

The Alan Turing Institute

The Turing Way workshop on Boost your reproducibility with Binder

Malvika Sharan

Pronouns: she/her



Boost your reproducibility with Binder

Shared notes:

hackmd.io/@malvikasharan/BinderJune2020

“

The Turing Way is an **open source book project** that involves and supports a **diverse research community** in ensuring that reproducible and ethical **data science** is accessible and comprehensible **for everyone**.

”

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The Turing Way Team and Community



Kirstie Whitaker

The Turing Way is a lightly opinionated guide to reproducible data science.

Our goal is to provide all the information that researchers need at the start of their projects to ensure that they are easy to reproduce at the end.

This also means making sure PhD students, postdocs, PIs, and funding teams know which parts of the "responsibility of reproducibility" they can affect, and what they should do to nudge data science to being more efficient, effective, and understandable.



The Turing Way Team and Community



Kirstie Whitaker

“The Turing Way is a book, a community, a global collaboration, and a whole tonne of work”



The Turing Way is:

- a book
- a community
- a global collaboration
- a whole tonne of work



Rachael Ainsworth



Becky Arnold



Louise Bowler



Sarah Gibson



Patricia Herterich



James Hetherington



Rosie Higman



Anna Krystalli



Catherine Lawrence



Alex Morley



Martin O'Reilly



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Alex Morley



Martin O'Reilly



Catherine Lawrence



Contributors

Full list of contributors on our GitHub: <https://github.com/alan-turing-institute/the-turing-way#contributors>

The Alan Turing Institute



<https://www.turing.ac.uk/news/enigma-machine-goes-display-alan-turing-institute>
@malvikasharan @turingway, @mybinderteam, zenodo.org/record/3974948



<https://www.bbc.co.uk/programmes/p0704h04>

@malvikasharan @turingway, @mybinderteam, zenodo.org/record/3974948

The Turing



THE UNIVERSITY
of EDINBURGH

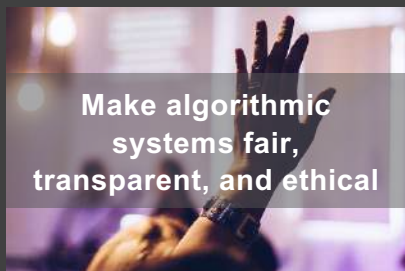


The Turing Partners and Collaborators



Challenges

Advance data science and artificial intelligence to...



The Turing Way



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The Turing Way: An Open Source Book Project

Everyone can **freely read, reuse, distribute, modify and help develop**

The Turing Way: An Open Source Book Project

Everyone can **freely read, reuse, distribute, modify and help develop**

The project belongs to The Turing Way community (CC-BY license)

Project Scope

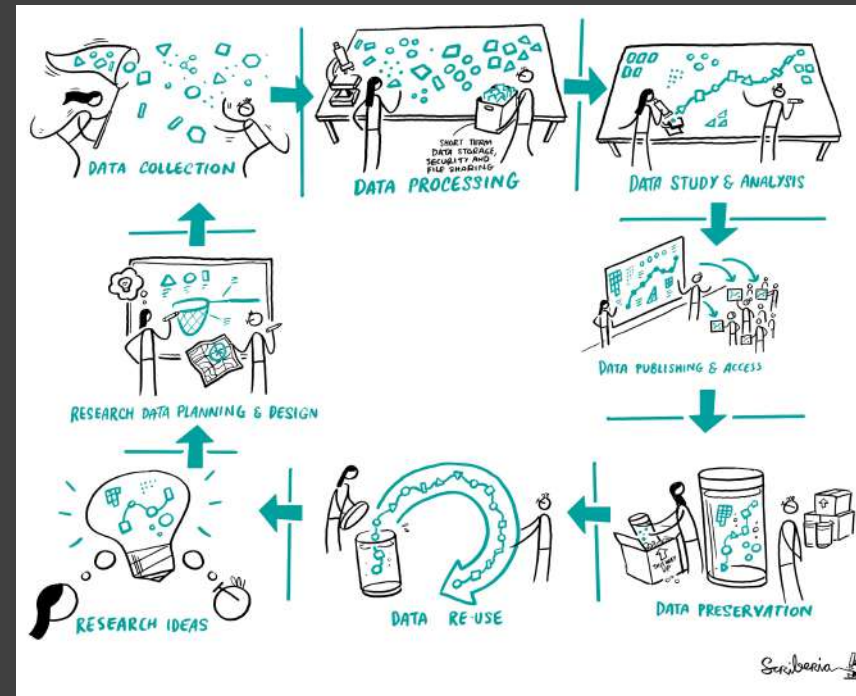
- Reproducibility
- Project Design
- Collaboration
- Communication
- Ethics

It's about 'the journey'



Reproducibility

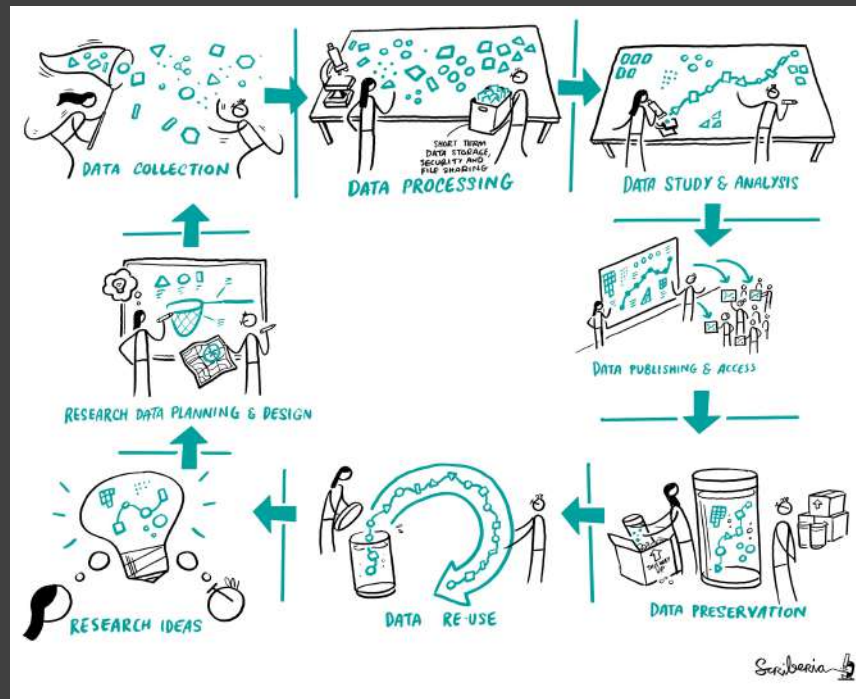
Same analysis steps on the same dataset produces same answer



Reproducibility

Same analysis steps on the same dataset produces same answer

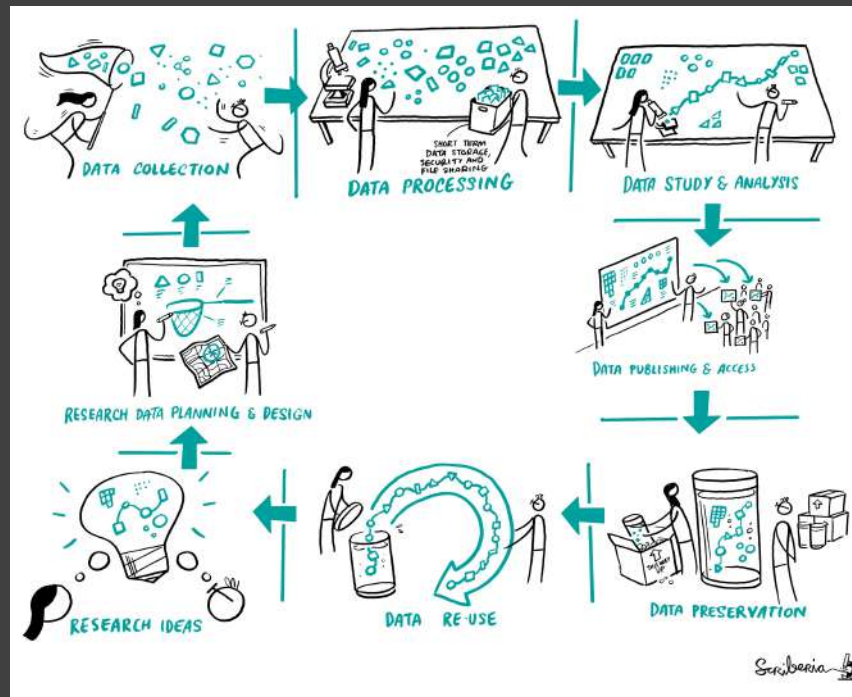
This process is overwhelming



Reproducibility

Same analysis steps on the same dataset produces same answer

This process is overwhelming -
we are here to help!



Barriers to reproducible research

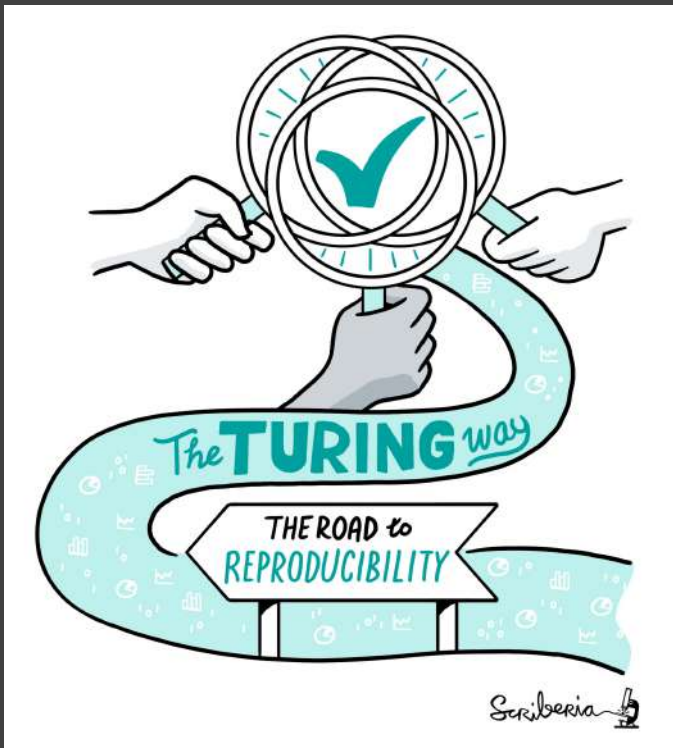
- Publication bias towards new findings
- Not incentivized in academic research
- Requires additional skills that are often not taught
- Takes time, not considered at the planning phase
- Post-publication retraction is penalised

Added advantages of reproducible research



Chapters on Reproducibility

Explore resources on version control, testing, automation, research environment, continuous integration etc.



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Explore resources on version control, testing, automation, research environment, continuous integration etc.

It's a live book!



Contributing to *The Turing Way*



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”



Contributions can be made online on our GitHub repo:

<https://github.com/alan-turing-institute/the-turing-way>

The screenshot shows the GitHub interface for the repository 'alan-turing-institute / the-turing-way'. The browser address bar shows the URL 'https://github.com/alan-turing-institute/the-turing-way'. The repository page header includes navigation links: Pull requests, Issues, Marketplace, and Explore. The repository name is displayed as 'alan-turing-institute / the-turing-way'. On the right, there are buttons for 'Unwatch' (35), 'Star' (411), and 'Fork' (117). Below the header, there is a tabbed interface with options: Code, Issues (146), Pull requests (32), Actions, Projects (2), Wiki, Security, Insights, and Settings. The 'Code' tab is selected. The main content area shows the repository description: 'Host repository for The Turing Way: a how to guide for reproducible data science' with a link to 'https://the-turing-way.netlify.com' and an 'Edit' button. Below the description are tags: 'hut23', 'hut23-270', 'hut23-396', and a 'Manage topics' link. At the bottom, there is a summary bar with statistics: 3,111 commits, 31 branches, 0 packages, 4 releases, 64 contributors, and a 'View license' link.

https://github.com/alan-turing-institute/the-turing-way

Pull requests Issues Marketplace Explore

alan-turing-institute / the-turing-way

Unwatch 35 Star 411 Fork 117

Code Issues 146 Pull requests 32 Actions Projects 2 Wiki Security Insights Settings

Host repository for The Turing Way: a how to guide for reproducible data science <https://the-turing-way.netlify.com> Edit

hut23 hut23-270 hut23-396 Manage topics

3,111 commits 31 branches 0 packages 4 releases 64 contributors View license

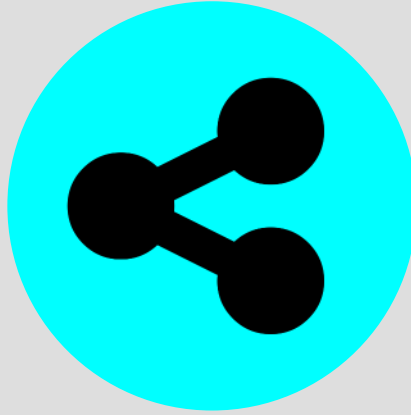
@malvikasharan @turingway, @mybinderteam, zenodo.org/record/3974948

Open Leadership Principles



Understanding

Make your work accessible, clear and maintain authenticity



Sharing

Your work should be easy to adapt, reproduce, and spread



Participation & Inclusion

Build a shared ownership and welcoming space that inspires contributions

Contributing to the Turing Way

 Welcome to the Turing Way repository! 

 *We're so excited you're here and want to contribute.* 

We want to ensure that every user and contributor feels welcome and included to the Turing Way community.

We hope that this guideline document will make it as easy as possible for you to get involved.

We welcome all contributions to this project via GitHub issues and pull requests. Please follow these guidelines to make sure your contributions can be easily integrated in the projects. As you start contributing to the Turing Way, don't forget that your ideas are more important than perfect pull requests. ❤️

If you have any questions that aren't discussed below, please let us know through one of the many ways to [get in touch](#).

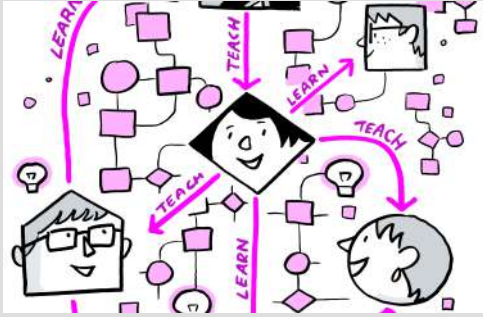
Table of contents

Been here before? Already know what you're looking for in this guide? Jump to the following sections:

- [Joining the community](#)

@malvikasharan @turingway, #TuringWay, zenodo.org/record/3706577

Pathways for Contributing



Read/share resources



Fix bugs/typos/errors



Engage informally



Review pull requests



Help translate



Remote collaboration

@malvikasharan @turingway, @mybinderteam, zenodo.org/record/3974948

In Person Book Dash Events

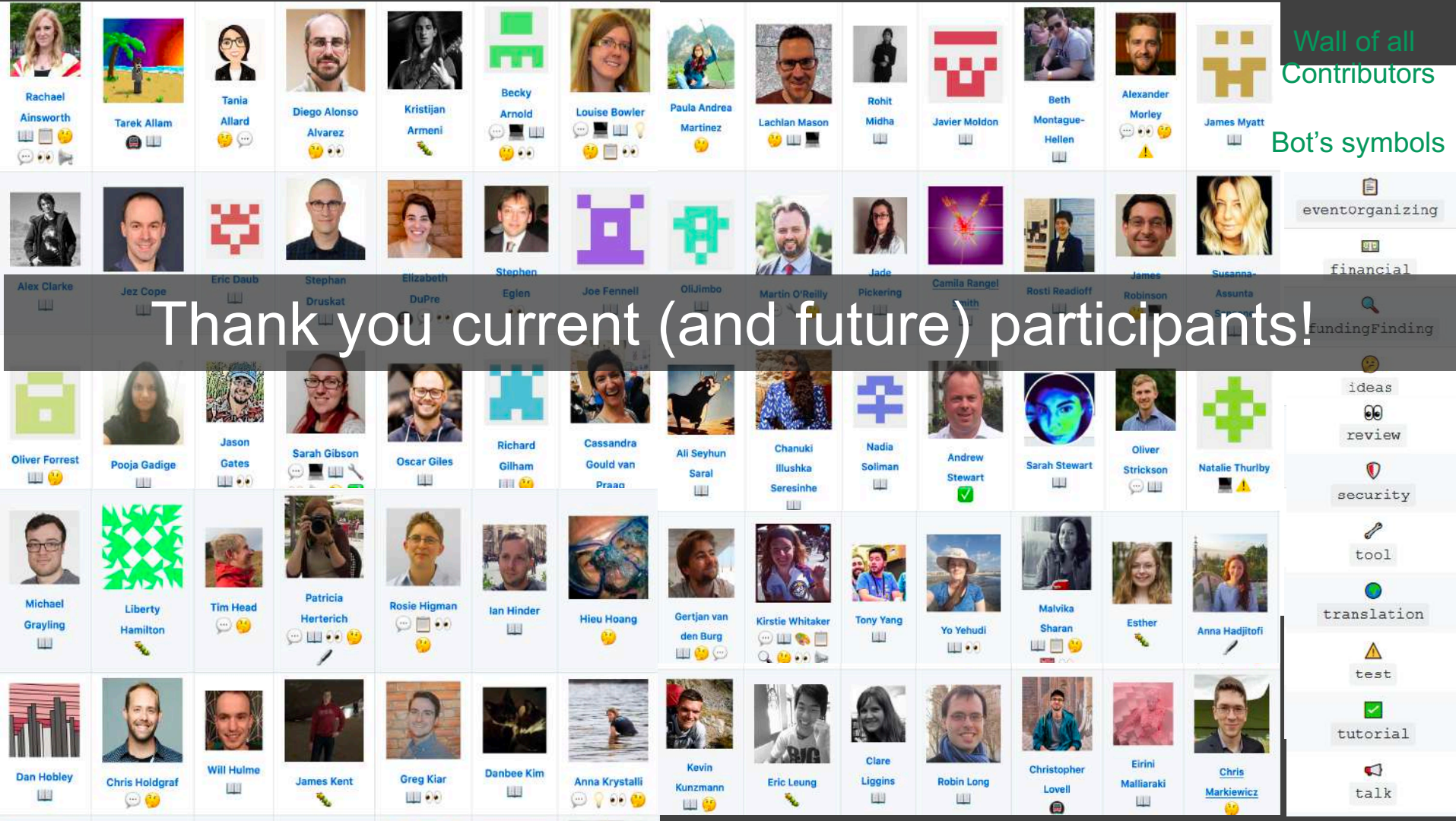
- People from many **different backgrounds and skills**
- Contribute to make them meaningful for the wider community



Online Collaboration Café

- Co-working calls to engage with learners and contributors
- Support remote participation of our members





The Alan Turing Institute

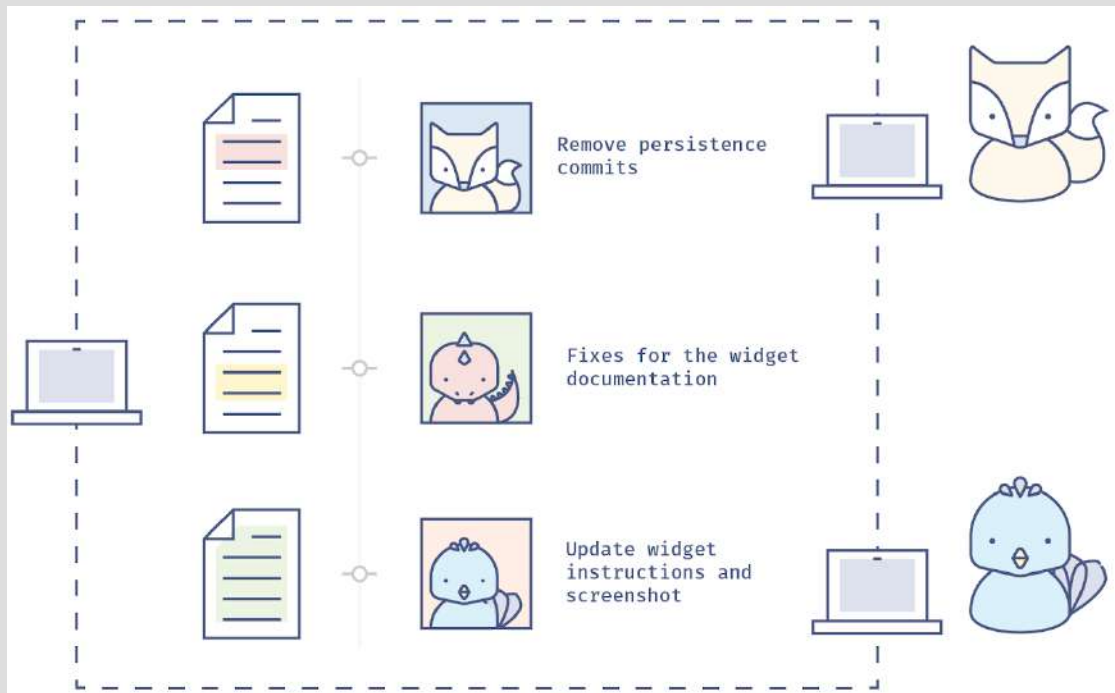
- Book: the-turing-way.netlify.com
- Twitter: twitter.com/turingway
- Newsletter: tinyletter.com/TuringWay
- Chat: gitter.im/alan-turing-institute/the-turing-way
- GitHub: github.com/alan-turing-institute/the-turing-way
- This work was supported by The UKRI Strategic Priorities Fund under the EPSRC Grant EP/T001569/1, particularly the "Tools, Practices and Systems" theme within that grant, and by The Alan Turing Institute under the EPSRC grant EP/N510129/1
- Original artwork by Scriberia: <https://doi.org/10.5281/zenodo.3332808>



GitHub

Tool for version control
and hosting repository

Project and task
management options

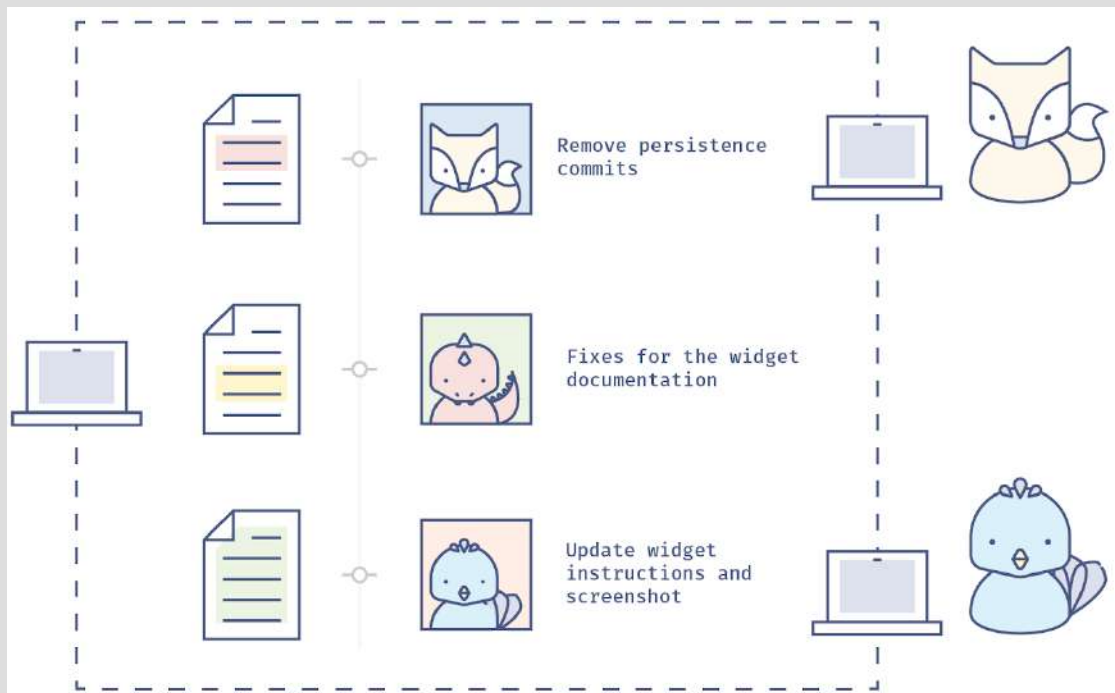


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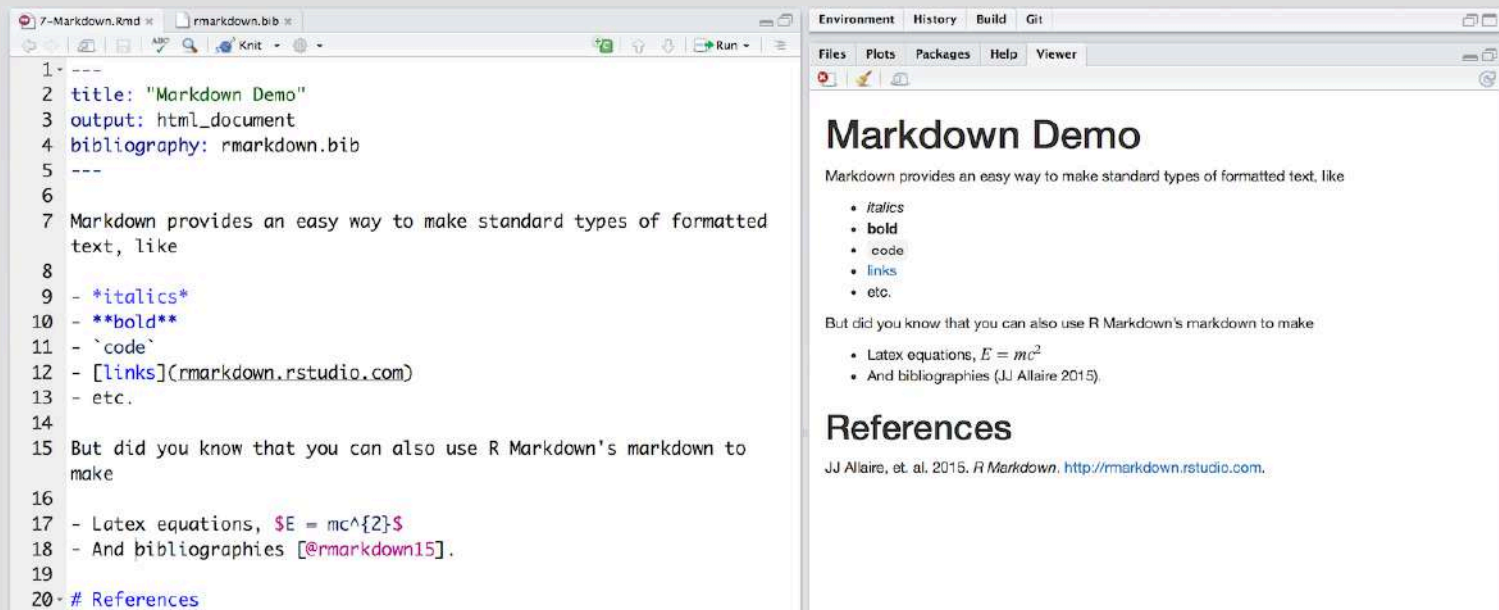
Project and task
management options

Turing Way Repo:
github.com/alan-turing-institute/the-turing-way



Markdown

Online collaborative markdown note editor



HackMD

Online collaborative
markdown note editor

Notes for today:
hackmd.io/@malvikasharan/collaboration-nc

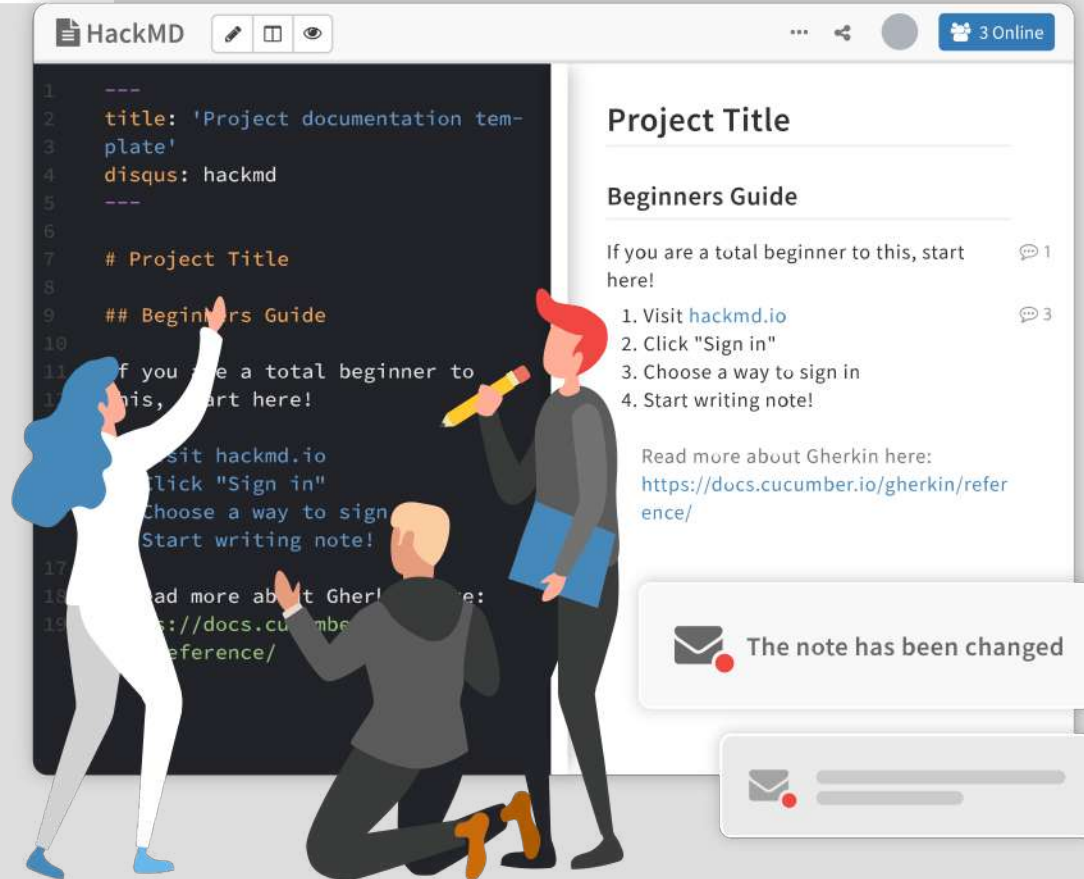


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