SHARING SCIENCE THROUGH FREE AND OPEN ELECTRONIC LABORATORY NOTEBOOKS – A GITHUB CASE STUDY

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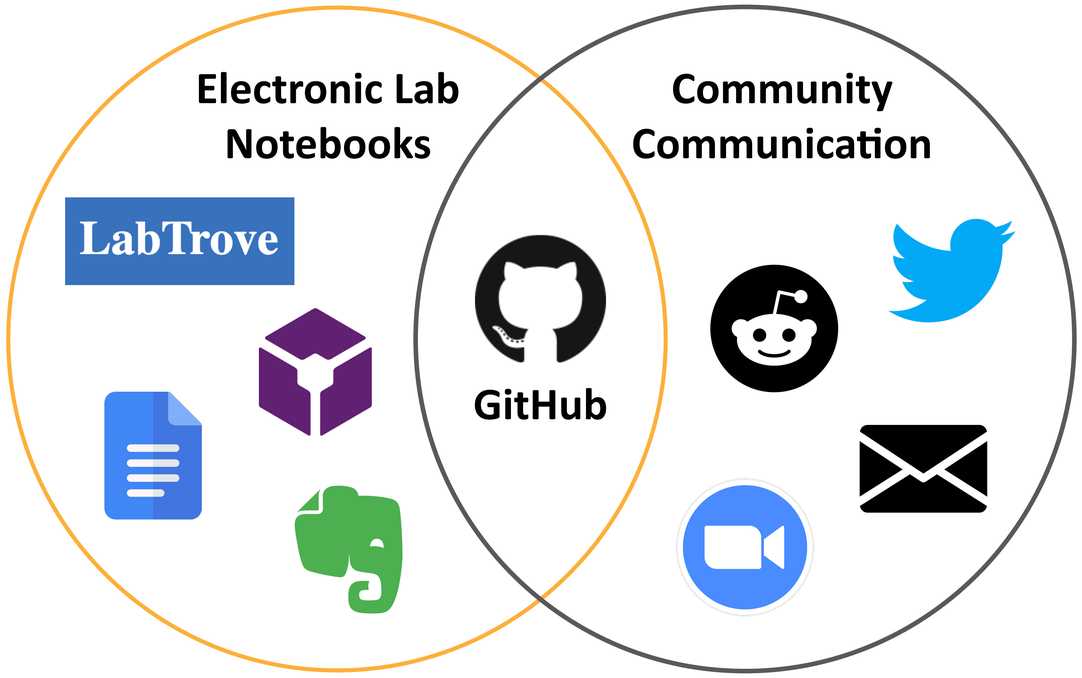
https://github.com/TheBreakingGoodProject

How can we share scientific data in real time?



What is GitHub?

GitHub is a web-based graphic interface for Git an open source version control system.[1]

Why do we use it?

Originally developed for coders, GitHub has several underlying principals and features suitable for open source and citizen science.

Advantages

- ✓ Version control
- ✓ Accessible to everyone
- ✓ Central location
- ✓ Easy to share information
- ✓ Real time, public and open collaboration and communication

Uses:
1. ELN excerpt and table of contents
- Table of contents entries linked to pages in the ELN.
- Flexibility to arrange in a logical order rather than in chronological.

2. Data storage and sharing
- Organise data and files into folders.
- Anyone can view and download files.

Uses:
1. Project management
- Background information to project for new members.
- Updated project 'status' page.
- Sharing of final reports, findings and conclusions.
- Side bar for quick navigation through the wiki.

Uses:
1. ELN pages
- Blank canvas for complete flexibility in page structure.
- Drag and drop images, PDFs, .docx, .pptx .xlsx, text and ZIP files.
- Insert tables in markdown or drag and drop from Microsoft word etc.
- Communications can be made directly on the specific experiment.

2. Discussion and sharing of ideas
- Using individual issues keeps communications ordered and collated based on subject/idea.

Uses:
1. Project management
- Set up multiple projects and manage workflows.
- Issues can be tagged to a particular project.
- Create to do lists (can also be linked to issues).
- Assign tasks to individuals or teams.

References
1. Brown. K., 2019, What is GitHub, and what is it used for? *How to Geek*, viewed March 23 2020 at https://www.howtogeek.com/180167/htg-explains-what-is-github-and-what-do-geeks-use-it-for/

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