## Transforming Research with Collaborative Working

Kirstie Whitaker BBSRC STARS 9 January 2018



Kirstie Whitaker via Mozilla doi: 10.6084/m9.figshare.7564682

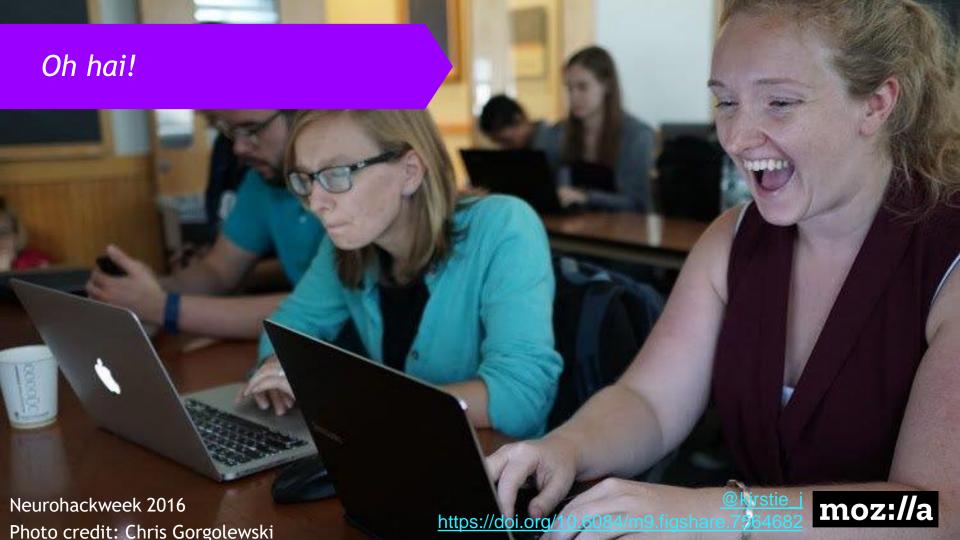






## Our etherpad

- https://etherpad.net/p/STARS19-TransformingResearch
- An interactive pages for collaborative note taking
  - Please add your name in the top right corner
  - Choose a colour
  - Answer the starter question:
    - What does the OPEN in Open Science mean to you?





Robin Champieux and Danielle Robinson

## Open is not the same as reproducible

(and that's ok!)



## Collaborating is way freaking harder than you\* think



<sup>\*</sup> Probably not you because you're here! But harder than granting agencies think for sure.

# What are the barriers to contributing to Open Source projects?

https://etherpad.net/p/STARS19-TransformingResearch

## Our goals for today

- Think about how to design for open from the beginning
  - README
  - CONTRIBUTING.md
- Consider how to create a positive culture for contribution & collaboration on open projects
  - Personas & pathways
  - CODE\_OF\_CONDUCT.md



### Open Leadership Principles



#### **Understanding**

You make the work accessible and clear





#### **Sharing**

You make the work easy to adapt, reproduce, and spread



#### **Participation & Inclusion**

You build shared ownership and agency to make the work inviting and sustainable for all.

<u>@kirstie\_</u>

moz://a

https://mozilla.github.io/olm-whitepaper

# How are the open leadership principles aligned (or not) with academic incentives?

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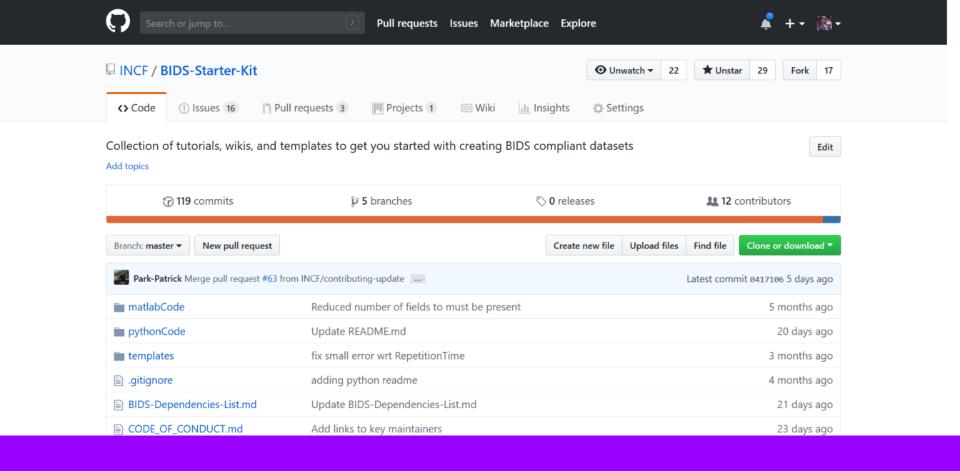


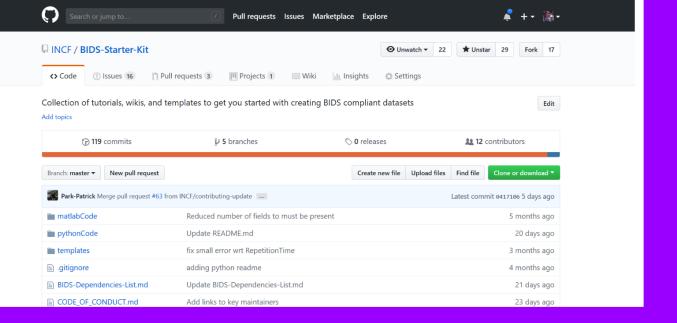
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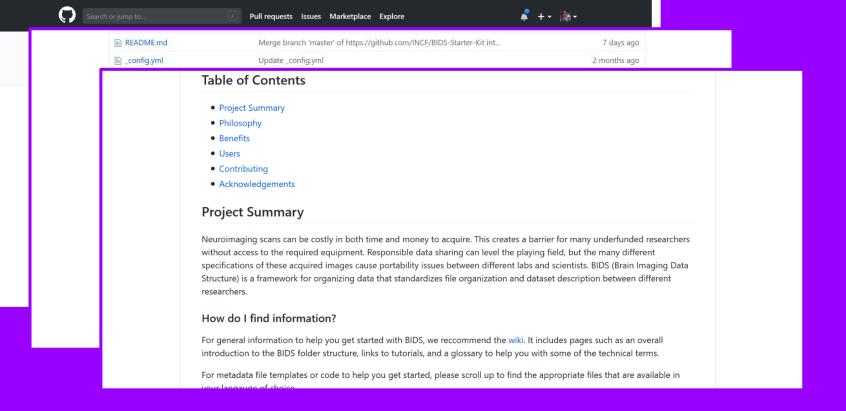
# Make the implicit, explicit

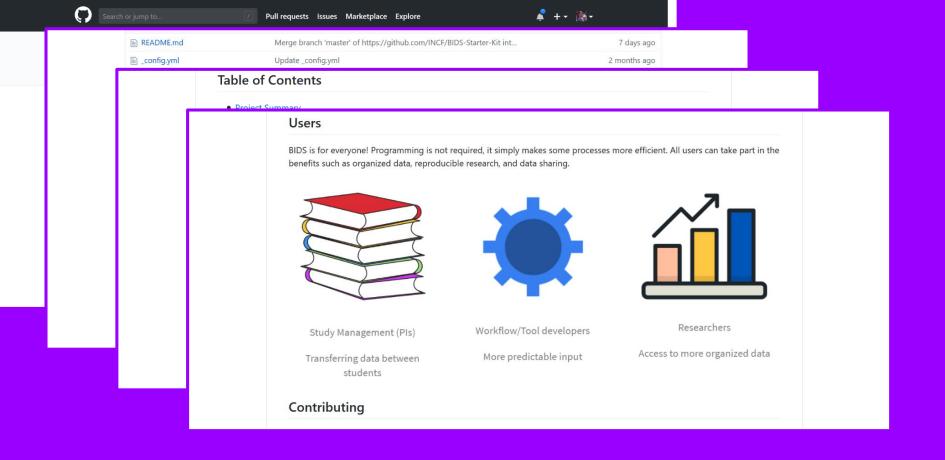


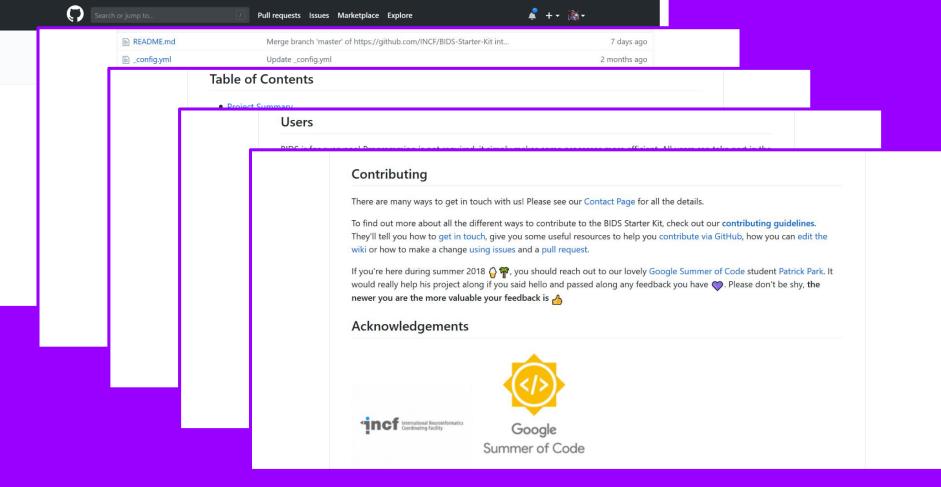




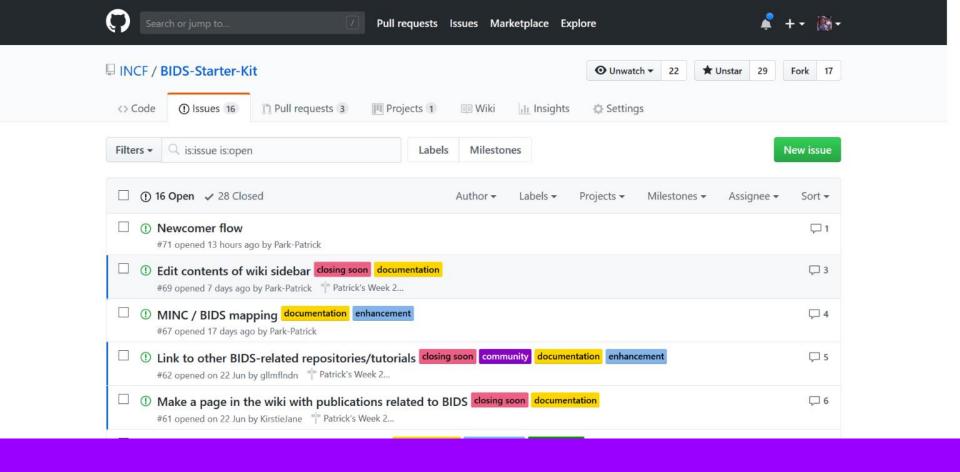


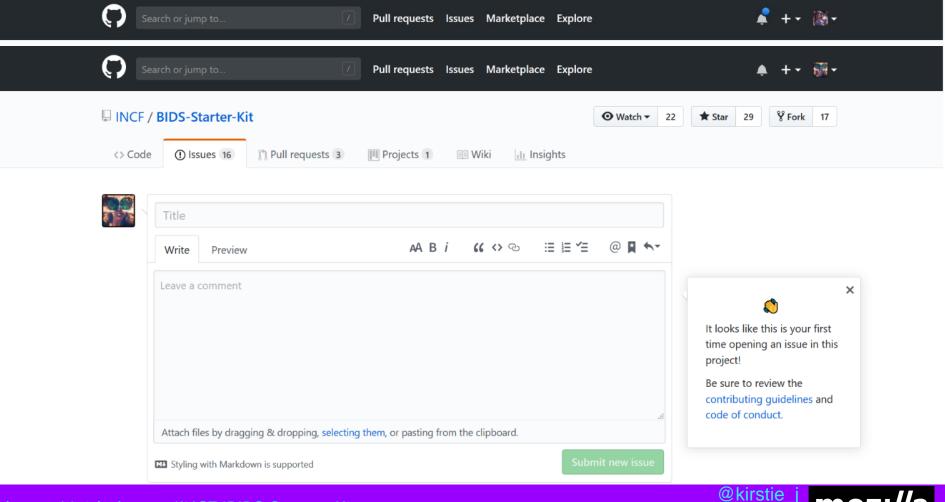


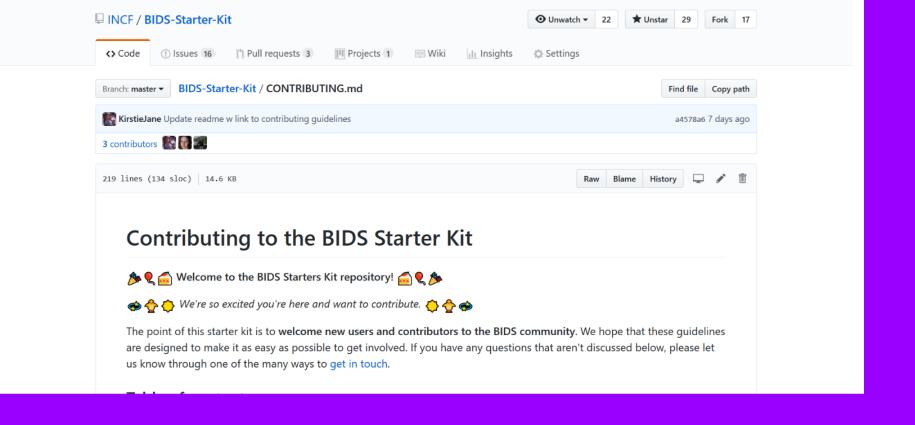












How do you know that you're a member of the BIDS community? You're here! You know that BIDS exists! You're officially a member of the community. It's THAT easy! Welcome!

Got in touch

#### Table of contents

#### Get in touch

There are lots of ways to get in touch with the team maintaining the BIDS Starter Kit.

- Our channel in the BrainHack slack team
  - Click here for an invite to the slack workspace
- Our Gitter channel
- The BIDS mailing list
- · Via the Neurostars forum.
  - This is our preferred way to answer questions so that others who have similar questions can benefit too! Even if your question is not well-defined, just post what you have so far and we will be able to point you in the right direction!
  - Some example questions that have already been answered include: BIDS file naming specifications and BIDS beginner - convert data to BIDS format

If you're here during summer 2018  $\bigcirc$   $\bigcirc$   $\bigcirc$ , you should reach out to our lovely Google Summer of Code student Patrick Park. He'll be monitoring all the channels above and it would really help his project along if you said hello and passed along any feedback you have  $\bigcirc$ . Don't be shy, the newer you are the more valuable your feedback is

#### Contributing through GitHub

git is a really useful tool for version control. GitHub sits on top of git and supports collaborative and distributed



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#### Get in touch

#### Contributing through GitHub

git is a really useful tool for version control. GitHub sits on top of git and supports collaborative and distributed working.

We know that it can be daunting to start using git and GitHub if you haven't worked with them in the past, but the BIDS Starter Kit maintainers are here to help you figure out any of the jargon or confusing instructions you encounter!





In order to contribute via GitHub you'll need to set up a free account and sign in. Here are some instructions to help you get going. Remember that you can ask us any questions you need to along the way.

#### Writing in markdown

GitHub has a helpful page on getting started with writing and formatting on GitHub.

Most of the writing that you'll do will be in Markdown. You can think of Markdown as a few little symbols around your text that will allow GitHub to render the text with a little bit of formatting. For example you could write words as bold ( \*\*bold\*\* ), or in italics (\*italics\*), or as a link ([link](https://https://youtu.be/dQw4w9WgXcQ)) to another webpage.

Where to start wiki code and templates

#### Where to start: wiki, code and templates

#### Wiki (link)

We hope that the easiest place to find information about BIDS is the starter kit wiki.

You only need to be logged in to GitHub to edit the wiki. So, there's no need for a pull request if you just want to fix a typo or add a useful link!

Here's a useful introduction to GitHub wikis. Have a read through the pages that already exist in the wiki and please EDIT AWAY!

#### Code (link)

This repository is under development, but we hope that it becomes a useful place for people to share and find small snippets of code that are useful for getting started with BIDS.

To contribute to the codebase you'll need to submit a pull request. Check out our guidelines below.

#### Templates (link)

This repository is under development, but we aim to have two templates for each BIDS sidecar file: one with a full example (all required/recommended/optional fields), and one with a minimal example (only required fields).

To contribute a template you'll need to submit a pull request. Check out our guidelines below.

#### Where to start: wiki, code and templates

#### Where to start: issue labels

The list of labels for current issues can be found here and includes:

• help wanted These issues contain a task that a member of the team has determined we need additional help with.

If you feel that you can contribute to one of these issues, we especially encourage you to do so!

• **I** question These issues contain a question that you'd like to have answered.

There are lots of ways to ask questions but opening an issue is a great way to start a conversation and get your answer. Ideally, we'll close it out by *adding the answer to the wiki!* 

• I enhancement These issues are suggesting new features that can be added to the project.

If you want to ask for something new, please try to make sure that your request is distinct from any others that are already in the queue (or part of the starter kit!). If you find one that's similar but there are subtle differences please reference the other enhancement in your issue.

• documentation These issues relate to improving or updating the documentation.

These are usually really great issues to help out with: our goal is to make it easy to understand BIDS without having to ask anyone any questions! Documentation is the ultimate solution  $\mathbf{Y}$ 

• Community These issues relate to building and supporting the BIDS community.

BIDS won't work if people don't use the standard! YOU are the BIDS community, and we want to know how best to support you.

#### Where to start: wiki, code and templates

#### Where to start: issue labels

#### Making a change with a pull request

We appreciate all contributions to the BIDS Starter Kit. THANK YOU for helping us build this useful resource. 🤸 쏺 🐽



If you're updating the code or the templates, the following steps are a guide to help you contribute in a way that will be easy for everyone to review and accept with ease .

1. Comment on an existing issue or open a new issue referencing your addition

This allows other members of the BIDS Starter Kit team to confirm that you aren't overlapping with work that's currently underway and that everyone is on the same page with the goal of the work you're going to carry out.

This blog is a nice explanation of why putting this work in up front is so useful to everyone involved.

2. Fork the BIDS Starter Kit repository to your profile

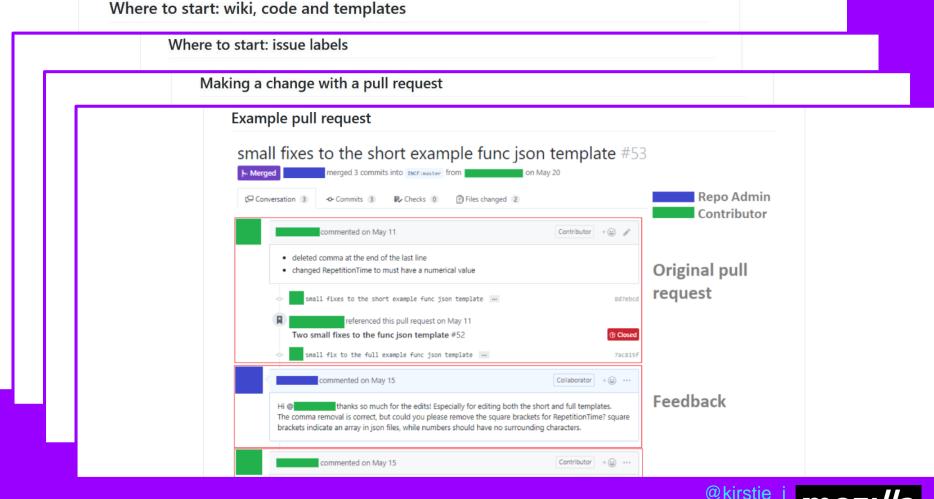
This is now your own unique copy of the BIDS Starter Kit. Changes here won't affect anyone else's work, so it's a safe space to explore edits to the code!

Make sure to keep your fork up to date with the master repository, otherwise you can end up with lots of dreaded merge conflicts.

3. Make the changes you've discussed

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#### WHY?

- structure contributions
- provide guidelines
- document style
- improve efficiency

#### WHO?

- project owners
- project contributors
- project consumers

Never answer the same question twice!

If the answer isn't there, add it to your CONTRIBUTING.md file!

## Labels are your friend

Labeling issues (color-coded) and pull requests

#### Label issues and pull requests for new contributors

Now, GitHub will help potential first-time contributors discover issues

labeled with help wanted or good first issue

Go to Labels

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Now, GitHub will help potential first-time contributors discover issues labeled with help wanted or good first issue

Go to Labels

A **good first issue** should take LONGER TO CREATE than it does to fix.





What's new? The pandas module rolled out a new version (0.23.0) on 2018-05-16, which included breaking changes for BrainNetworksInPython . This PR ensures that the requirements.txt file in the current repository specifies the installed verison of pandas must be <=0.22.0. • What should a reviewer give feedback on? Since I only changed a single line in the requirements.txt file, hopefully not too much! Making sure I spelled things correctly, I suppose e

Issue and Pull request templates are also your friends

https://help.github.com/articles /about-issue-and-pull-requesttemplates





I don't think so!

[FIX] Require specific pandas version

• Does anything need to be updated after merge?











#### What is project CULT-ure?

Public and participatory:

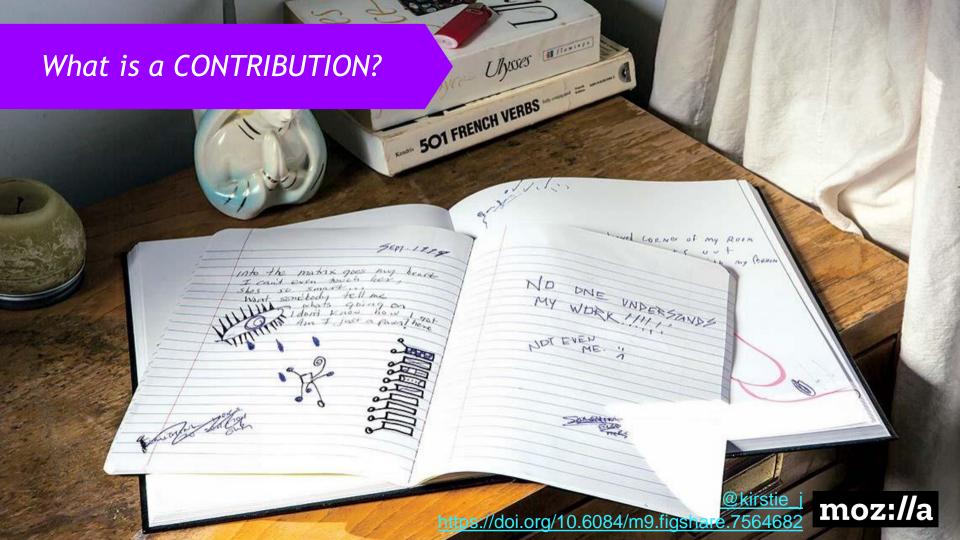
Structuring efforts so that "outsiders" can meaningfully participate and become "insiders" as appropriate.



ONCE I'VE USED A COMPUTER FOR A WHILE, NO ONE ELSE WILL EVER USE IT AGAIN.







#### Persona

A persona a description of an imaginary person, based on real-world observations and understandings of actual potential or current users.

>> Who are the people you most need in your community? Who is missing?

#### Example Persona

Sophia is a second year PhD student in the Department of Psychology at the University of Cambridge. Sophia has a BSc in Psychology from Sao Paulo in Brazil (where she grew up), and completed a masters programme in Cognitive Science at the University of Leiden in the Netherlands. Sophia is well liked in her lab - she has better coding skills than some of the other students and is always ready to help out.

Sophia has heard of the BIDS format and think it's a good idea (she's spent a lot of time helping others write code to loop over their MRI files) but she's never contributed to an open source project before. She has a bunch of useful scripts that she shares with her lab mates and is very happy to make other grad students lives easier if she can help! Sophia keeps meaning to find time to figure out how to contribute....but it never seems to make it to the top of her long to do list!

### What's in a persona

- Name, age, convincing identifying details
- Skills, level of knowledge, experience
- Needs, motivations, barriers

>>> What drives this person?

#### Persona Images (optional)



Grab a stock photo image!

It helps your persona seem more real.

https://www.pexels.com/photo/woman-using-laptop-computer-1181280

Taken by Christina Morillo from Pexels used under CC0

<u>@kirstie\_j</u> re.7564682



#### **Pathway**

The journey that users or participants (represented by the persona) take in engaging with your project, from first contact to potential leadership.





### Creating a Pathway

- 1. Discovery
- 2. First Contact
- 3. Participation
- 4. Sustained Participation
- 5. Networked Participation
- 6. Leadership

## Example Pathway For Sophia

- 1. Sophia attends a workshop which promotes the Brain Imaging Data Structure. She's there with a new PhD student in the lab Alex. Alex is really excited about BIDS and Sophia figures this is a great time to figure out the BIDS ecosystem.
- 2. Alex and Sophia sit down together and look through the BIDS Starter Kit GitHub repository.
- 3. Sophia sees that there's a python tool but it hasn't been translated into R yet, so she messages the #bids-starter-kit Brainhack slack channel to ask if that would be helpful.
- 4. Patrick replies "Yes" and points Sophia to the contributing guidelines.
- 5. Sophia and Alex have a few questions that they ask in the slack channel about how to submit a pull request which are answered quickly.
- 6. Her first PR is merged within a couple of days! Success 🛠 🛠

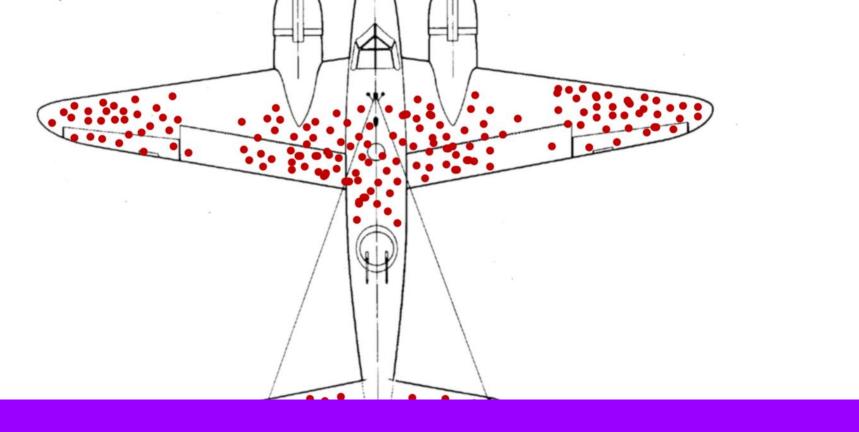


### Finding solutions

Use the narrative/pathway you create to imagine solutions to potential problems/barriers to entry.

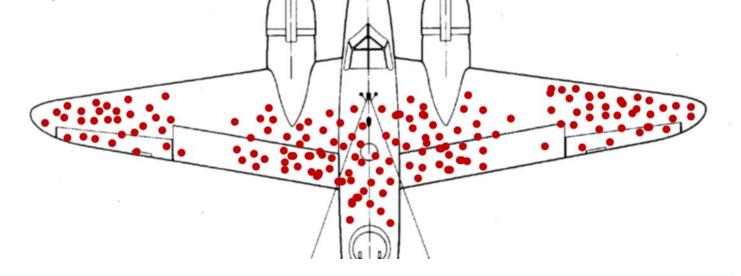
Be careful of creating people who are just like you!

First entry might be the most important for a new project, but transitioning people to maintainer status is key for the sustainability of your project.



https://medium.com/@penguinpress/an-excerpt-from-how-not-to-be-wrongby-jordan-ellenberg-664e708cfc3d

<u>@kirstie\_i</u> https://doi.org/10.6084/m9.figshare.7564682 **moz://a** 



The armor, said Wald, doesn't go where the bullet holes are. It goes where the bullet holes aren't: on the engines.



https://medium.com/@penguinpress/an-excerpt-from-how-not-to-be-wrongby-jordan-ellenberg-664e708cfc3d

> @kirstie\_j https://doi.org/10.6084/m9.figshare.7564682 **moz://a**

#### General guidelines

- Establish clear expectations
- Communicate regularly
- Provide structure through milestones & review processes
- Encourage constantly
- Model best practice

# How can we translate some of these ways of working to academic research?

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- Think about how to change academic incentives to align with good collaborative working!



# Incremental progress is still progress

Every little helps



#### OPENCON2016

Empowering the Next Generation to Advance Open Access, Open Education and Open Data

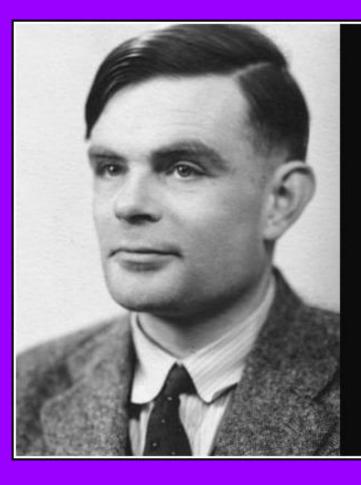


Heather Joseph @hjoseph Follows you

"You're not the leaders of tomorrow, you're the leaders of today"

<u>@kirstie\_i</u> are.7564682

moz://a



Sometimes it is the people no one imagines anything of who do the things that no-one can imagine

— Alan Turing —

AZ QUOTES





#### Find your tribe







@kirstie\_j



doi: 10.6084/m9.figshare.7564682









#### The Alan Turing Institute



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Thank you!

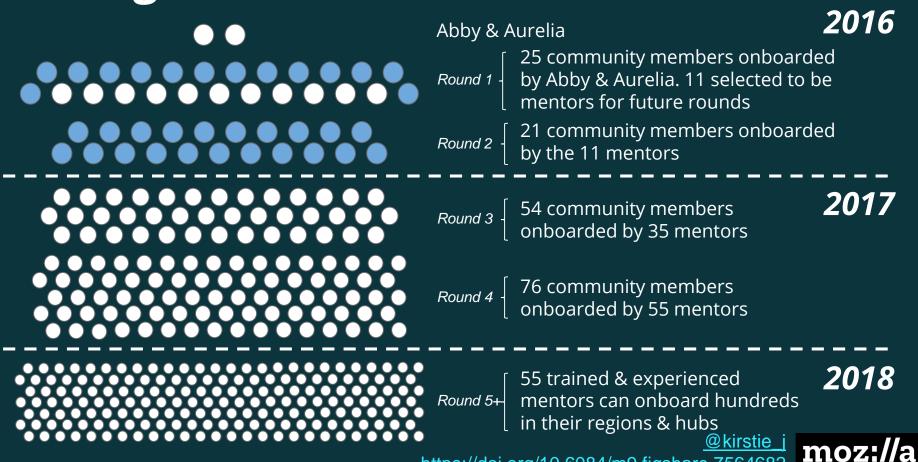
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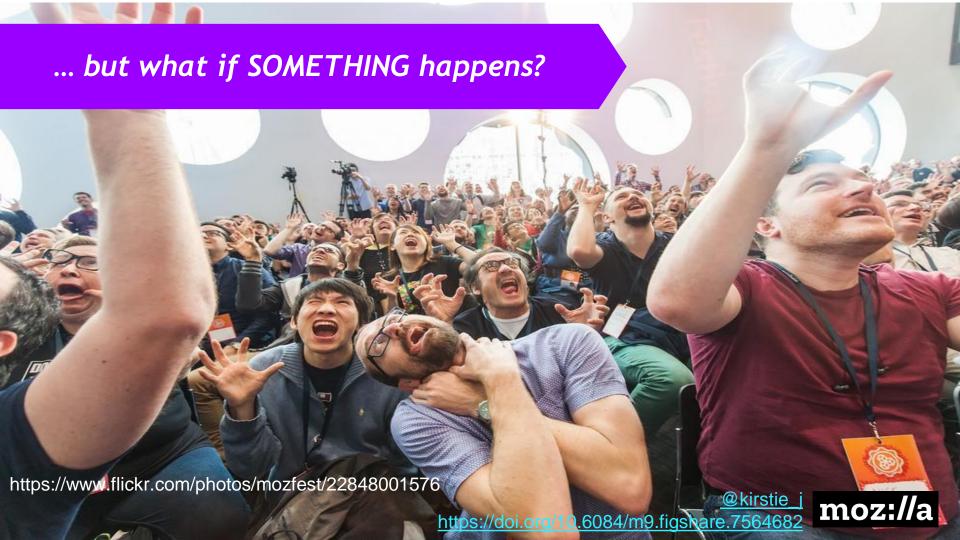


### Fueling the Movement



https://doi.org/10.6084/m9.figshare.7564682



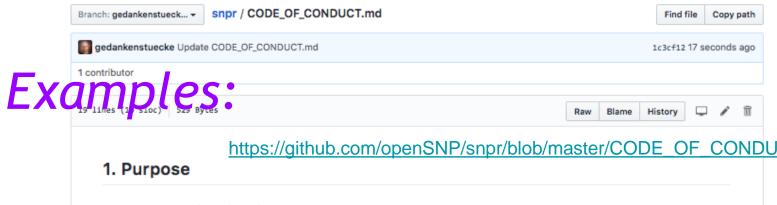


# code of conduct (n).

a set of rules outlining the social norms, rules, & responsibilities of an individual project, party or organization.

#### Do you REALLY need a COC?

- Invites people to your project
- Sets clear expectations for all(!) contributors
- Layer 8/9 Exception handling
  - https://en.wikipedia.org/wiki/Layer\_8



#### https://github.com/openSNP/snpr/blob/master/CODE\_OF\_CONDUCT.md

- 2. Expected Behavior
- 3. Unacceptable Behavior
- 4. Consequences of Unacceptable Behavior
- 5. Reporting Guidelines
- 6. Addressing Grievances
- 7. Contact info

Credit for this slide to Bastian

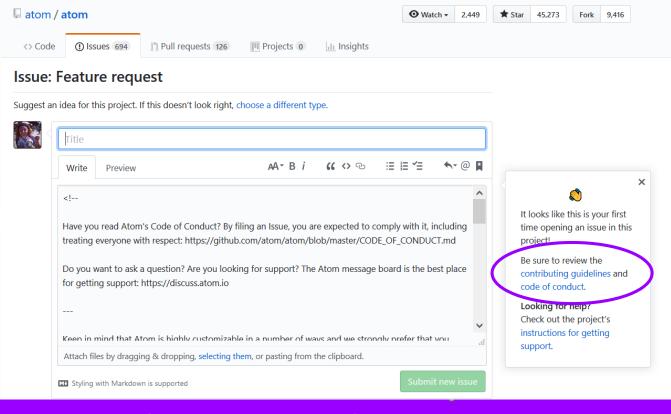
Greshake

Tzovaras 🖒 🥕

To report or discuss a suspected violation of this code of conduct by a community member, you may contact any of the team directly and in confidence:

@kirstie To report or discuss a suspected violation of this code of conduct by a member of the core team, you may https://doi.org/10.6084/m9.figshare.7564682 contact any of these people in confidence:

moz://a



Another github magic file!

If this is saved in your root directory as CODE\_OF\_CONDUCT.md contributors will be asked to read it https://doi.org/10.6084/m9.figshare.7564682



#### Getting started ...

- Brainstorm core words that represent community values
- Consider behaviors to encourage? And to Discourage?
- Think through process for incidents and complaints.
- What are consequences for those acting outside norms?
- Understand/accept your role as project lead



# Tips & takeaways:

- Encourage and reward good practice
- Craft with your community for buy-in
- Designate a CoC & safety committee
- Make sure your CoC is posted, visible, clear
- Communicate process to contributors
- Remix an existing COC... there are great ones out there!