Planning and tracking work with GitHub

Childhood Cancer
Data Lab

x

Alex's Lemonade Stand

Objectives

- Describe some of the general benefits of an issue tracking system

- Review the features of GitHub issues, including issue templates

- Discuss what makes a "good" issue

- Illustrate how issue scope can have broader implications

- Briefly mention how we currently use GitHub issues to plan our work at the Data Lab
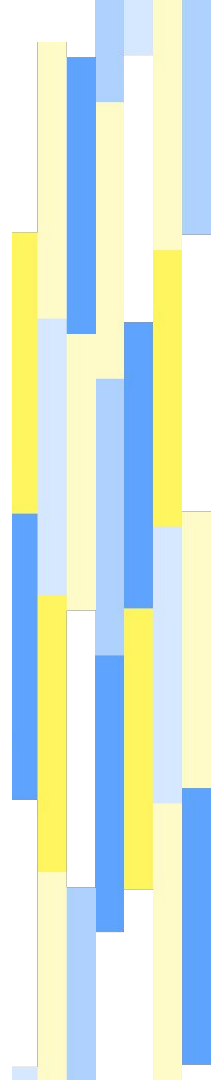
How issue tracking helps

- Reduces the cognitive burden associated with tracking tasks in our head

- Allows us to have efficient conversations about how to tackle work

- Gives us the ability to surface known limitations that we don't intend to fix

- For scientific projects that are public or will be public eventually, there's the additional benefit of capturing scholarship that sometimes remains hidden

Adapted from Parker. 2017.

GitHub issues allow us to track issues alongside our code

Tracking and planning work with GitHub #9

⊙ Open

jaclyn-taroni opened this issue last week · 1 comment

jaclyn-taroni commented last week   ···

This issue tracks a lesson on tracking and planning work with GitHub. It will introduce GitHub issues and cover the following:

- What makes a "good" issue?
  - Small in scope
  - Contains enough context that someone else could conceivably carry out the work
  - It will eventually get assigned to someone
- Why are small issues good issues
  - Helps spread work across a team
  - May help avoid merge conflicts
  - Leads to pull requests that are more manageable to review
  - Small issues lead to small wins
- Using issue templates to help you write "good issues"
- A brief mention of sprint planning
  - ZenHub and GitHub Projects as tools that exist to help

😀

Assignees   ⚙

🧑 jaclyn-taroni

Labels   ⚙

slides

Projects   ⚙

None yet

Milestone   ⚙

No milestone

Development   ⚙

Create a branch for this issue or link a pull request.

Notifications   **Sign in now** to use **Zenhub**

🔕 Unsubscribe

Tracking and planning work with GitHub

Edit   New issue

⊙ Open   jaclyn-taroni opened this issue last week · 1 comment

Allow us to write in GitHub-flavored Markdown

jaclyn-taroni commented last week   ⋯

This issue tracks a lesson on tracking and planning work with GitHub. It will introduce GitHub issues and cover the following:

- What makes a "good" issue?
  - Small in scope
  - Contains enough context that someone else could conceivably carry out the work
  - It will eventually get assigned to someone
- Why are small issues good issues
  - Helps spread work across a team
  - May help avoid merge conflicts
  - Leads to pull requests that are more manageable to review
  - Small issues lead to small wins
- Using issue templates to help you write "good issues"
- A brief mention of sprint planning
  - ZenHub and GitHub Projects as tools that exist to help

Assignees   ⚙
  👤 jaclyn-taroni

Labels   ⚙
  slides

Projects   ⚙
  None yet

Milestone   ⚙
  No milestone

Development   ⚙
  Create a branch for this issue or link a pull request.

Notifications   Sign in now to use Zenhub
  Unsubscribe

https://github.com/AlexsLemonade/2023-chop-training/issues/9

Tracking and planning work with GitHub #9

Edit   New issue

⊙ Open   jaclyn-taroni opened this issue last week · 1 comment

jaclyn-taroni commented last week

This issue tracks a lesson on tracki
following:

Allow us to assign specific people to carry out a task

- What makes a "good" issue?
  - Small in scope
  - Contains enough context that someone else could conceivably carry out the work
  - It will eventually get assigned to someone
- Why are small issues good issues
  - Helps spread work across a team
  - May help avoid merge conflicts
  - Leads to pull requests that are more manageable to review
  - Small issues lead to small wins
- Using issue templates to help you write "good issues"
- A brief mention of sprint planning
  - ZenHub and GitHub Projects as tools that exist to help

Assignees ⚙

🧑 jaclyn-taroni

Labels ⚙

slides

Projects ⚙

None yet

Milestone ⚙

No milestone

Development ⚙

Create a branch for this issue or link a pull request.

Notifications   Sign in now to use Zenhub

🔕 Unsubscribe

Tracking and planning work with GitHub #9

Open · jaclyn-taroni opened this issue last week · 1 comment

jaclyn-taroni commented last week

This issue tracks a lesson on tracking and planning work with GitHub. It will introduce GitHub issues and cover the following:

- What makes a "good" issue?
  - Small in scope
  - Contains enough context t
  - It will eventually get assign
- Why are small issues good issu
  - Helps spread work across
  - May help avoid merge conf
  - Leads to pull requests that are more manageable to review
  - Small issues lead to small wins
- Using issue templates to help you write "good issues"
- A brief mention of sprint planning
  - ZenHub and GitHub Projects as tools that exist to help

Edit   New issue

Assignees
jaclyn-taroni

Labels
slides

Projects
None yet

Allow us to organize issues with labels, milestones, and projects

Milestone
No milestone

Development
Create a branch for this issue or link a pull request.

Notifications   **Sign in now** to use **Zenhub**
Unsubscribe

https://github.com/AlexsLemonade/2023-chop-training/issues

AlexsLemonade / 2023-chop-training 🔒

Type / to search

<> Code   ⊙ Issues 17   ↕ Pull requests 2   ✳ Zenhub   ▷ Actions   ▦ Projects   📖 Wiki   ⊘ Security   ⚡ Insights   ⚙ Settings

Filters ▾   is:issue is:open

🏷 Labels 11   🚩 Milestones 0   New issue

☐   ⊙ 17 Open   ✓ 4 Closed   Author ▾   Label ▾   Projects ▾   Milestones ▾   Assignee ▾   Sort ▾

☐   ⊙ **Final version of schedule**
     #20 opened last week by jaclyn-taroni

☐   ⊙ **Initial review through getting code merged** `live-demo` `slides`
     #17 opened last week by jaclyn-taroni

☐   ⊙ **How to leave pull request reviews (live demo)** `live-demo`
     #16 opened last week by jaclyn-taroni

☐   ⊙ **On being a pull request reviewer (slides)** `slides`
     #15 opened last week by jaclyn-taroni

☐   ⊙ **Strategies for more reasonable diffs (live demo with some slides)** `live-demo` `slides`   💬 2
     #14 opened last week by jaclyn-taroni

☐   ⊙ **On being a pull request author (slides)** `slides`
     #13 opened last week by jaclyn-taroni

☐   ⊙ **Facilitating review at a "systems level"** `slides`

Sign in now to use Zenhub

Performing code review instructor notes #30

Edit   <> Code ▾

⑂ Open   **sjspielman** wants to merge 2 commits into `main` from `sjspielman/pr-review-instructor-notes` ⧉

💬 Conversation 0   ◦– Commits 2   ✓ Checks 0   ⊡ Files changed 1

+27 −0 ■■■■■

sjspielman commented 14 minutes ago   · · ·

This PR adds instructor notes towards #16, which entails leaving PR reviews as a live demo; this PR might actually be enough to close that issue, since we have AlexsLemonade/2023-chop-training-demo#5 tracking next steps.

I drew on the ideas sketched out in AlexsLemonade/2023-chop-training-demo#5 to create these instructor notes, divvying up types of comments in different places one can leave comments.
Questions for reviewers:

- Are there other pull request views or features that I should mention here?
- I don't expect we'll have enough time to *iterate* in review; as in, author would respond to reviews and then reviewer would come back for round to. But, I could write a section in the instructor notes for this, with a big "second half of demo time pending!" if we want to allow for that potential.

☺

instructor notes for performing code review   Verified   90422c4

Reviewers   ⚙

👤 jaclyn-taroni   ●

At least 1 approving review is required to merge this pull request.

Still in progress? Convert to draft

Assignees   ⚙

No one—assign yourself

Labels   ⚙

None yet

Projects   ⚙

None yet

Sign in now to use Zenhub

GitHub allows us to create multiple issue templates for a repository

We can create Markdown files with some features:

- Structure we find useful (e.g., a checklist or set of headers)
- A YAML header indicating things like labels and prefixes for the title

https://github.com/AlexsLemonade/refinebio-examples/issues/new/choose

AlexsLemonade / **refinebio-examples**

<> Code ⊙ Issues 33 ⑂ Pull requests 1 ✳ Zenhub 💬 Discussions ▷ Actions ⊞ Projects 📖 Wiki ⊘ Security 📈 Insights ⚙ Settings

New analysis example
Use this issue template for filing a new analysis issue

[Get started]

Other issue
Use this issue template to describe a current issue with an analysis or documentation (that is not a new example analysis)

[Get started]

Report a problem or ask a question
Use this template to report a problem or ask a question about our examples.

[Get started]

Don't see your issue here? Open a blank issue.

Edit templates

© 2023 GitHub, Inc.

Terms   Privacy   Security   Status   Docs   Contact GitHub   Pricing   API   Training   Blog   About

Sign in now to use **Zenhub**

AlexsLemonade / **refinebio-examples**

<> Code Issues 33 Pull requests 1 Zenhub Discussions Actions Projects Wiki Security Insights Settings

staging ▾ **refinebio-examples** / .github / **ISSUE_TEMPLATE** /

Go to file t Add file ▾ ···

jaclyn-taroni Add a template for user reports or questions (#450) ···

33cdeff · 2 years ago History

Name	Last commit message	Last commit date
..		
new-analysis.md	Add some issue templates (#319)	3 years ago
other-issue.md	Add a template for user reports or questions (#450)	2 years ago
report-a-problem-or-ask-a-question.md	Add a template for user reports or questions (#450)	2 years ago

Customize the issue creation experience with a `config.yml` file. Learn more about configuring a template chooser.

---
name: New analysis example
about: Use this issue template for filing a new analysis issue
title: 'New Analysis Example:'
labels: new analysis example
assignees: ''

What are the goals of this new example analysis?

<!-- What should this new example show that's not currently shown in the existing samples -->
<!-- What was the background and context that lead to this new example? -->
<!-- Links to github comments or related issues are also helpful -->

What kind of dataset will this need?

<!-- Is there a particular species, sample size, experimental model, etc. that's needed -->

What steps should be included in this analysis?

<!-- An outline of what steps should probably be taken would be nice if possible -->

What packages/methods do you recommend using or looking into for this analysis?

<!-- Do you have helpful references and resources we should consult for creating this example? -->
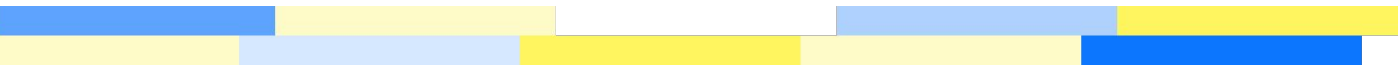
Milestones and projects allow you to further organize your issues

Milestones let you track groups of issues or pull requests and assign a due date. Milestones also let you view the completion percentage and find open and closed issues quickly (GitHub docs).

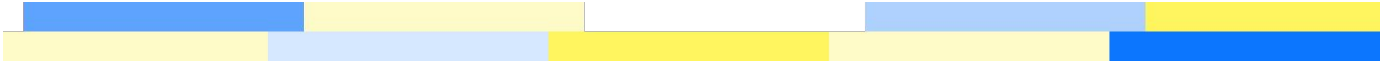Projects can organize issues as a table, spreadsheet, or task-board and let you represent complex relationships between issues with tasklists (GitHub docs).

We don't use these at the Data Lab; we use something called ZenHub instead because it allows us to group issues in sprints and represent dependencies between issues (the latter is supposedly coming to GitHub projects in the future!).

What makes a "good" issue?

What makes a "good" issue?

- Title and labels are informative about the contents of the issue **"at a glance."**

- Contains enough **context** for someone onboarding to the project or returning to the project after some time to be assigned to contribute to the discussion.

- Communicates **any gotchas** or known unknowns.

- Records ideas about **how to accomplish the task** if the person filing the issue has them.

- Communicates the **requirements for satisfying or closing the issue**.

A good issue is focused

Roughly, the smallest unit of work something could be broken down into to result in a single, functional pull request that is manageable for review.
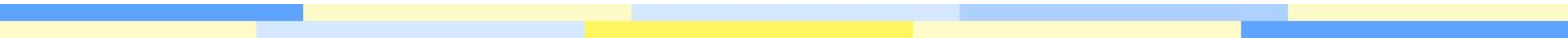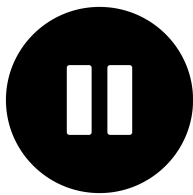
Some caveats

- Sometimes the author of an issue (or the person that initially comes up with an idea) can't fully flesh out the issue, either because of a time constraint or because some research is required.

  - We often file issues like that prefixed with `[PLACEHOLDER]` or `[WIP]` internally.

- Sometimes you need to have a discussion before work can begin. Filing an issue can facilitate an asynchronous discussion and helps make decisions transparent.

  - We often label these with a `discussion` label internally.

Why are focused issues good issues?

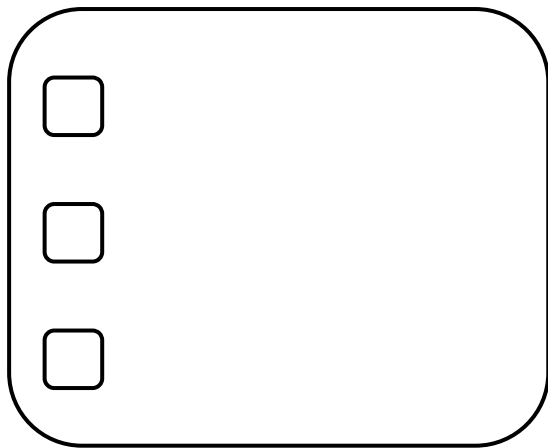# Focused issues set us up for **focused pull requests**

⚡ A focused pull request is a more timely and thoroughly reviewed pull request.

Focused issues allow us to **spread work across the team**

Without duplicating efforts. But that means you need to always assign yourself if you're working on something.

Focused issues might help us **avoid merge conflicts**
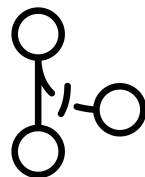
If you're combining focused issues with other practices – like planning work as a team and making sure PR branches aren't long-lived – you can assign issues in a manner that minimizes the chances that people will be touching the same parts of the codebase.

But that means you have to stick to what's on the issue!

Focused issues help our team achieve **small wins** ⛰

Hitting the closed as completed button feels great!

Focused issues let us see the meaningful progress we are making, which can boost the way we feel.

Amabile and Kramer. *The Power of Small Wins.*

Using issues for planning as a team

Quick tips from Data Lab practices

The Data Lab teams plan their work (i.e., pick issues to tackle) in two week chunks ("sprints"). Here are some things that we've learned.

Make sure you **use assignments** on issues. Bonus points if you have an idea of who will review ahead of time! Review is part of everyone's workload.

You can also fall into a pattern where more folks are reviewing an individual pull request than are necessary and gum up the works that way. Planning ahead could help avoid that, too.

Quick tips from Data Lab practices

The Data Lab teams plan their work (i.e., pick issues to tackle) in two week chunks ("sprints"). Here are some things that we've learned.

It can be tempting to – or sometimes necessary to – work on issues that weren't originally planned during a set time period.

If everything you do will need to be reviewed, unplanned issues creeping in can cause more than one person's workload to balloon unexpectedly.

Quick tips from Data Lab practices

The Data Lab teams plan their work (i.e., pick issues to tackle) in two week chunks ("sprints"). Here are some things that we've learned.

We now have a meeting set up where we nominate issues for technical design discussions. Sometimes an issue isn't enough and having a synchronous discussion upfront will save both the author and reviewer time.

Folks might end up doubling back and redoing work if there isn't agreement on approach upfront!

Summary

- GitHub issues let us track and organize our tasks alongside our code, which allows us to connect pull requests to issues

- A "good issue" contains enough information to facilitate the person directly responsible for carrying out the work getting up to speed quickly
  - Templates can support us in writing good issues

- Issues that are focused in scope help us create pull requests that are manageable in size and spread work across multiple people on the team when necessary

- Using issues help the Data Lab to plan _review workloads_, in addition to coding workloads, but we've needed to combine them with other practices