

MANAGING THE WHOLE RESEARCH PROCESS ON GITHUB

Shiro Takagi (Independent Researcher)

Profile  Paper 

1. GitHub clarifies contributors

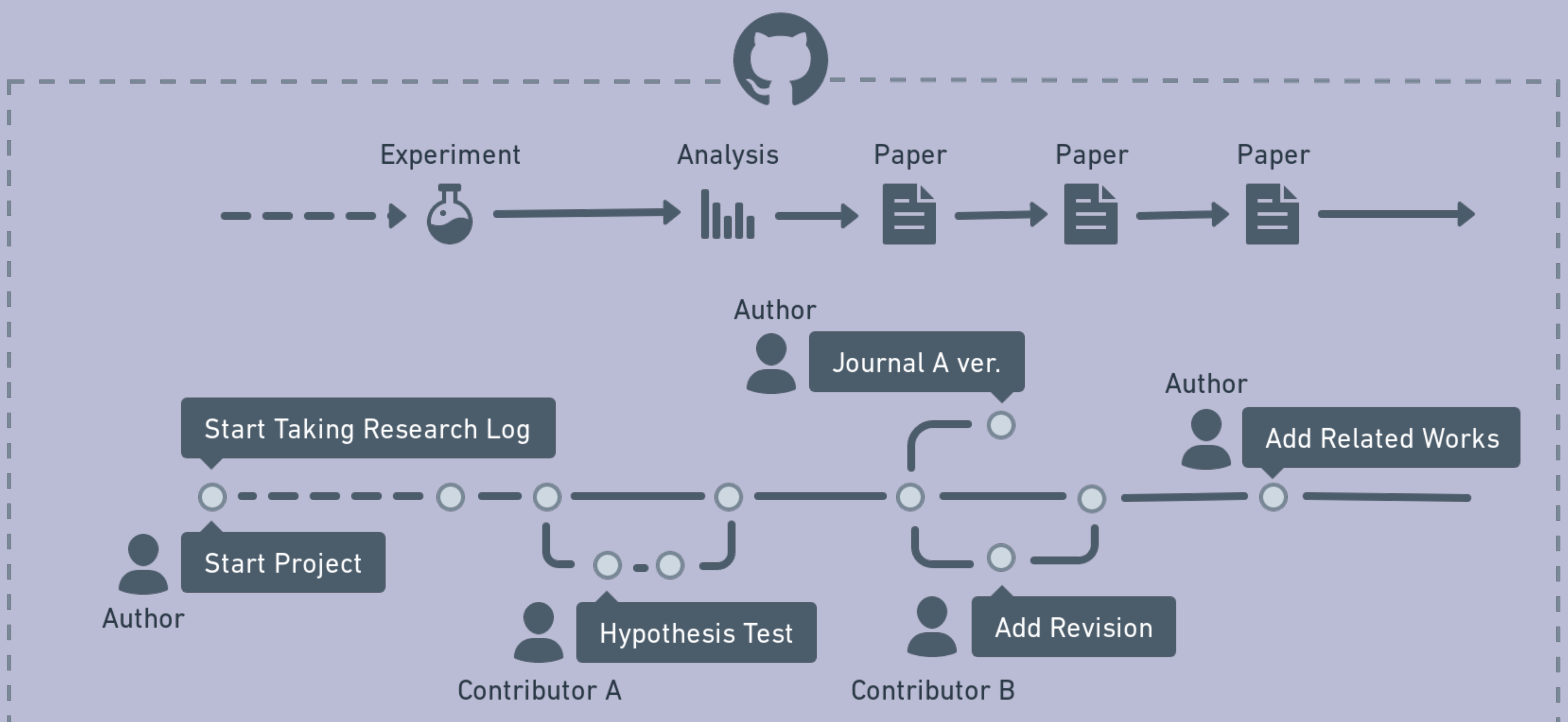
- You record all you did in research on Git commit history, from which anyone can know who did what and when.
- This might resolve gift-authorship problems, author order issues, or plagiarism.

2. GitHub allows for finer contributions

- The minimum visible unit of contribution and citation for a research problem would be not a paper but a *commit*.
- More talents good at a particular domain, e.g. statistical analysis, but bad at research as a whole could contribute to research.

3. GitHub enables post-publication peer review

- You accept reviews and modifications as *issues* and *pull requests*, enabling continuous evaluation of your research by the many.
- This might mitigate review quality problems caused by the lack of reviewers, the limited review period, or the bias to reject.



We propose to manage all outputs in a research process on GitHub

4. GitHub improves reproducibility

- All negative results, heuristics, or trial-and-error processes are on GitHub with time stamps.
- This might save time for the followers to replicate the results and decrease questionable research practices.

5. GitHub embraces diversity

- Open collaboration doesn't care about contributors' gender, race, affiliation, and social/educational/financial backgrounds.
- Open research collaboration on GitHub may alleviate the diversity issues many research communities face today.

6. GitHub protects research ideas

- More researchers could publish unpublished works without fear of plagiarism because the log is in GitHub.
- This would make more knowledge concealed by individuals or laboratories public, accelerating open science.