Analytical Workflows

IB599

Mark Novak

Dept. of Integrative Biology
Oregon State University

Overview

Overview

Course Principles

Automation

Doing science involves repetition at multiple levels.
Automation is more efficient and reduces mistakes.

Reproducibility

Science should be reproducible, by others and you.
Your work must be *readable*, *organized*, and *self-contained*.

Correctness

Science's limitations are human. Software can overcome bugs.
Your science must be bug-free.

Course Principles

Simplicity

Analyses should be as simple as possible.
Clever and readable are often at odds.

Openness

Science is a worldwide endeavour.
It, and access to it, should be free and equitable.

Science as Software Development

Science has no end product, just versions and updates.
Software developers have developed tools to help.

Overview

Website & Schedule

`https://github.com/analyticalworkflows`

Overview

What you'll need

Software

- `Git`
- LaTeX

Accounts

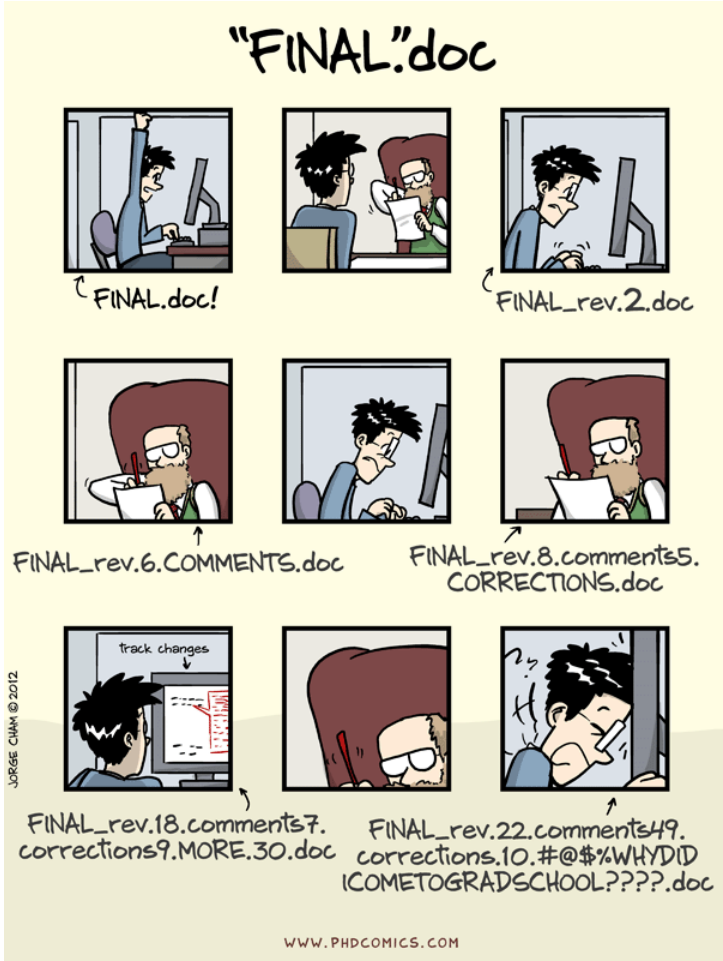
- GitHub[1]

LaTeX editor

- TeXstudio, Atom, etc.
- OverLeaf

`Git` GUI

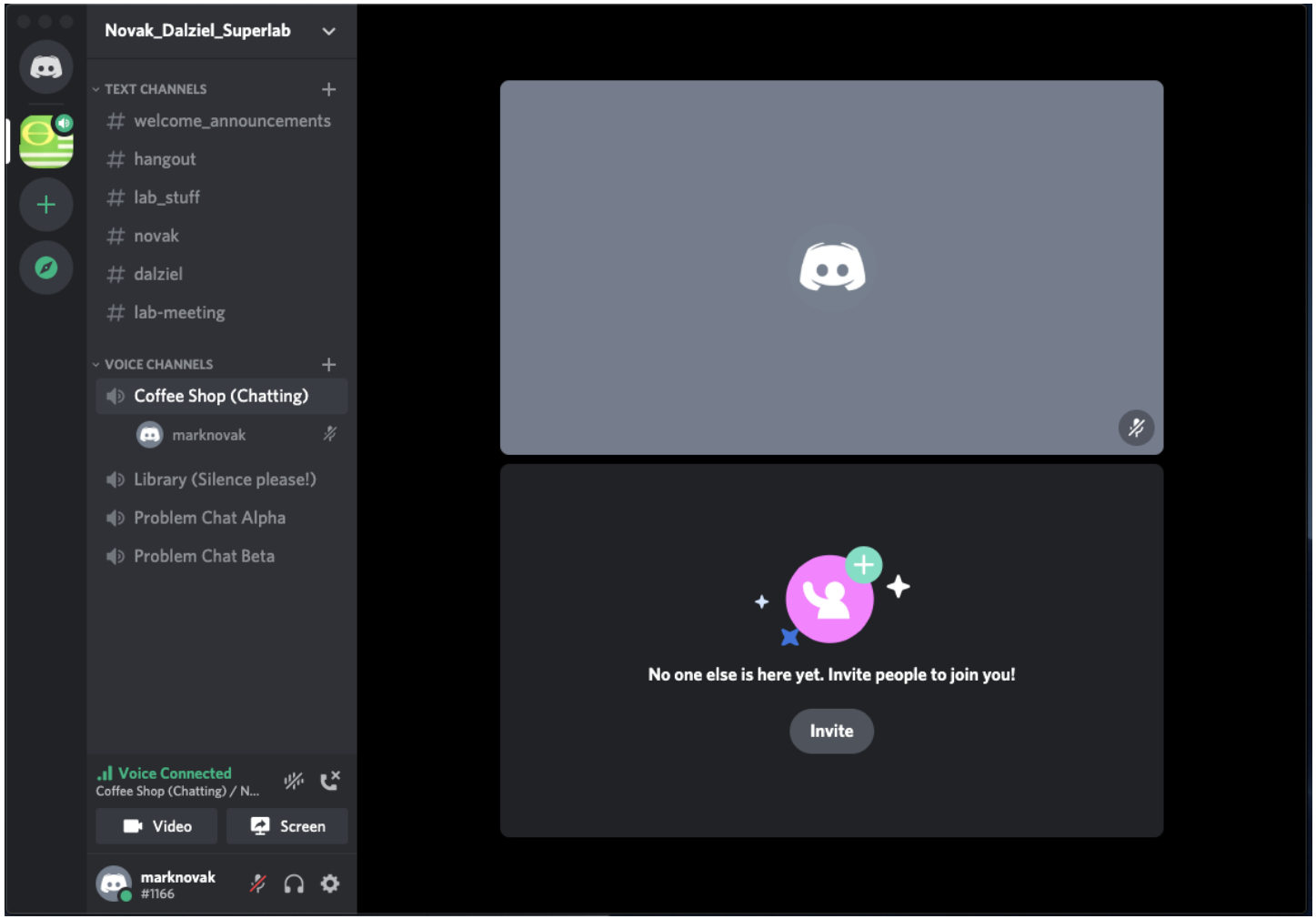
- Sourcetree



[1] Please send me your username.

To Zoom or not to Zoom?

`https://discord.com`



Overview

Project Proposals - Let's get started!

Primary Goal

To develop more efficient research skills.

Secondary Goal

To make significant progress on your thesis.

Our belief

We can achieve both in this course!

`https://github.com/analyticalworkflows/TeachingMaterials/classes/ProjectProposal`

Overview

We're all learning...

This is my first ever LaTeX Beamer presentation!

- Be kind to yourself
- Support each other