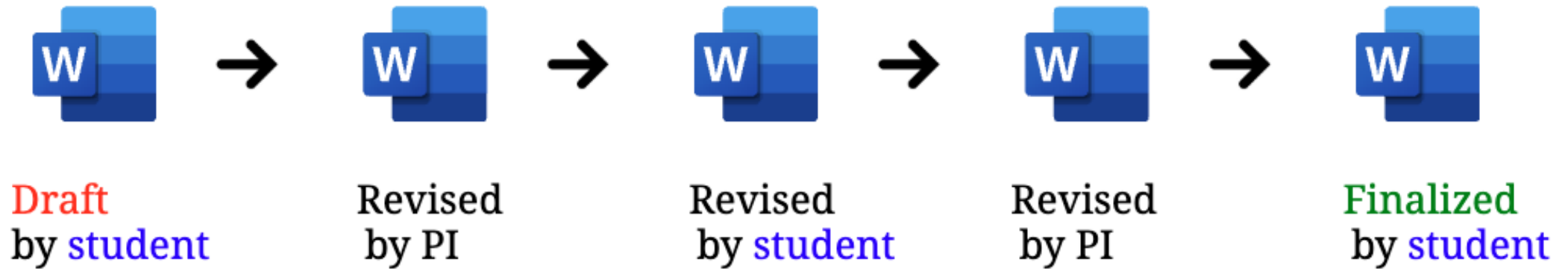


A general example of manuscript revision



What would you call these files?

A general example of manuscript revision



What would you call these files?

Versions?

How would you store different versions?

- manuscript_FA.docx
- manuscript_FA_LA.docx
- manuscript_FA_LA_FA.docx
- manuscript_FA_LA_FA_LA.docx
- manuscript_final.docx

How would you store different versions?

- manuscript_FA.docx
- manuscript_FA_LA.docx
- manuscript_FA_LA_FA.docx
- manuscript_FA_LA_FA_LA.docx
- manuscript_final.docx
- manuscript_20221001.docx
- manuscript_20221224.docx
- manuscript_20230107.docx
- manuscript_20230201.docx
- manuscript_final.docx

How would you store different versions?

- manuscript_FA.docx
- manuscript_FA_LA.docx
- manuscript_FA_LA_FA.docx
- manuscript_FA_LA_FA_LA.docx
- manuscript_final.docx
- manuscript_20221001.docx
- manuscript_20221224.docx
- manuscript_20230107.docx
- manuscript_20230201.docx
- manuscript_final.docx

Does anyone store files differently?

Version control

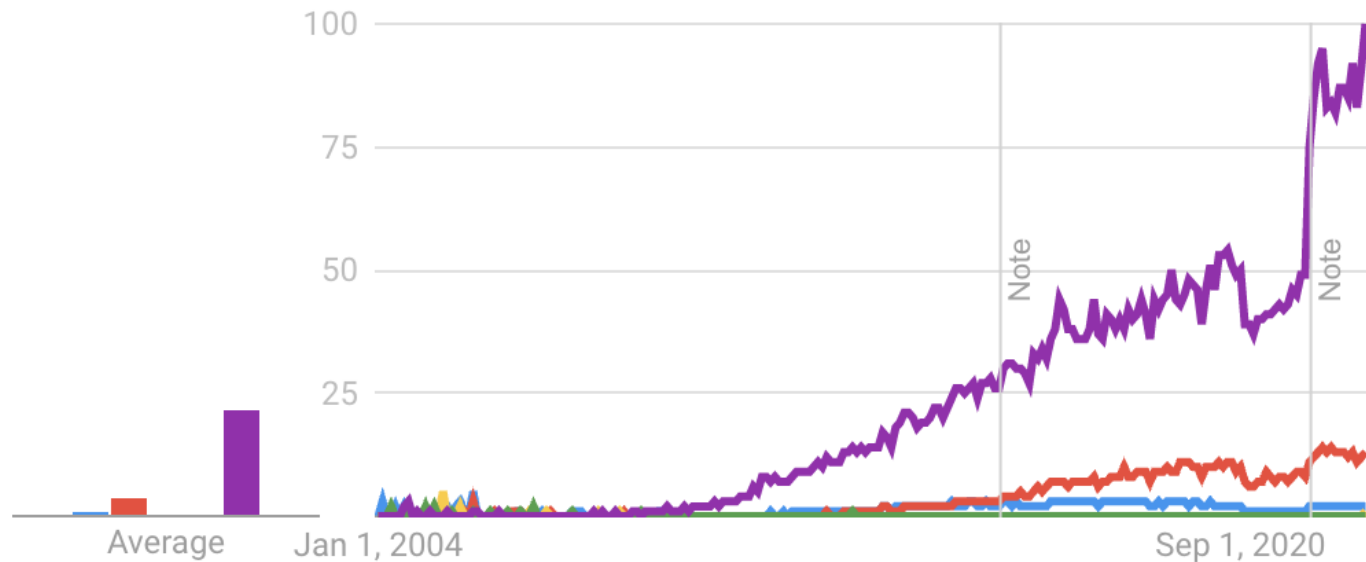
• File	“commit message”	version/commit ID
• manuscript.docx	“first draft”	ac3eveta
• manuscript.docx	“revision 1”	a23eveta
• manuscript.docx	“revision 2”	cc3eveta
• manuscript.docx	“updated figures”	dc3edeta
• manuscript.docx	“removed table”	zc9aveta
• manuscript.docx	“line numbering”	tc5eveta
• manuscript.docx	“bioRxiv submission”	yc8evata
• manuscript.docx	“published”	zz33eeta

How to host these versions?

Interest over time

Google Trends

● BitBucket ● GitLab ● Gitea ● Renku ● GitHub



Worldwide. 1/1/04 - 2/9/23. Web Search.

Terminologies

Organization	shared account
Username	your identity
Repository	folder
Issues	track bugs, request features, discuss
Branch	separate line of development
Fork	server-side copy of Repository
Pull request	proposal to merge changes

Exercise 1

1. Create a **username** on <https://github.com>
2. Check if you belong to any **organization**
3. Create a new **public Repository** with your **username**
4. Go to your home page: <https://github.com/username>
5. Take a screenshot

Writing style on GitHub: Markdown

This is heading 1

This is heading 2

`code`

```r

R code

```

Writing style on GitHub: Markdown

****Bold**** __Bold__

*****Italics***** __Italics__

~~~Strikeout~~~

> quote

# Writing style on GitHub: Markdown

This is a list

- Item 1
- Item 2
- Item 3

This is a numbered list

1. Item 1
2. Item 2
3. Item 3



# Writing style on GitHub: Markdown

This is a task list

- [ ] Item 1
- [ ] Item 2
- [ ] Item 3

[this is a link](<https://github.com>)

# Writing style on GitHub: Markdown

## Making a table

```
| Column 1 | Column 2 | Column 3 |  
|-----|-----|-----|  
| row 1 a | row 1 b | row 1 c |  
| row 2 a | row 2 b | row 2 c |
```

# Exercise 2

1. Create a file: **README.md** in your username **Repository**
2. Write your introduction into sections: Background, Research project, Affiliation, Education
3. In the Education section, make a table of your studies with university and year
4. Save your **README.md** file with a proper commit message
5. Go to your home page: <https://github.com/username>
6. Compare it with previously taken screenshot

# Exercise 3

1. Create an **issue** in your **repository**:  
<https://github.com/username/repository/issues/new>
2. Give it a title: updating **README** file
3. Write a description: what else you would like to update in the **README** file
4. **Assign** it to yourself, add relevant **labels** and type

# Exercise 4

1. Go to [https://github.com/DQBM-SIB/intro\\_git\\_github](https://github.com/DQBM-SIB/intro_git_github)
2. Fork this repository under your username
3. Create a branch with your first name
4. In your named branch, edit README file of this repo and add your GitHub username
5. Create a pull request for original repository DQBM-SIB/intro\_git\_github in main branch with appropriate message
6. After pull requests are merged, check different commit messages

**Thank you!**