Issue Tracking SW

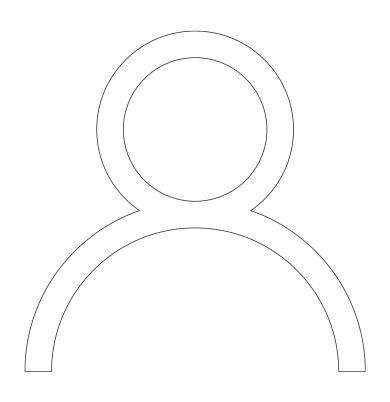
Adam Hořčica

Why me?





My introduction



Adam Hořčica

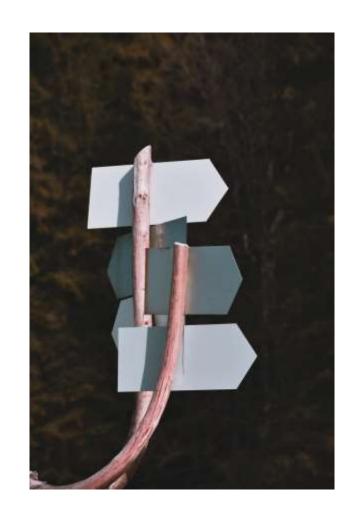
- ČVUT FEL Alumni
- Senior engineerTelekomunikace a.s.
- Cofounder and retired keeper<u>bastlirna</u>

And now, what about you?



Plan for today

- What is issue tracking SW
- Why to use one
- Features
- Data point of view
- Demo



What is issue tracking SW

What is issue tracking sw

- Or bug tracking sw
- Or bug database
- Or request management sw
- Or modification request tracking sw

Modification Request is a request to those in charge of a system to modify that system. The request might be to add, modify, or delete capabilities, to fix a bug, to issue a new version of a system, or even to create a system.

— Knudsen, A modification request control system, **1976**

What is issue tracking sw



• Software for **tracking issues**, duh!



What is issue

- issue is a unit of work to accomplish an improvement in a system
 - Simple task (TODO)
 - Bug (~ bug tracking sw)
 - Improvement
 - New feature, User-Story, Epic, ...
- It can be much more (we will not discuss)
 - Books in library
 - IT helpdesk systems, CRM, Test case management SW, ...
 - Or something too generic, like SharePoint or Notion

What does "tracking" mean

- You can monitor any action that has been taken on an issue Traceability
- Issue trackers allow you to assign issues to specific people, so it's easy to see who is working on what at any given moment. **Accountability**

A bug-tracking database is not just a memory aid or a scheduling tool. It doesn't make it **easier** to produce great software, it makes it **possible** to create great software.

Joel Spolsky (author of Trello)

99 little bugs in the code. 99 little bugs in the code. Take one down, patch it around.

127 little bugs in the code...

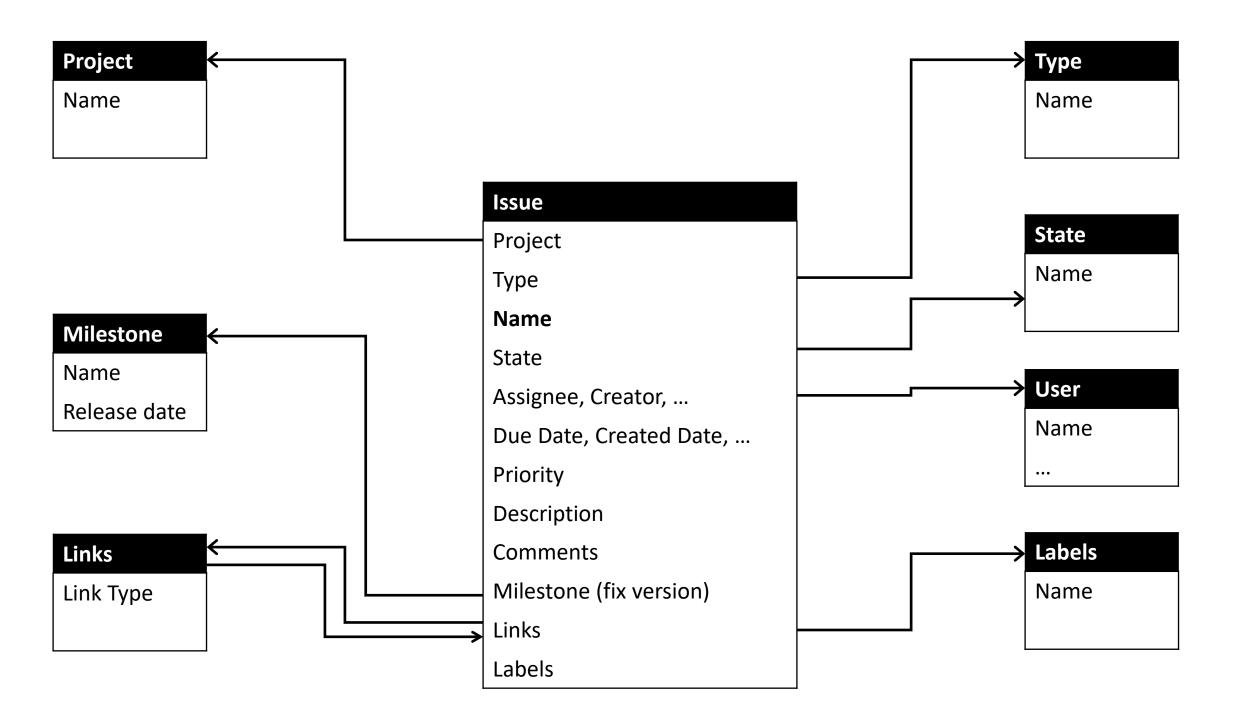
It is format thing

• But it should not be complicated.

For the bug database to work, everybody needs to use it, and if entering bugs "formally" is too much work, people will go around the bug database.

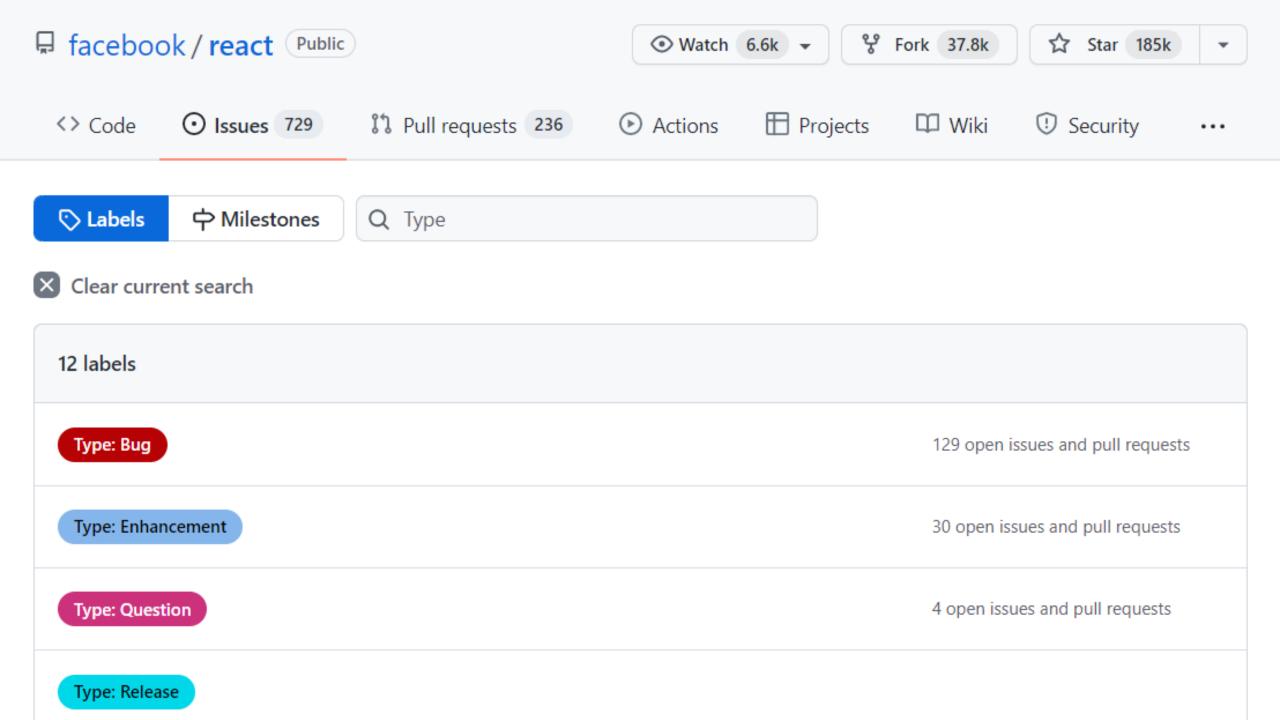
Joel Spolsky (author of Trello)

Data point of view



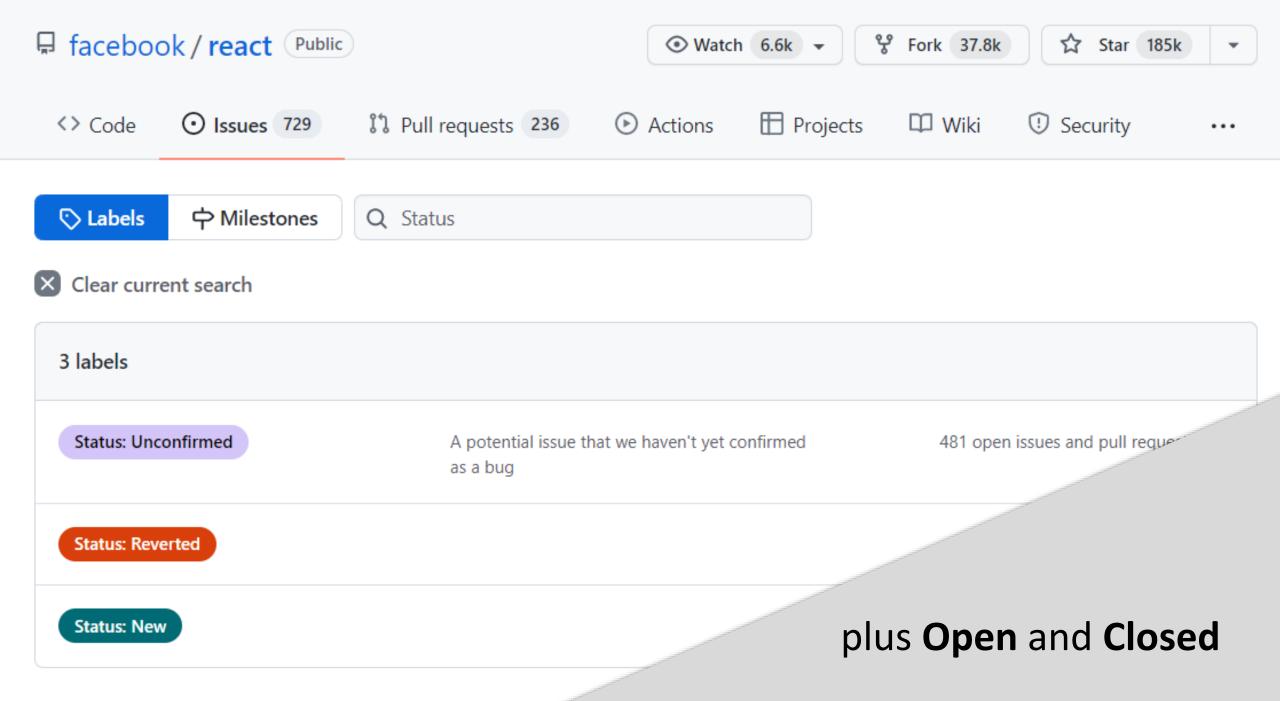
Type

| | Issue Type | Description | | |
|----------|---|---|--|--|
| | Story Functionality or a feature expressed as a user go | | | |
| | Bug | A problem or error. | | |
| 4 | Epic | A big user story that needs to be broken down. | | |
| ~ | Task | A small, distinct piece of work. | | |
| 4 | Sub-task SUB-TASK | A small piece of work that's part of a larger task. | | |



State (Status)

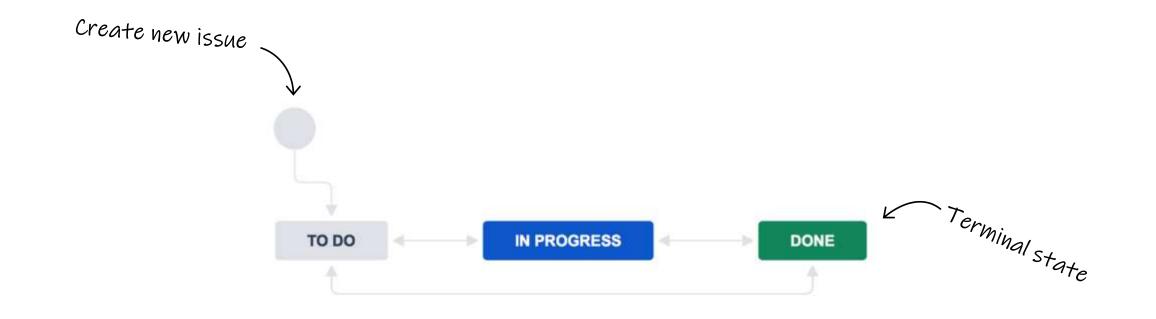
- Issue is usually in one of many states
 - Open / Closed
 - New / In Progress / Done
 - ...
- There is usually one terminal state
 - Resolution (fixed, won't fix, rejected, ...)
- Different types can have different set of states
- Can be just set of options
- Or there is formal workflow

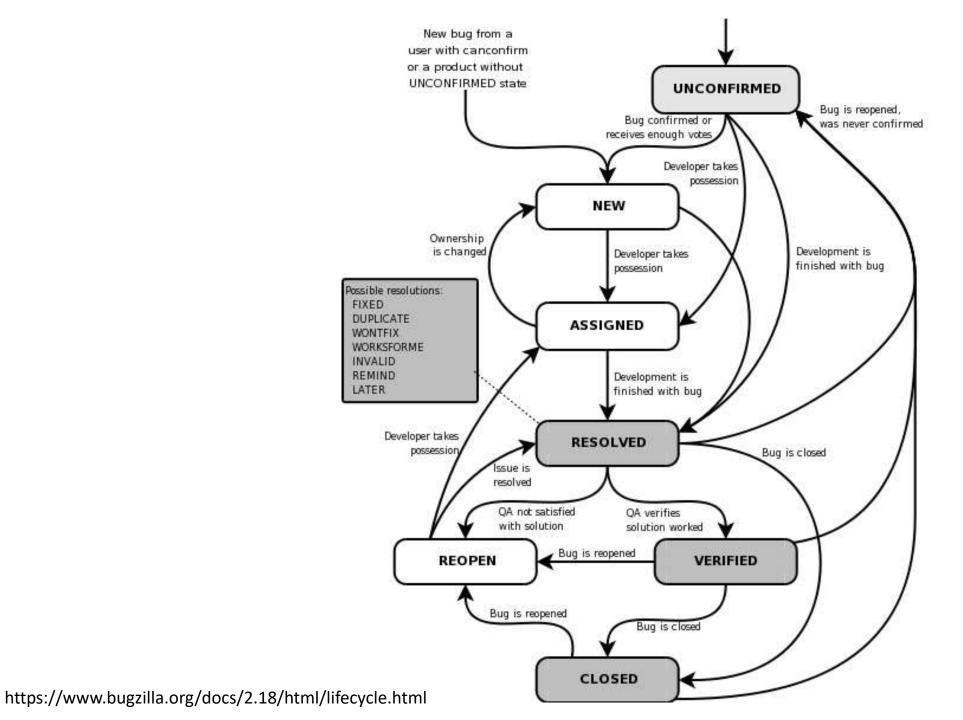


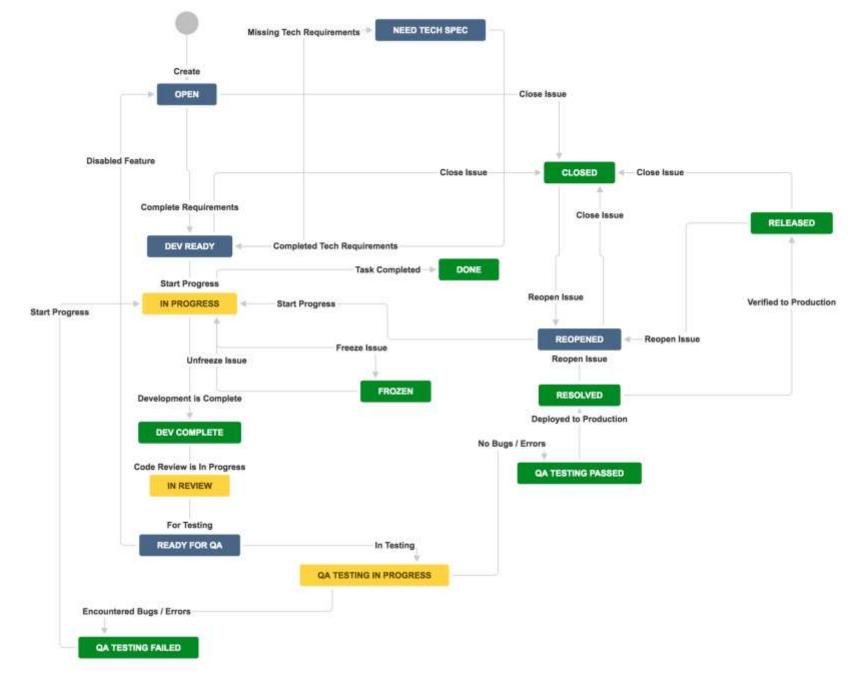
Workflow

- aka State machine
- There could be some actions set for every transition
- Or dedicated screen / fields
- KISS

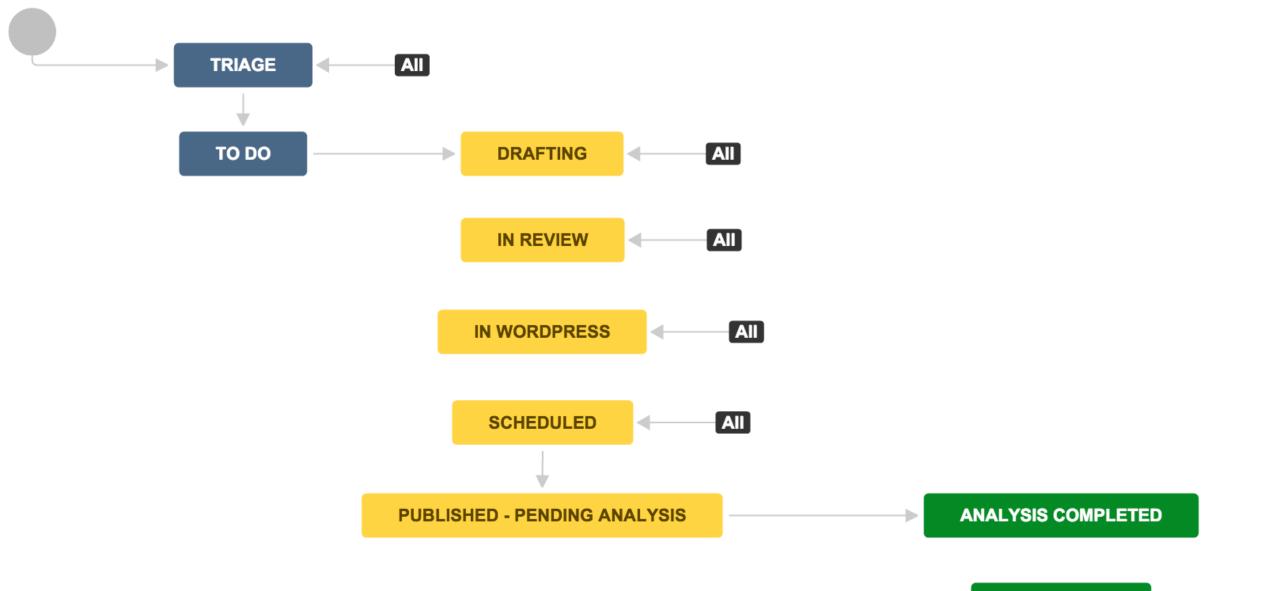
With great power comes great responsibility.







https://abhilashshukla.com/best-practices/jira-workflow-for-software-development-and-quality-analyst-qa-teams/



Add custom fields

- Keep it simple
- Add one only when you **really** need it

Avoid the temptation to add new fields to the bug database....

For the bug database to work, everybody needs to use it, and if entering bugs "formally" is too much work, people will go around the bug database.

Test Documentation



♠ Export ➤

+



Unresolved

2.3

hould be separate file.

ion because of XML so we cannot delete it from

ut must be in generated XML ion should be source of true especially if we

People

Assignee: • Unassigned

Assign to me

Reporter: Bernard Hořčica Adam

Code Reviewer: B Hořčica Adam

Original Developer: Button Miroslav

Votes:

Watchers: 0 Start watching this issue

Dates

Created: 26/03/2021 13:30

Updated: 21/03/2022 16:36

Time Tracking

Estimated: 3d

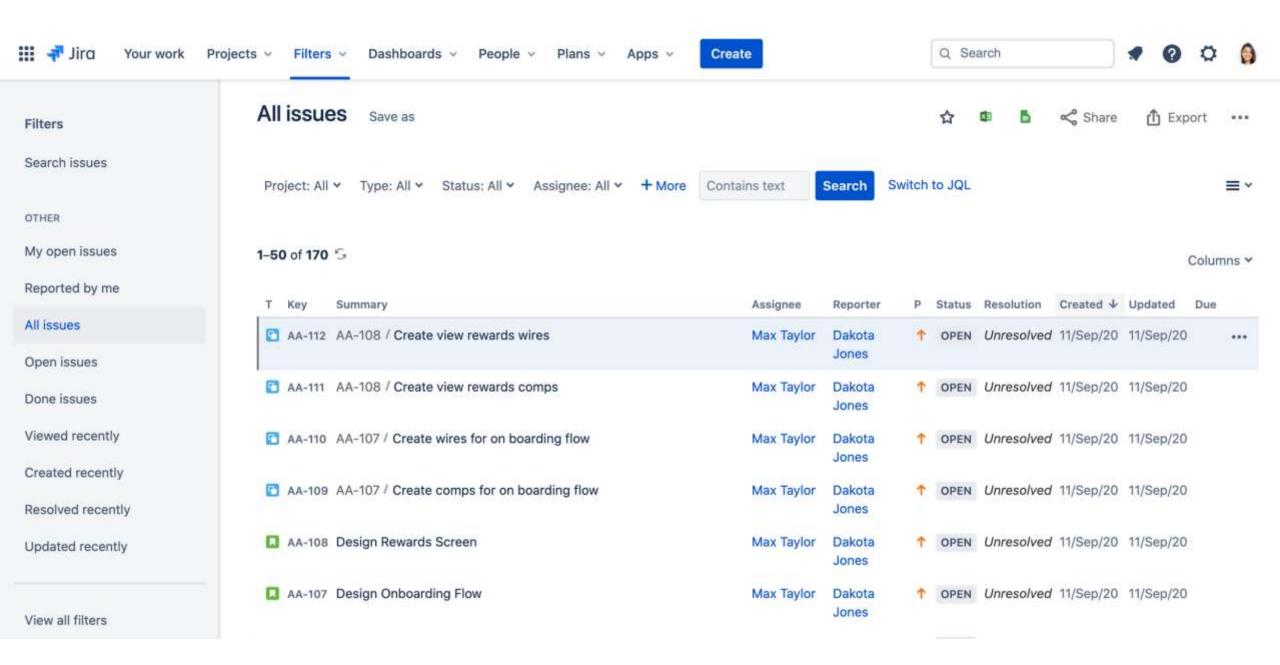
Remaining: 0m

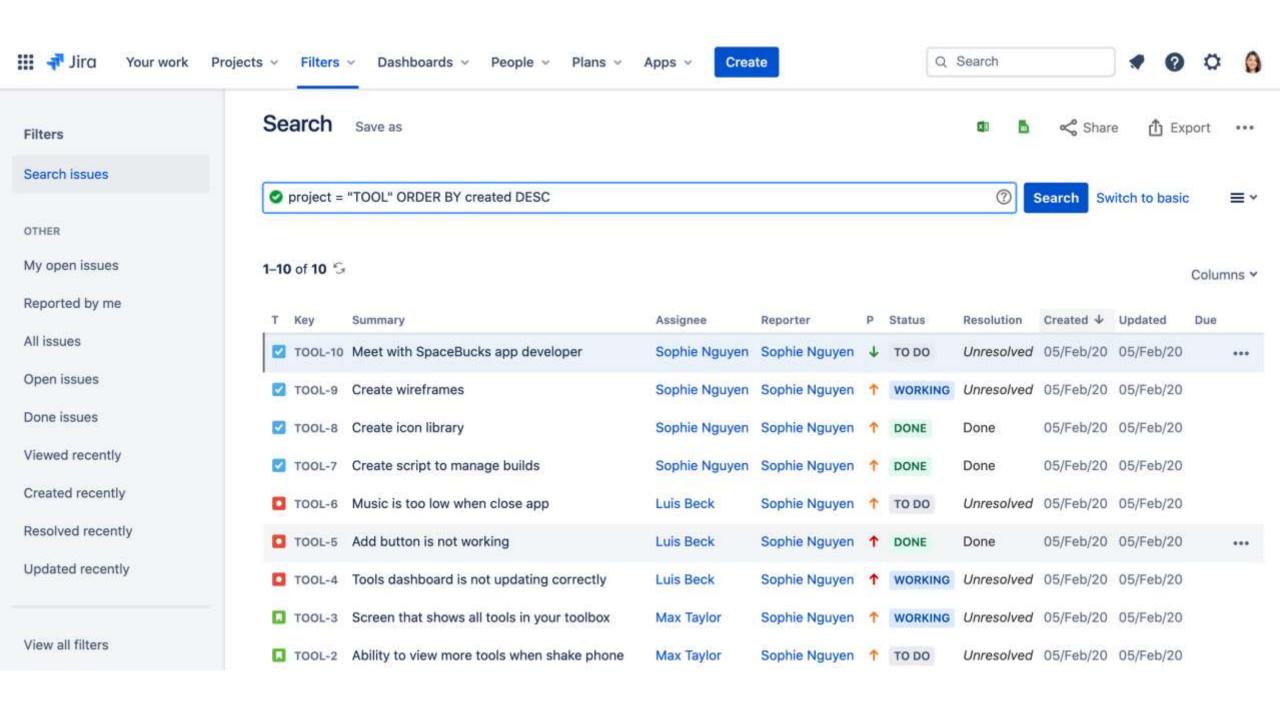
Logged: 1w 23m

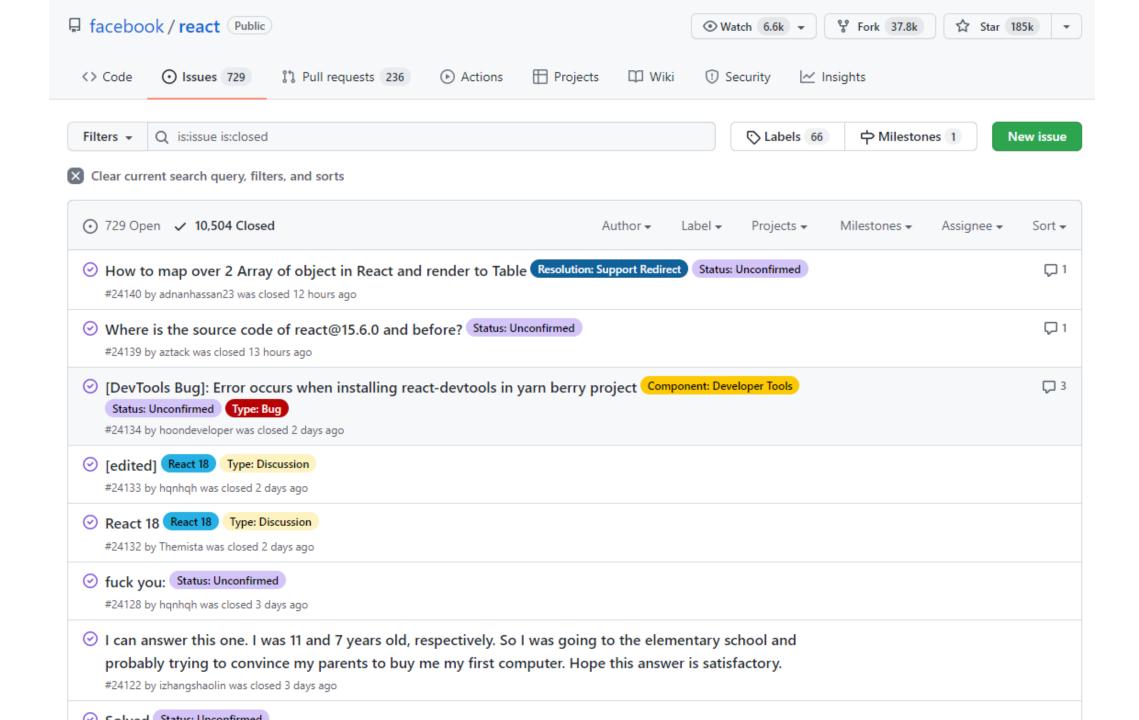
Views

Table view

- It is database anyway, so table is intuitive
- This is default for every issue tracker (*)
- Like spreadsheet





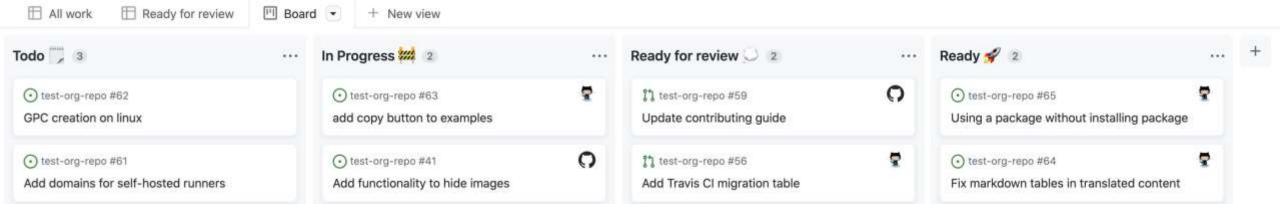


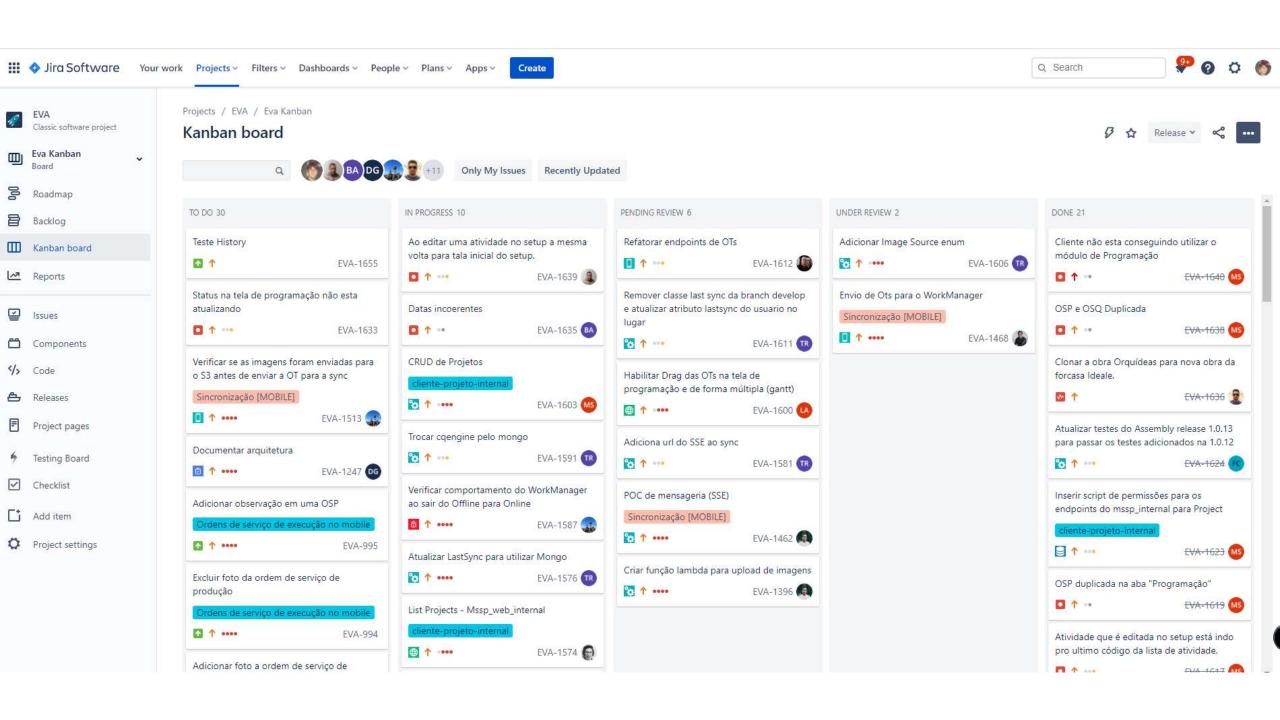
| Q Title | Assignees | | Status | Complexity | Target ↑ | + |
|--|------------|---|----------------------|------------|--------------|---|
| 1 3 Add Travis CI migration table | C) octocat | ¥ | Ready for review 🔾 💆 | 2 | Jun 15, 2021 | |
| Using a package without installing package | monalisa | Ŧ | Ready 💅 | 3 | Jun 15, 2021 | |
| 3 O Add functionality to hide images | coctocat | ¥ | In Progress 🚧 | 2 | Jun 22, 2021 | |
| 4 \$\ \tag{1} Update contributing guide | c) octocat | * | Ready for review 🔾 🕒 | 1 | Jun 30, 2021 | |
| Fix markdown tables in translated content | monalisa 🕏 | * | Ready 💅 | 1 | Jul 1, 2021 | |
| add copy button to examples | C) octocat | | In Progress 🚧 | 1 | Jul 2, 2021 | |
| 7 O Validate Java Gradle wrapper | | ₹ | Todo 📆 | 2 | Jul 8, 2021 | |
| GPC creation on linux | | ÷ | Todo 📆 | 3 | Jul 18, 2021 | |
| Add domains for self-hosted runners | | | Todo 📆 | 2 | Aug 25, 2021 | |

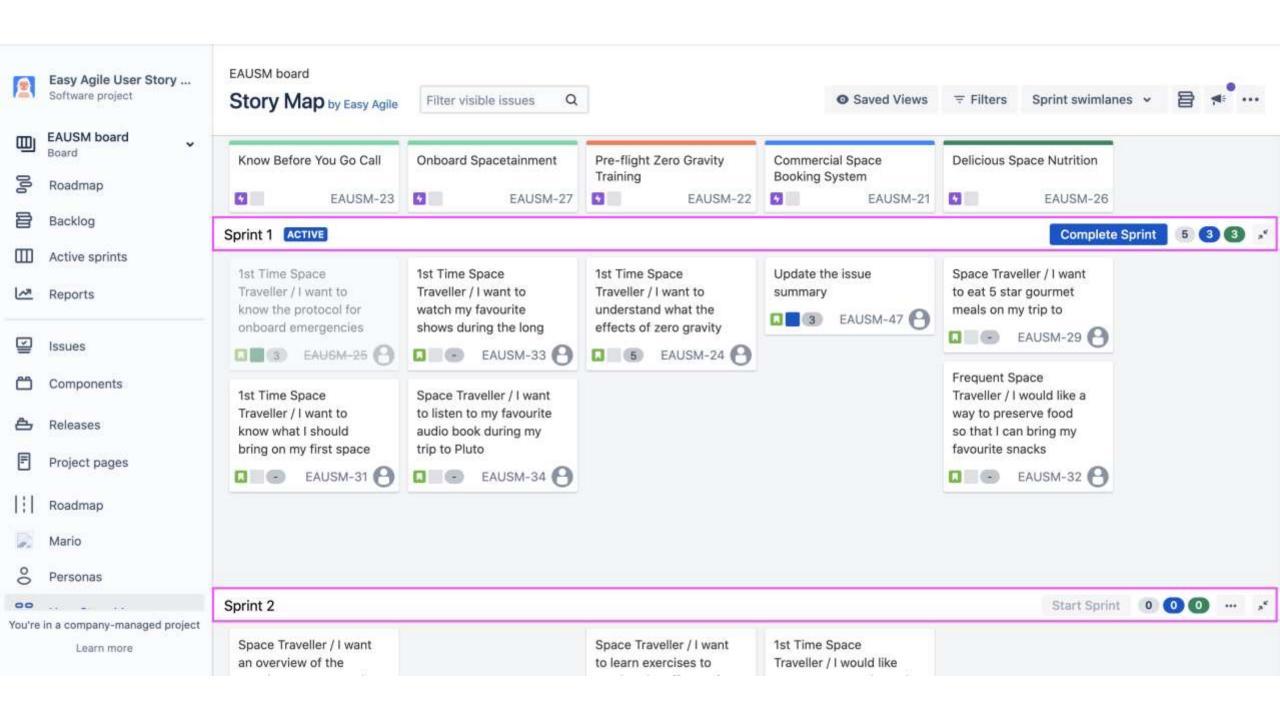
Board view

- Kanban board
- Like white board with stinky notes

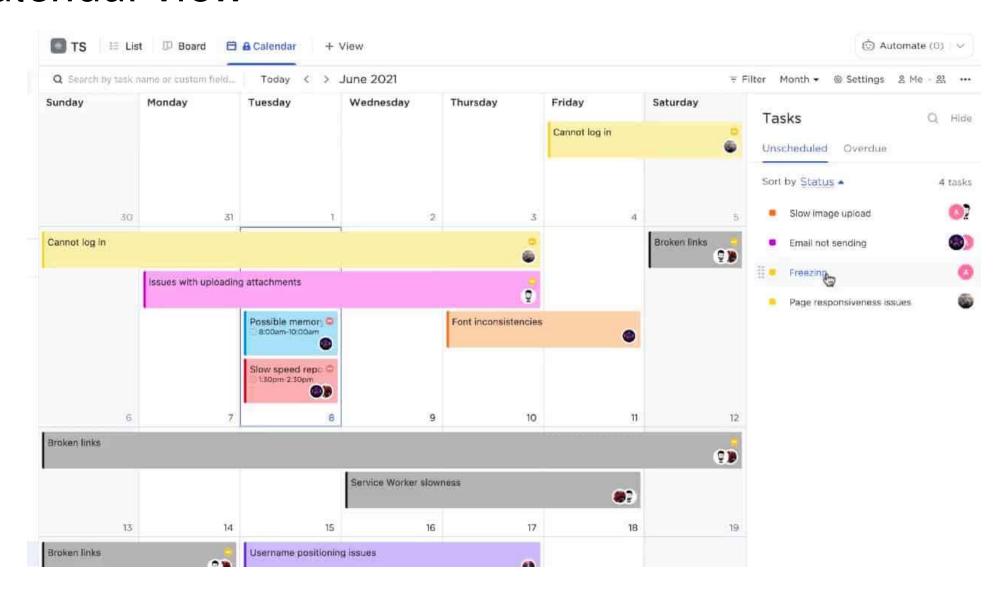




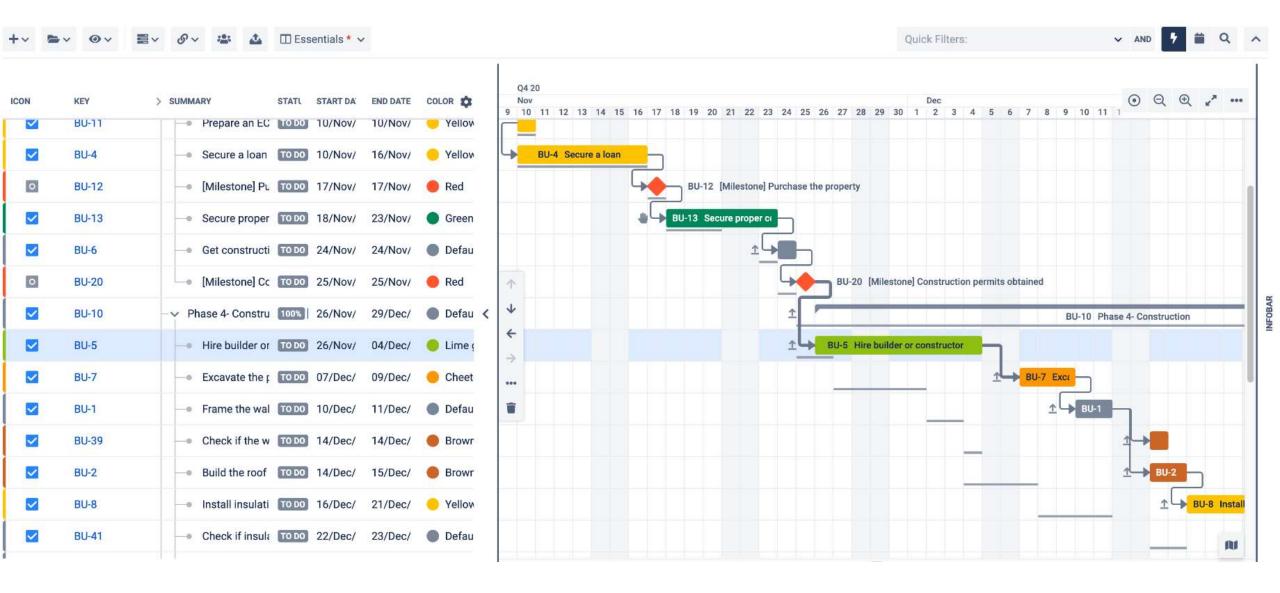




Calendar view



Gantt chart view



BigGantt - Gantt Chart for Jira

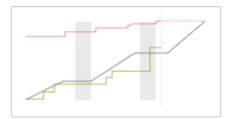
Reports

Agile



Burndown Chart

Track the total work remaining and project the likelihood of achieving the sprint goal. This helps your team manage its progress and respond accordingly.



Burnup Chart

Track the total scope independently from the total work done. This helps your team manage its progress and better understand the effect of scope change.



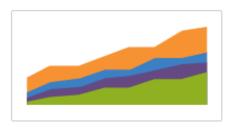
Sprint Report

Understand the work completed or pushed back to the backlog in each sprint. This helps you determine if your team is overcommitting or if there is excessive scope creep.



Velocity Chart

Track the amount of work completed from sprint to sprint. This helps you determine your team's velocity and estimate the work your team can realistically achieve in future sprints.



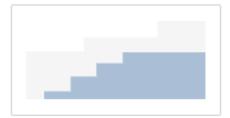
Cumulative Flow Diagram

Shows the statuses of issues over time. This helps you identify potential bottlenecks that need to be investigated.



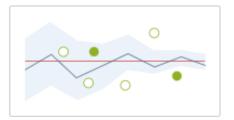
Version Report

Track the projected release date for a version. This helps you monitor whether the version will release on time, so you can take action if work is falling behind.



Epic Report

Understand the progress towards completing an epic over time. This helps you manage your team's progress by tracking the remaining incomplete/unestimated work.



Control Chart

Shows the cycle time for your product, version or sprint. This helps you identify whether data from the current process can be used to determine future performance.



Epic Burndown

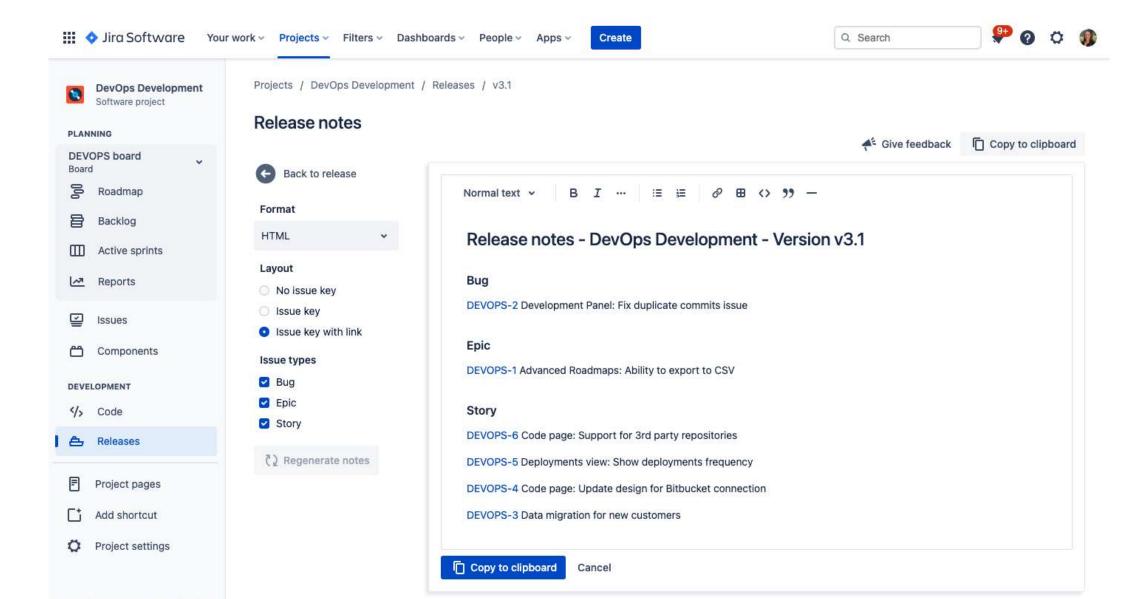
Track the projected number of sprints required to complete the epic (optimized for Scrum). This helps you monitor whether the epic will release on time, so you can take action if work is falling behind.



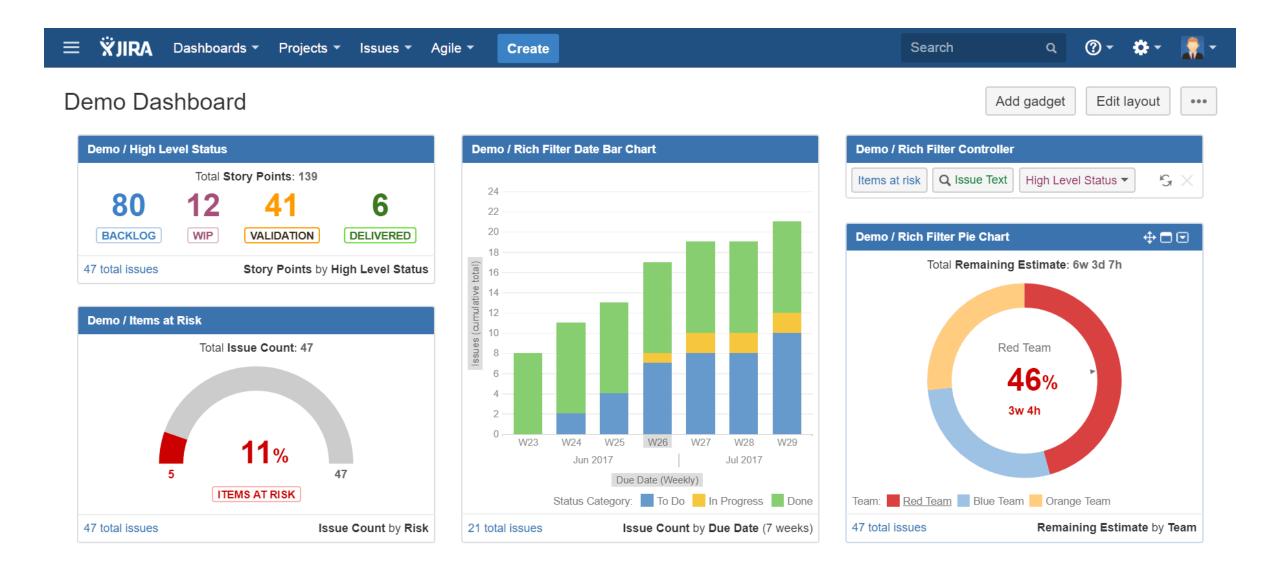
Release Burndown

Track the projected release date for a version (optimized for Scrum). This helps you monitor whether the version will release on time, so you can take action if work is falling behind.

Reports



Dashboard



Examples of existing SW

Issue tracking SW examples

- ◆ Jira ^⑤
- Ⅲ Trello 🎇
- Azure DevOps 😉
- 🞧 GitHub (Issues, Projects) 🗱
- ₩ GitLab (Issues) 🌣 OSS

- Bugzilla ^{OSS}
- Mantis OSS
- Redmine OSS
- Trac OSS
- •

Modern alternatives?

- ClickUp
- Notion
- ...?





Demo time...

Conclusion

- You need issue tracking (for anything bigger than weekend project)
- KISS
- Just use it (even for school project) it's free for small teams
- Pick one OSS project and check how they do it

Questions?

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Img Sources:

https://commons.wikimedia.org/wiki/File:Simple-kanban-board-.jpg