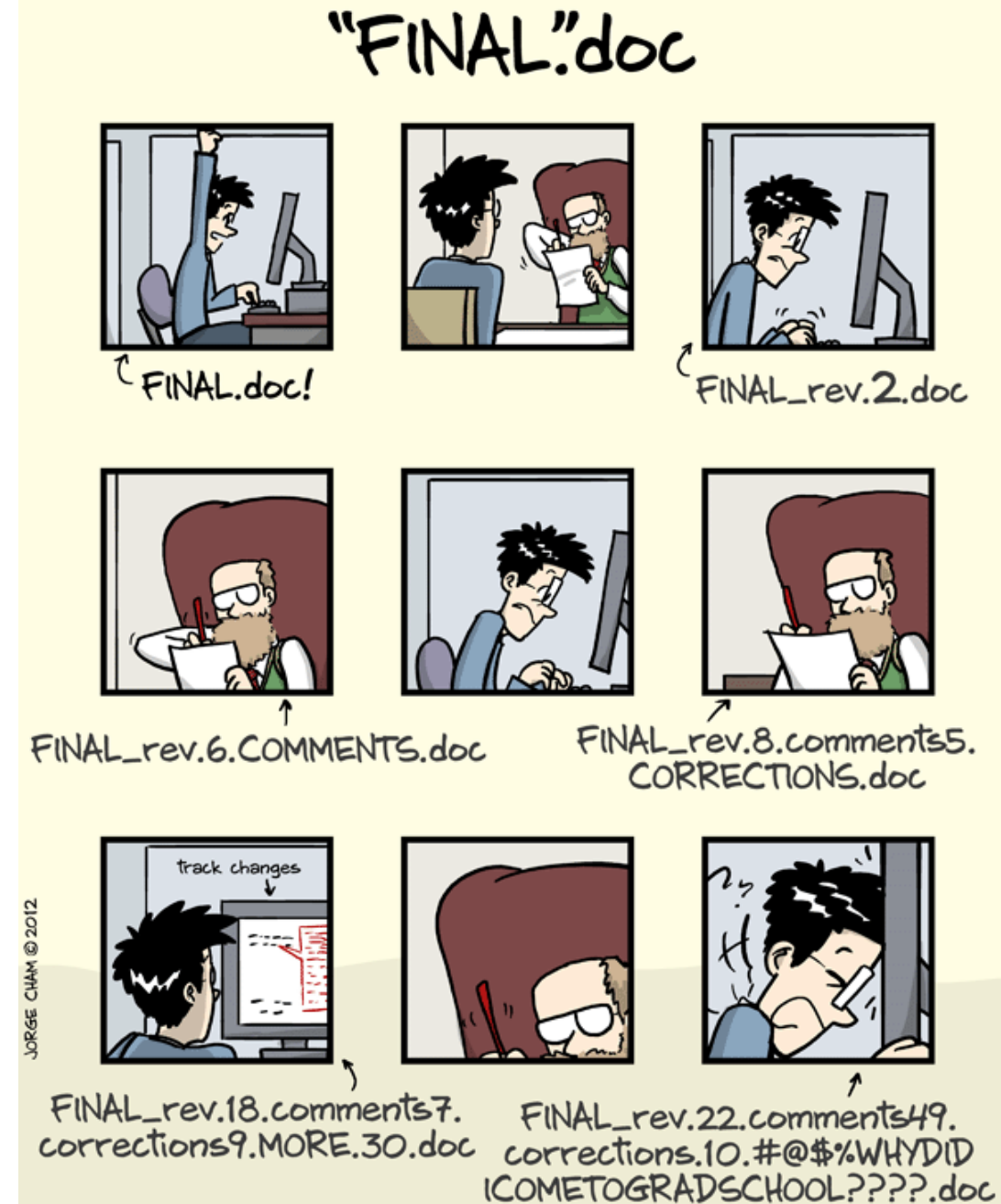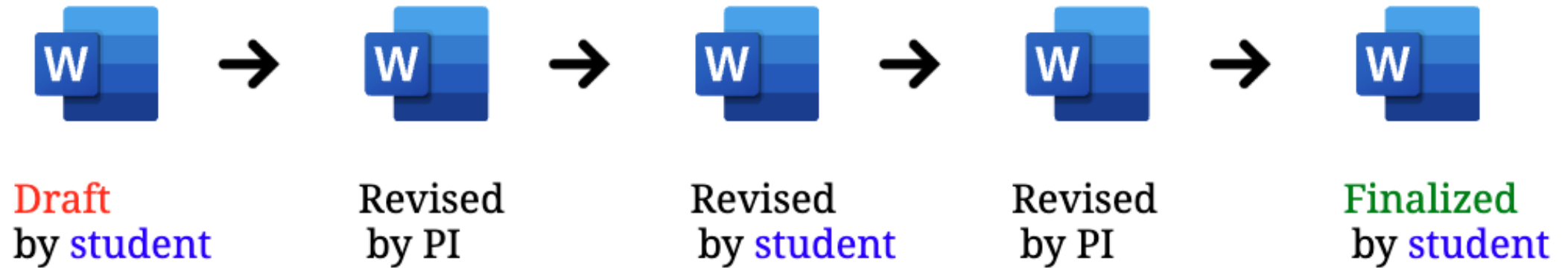# Git & GitHub

Including project management

Deepak Tanwar
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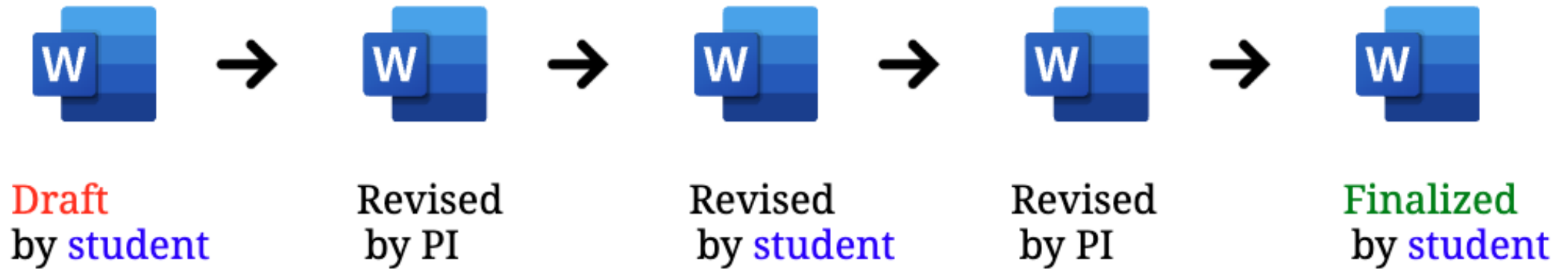
Email: deepak.tanwar@uzh.ch
Bluesky: http://dktanwar.bsky.social/

A general example of manuscript revision

Draft
by student
→
Revised
by PI
→
Revised
by student
→
Revised
by PI
→
Finalized
by student

A general example of manuscript revision

Draft by student → Revised by PI → Revised by student → Revised by PI → Finalized by student

What would you call these files

A general example of manuscript revision

Draft by student → Revised by PI → Revised by student → Revised by PI → Finalized by student
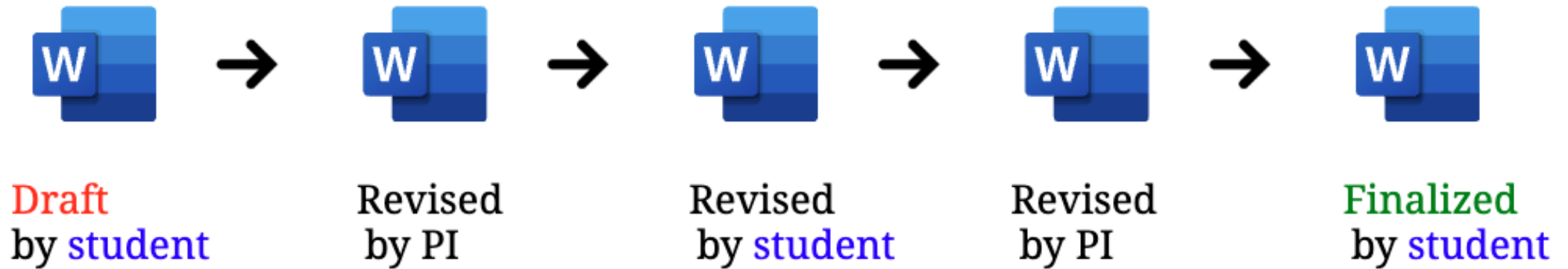
What would you call these files

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

- 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

- 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

Version control

- **File**   **"commit message"**   **version 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?
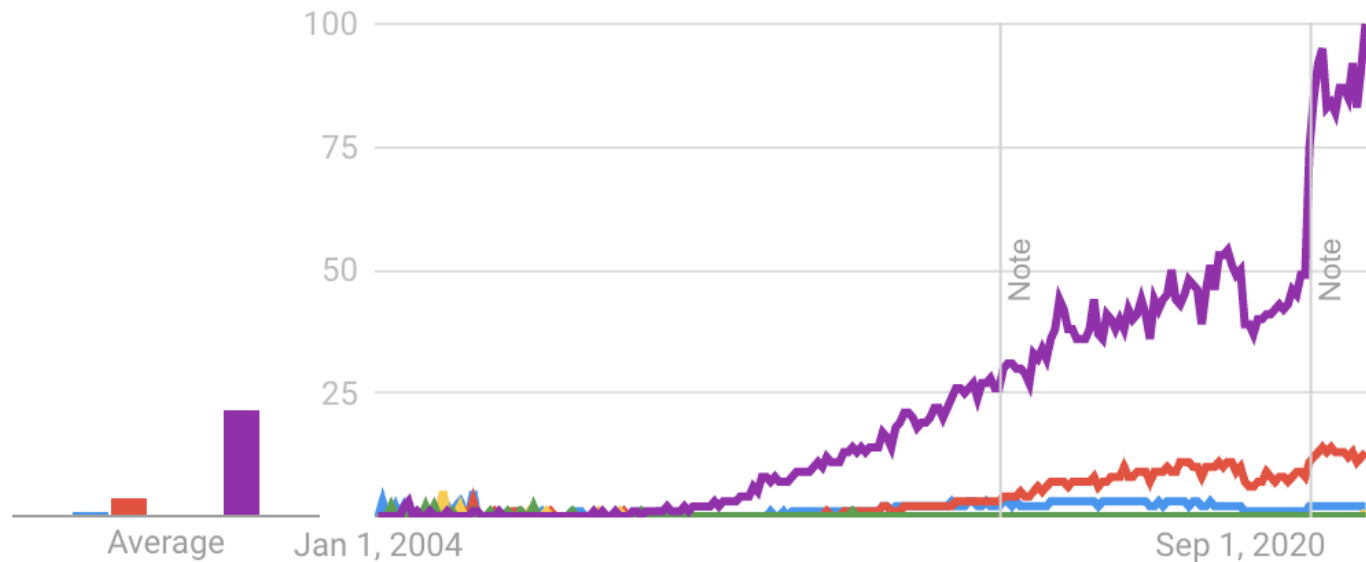
Terminologies

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. Got to 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

Thank you!