BCIT Sailbot: Using Github and Zenhub

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Abstract

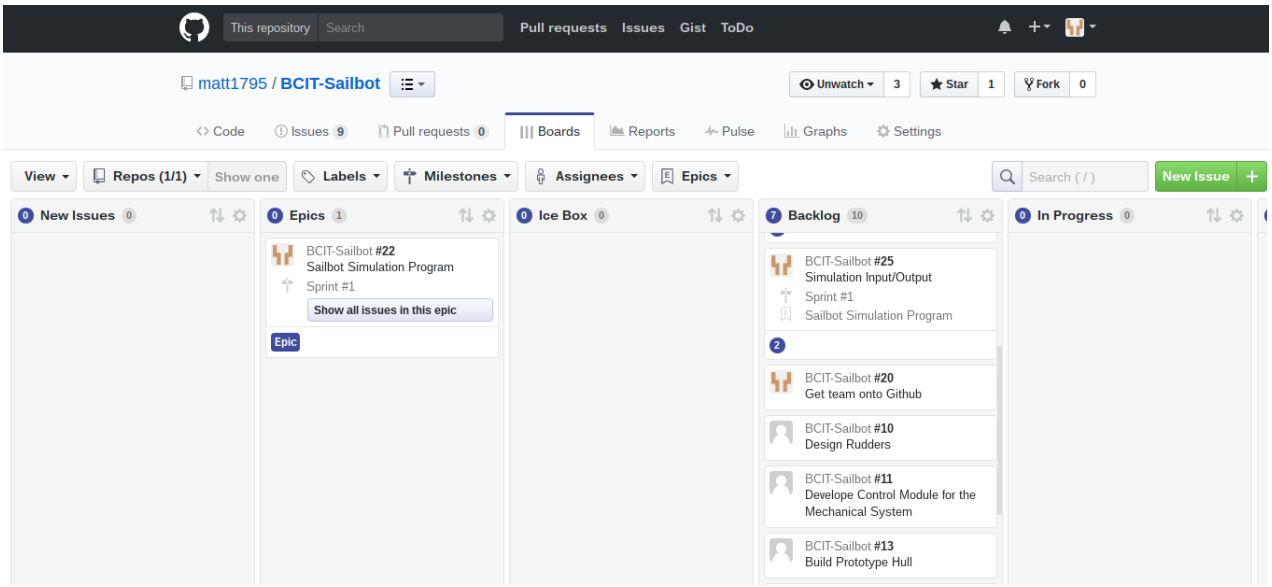
This document covers the use of the project management system in place for the BCIT Sailbot project. Git is a distributed version control system which is widely used for Open Source Software and is what we are using to develop the sailbot. Github is an online git repository service where the sailbot project is stored online. As denoted by the name, Github uses git, however version control is not the scope of this document, the use of the tools given to us by github and an add-on called Zenhub are outlined.

Zenhub adds a few simple tools to the github interface so that we as a team can organize our work right where our code is instead of having to deal with additional software.

On top of signing up for a github account you will have to go to "integrations" and add Zenhub to your Github.

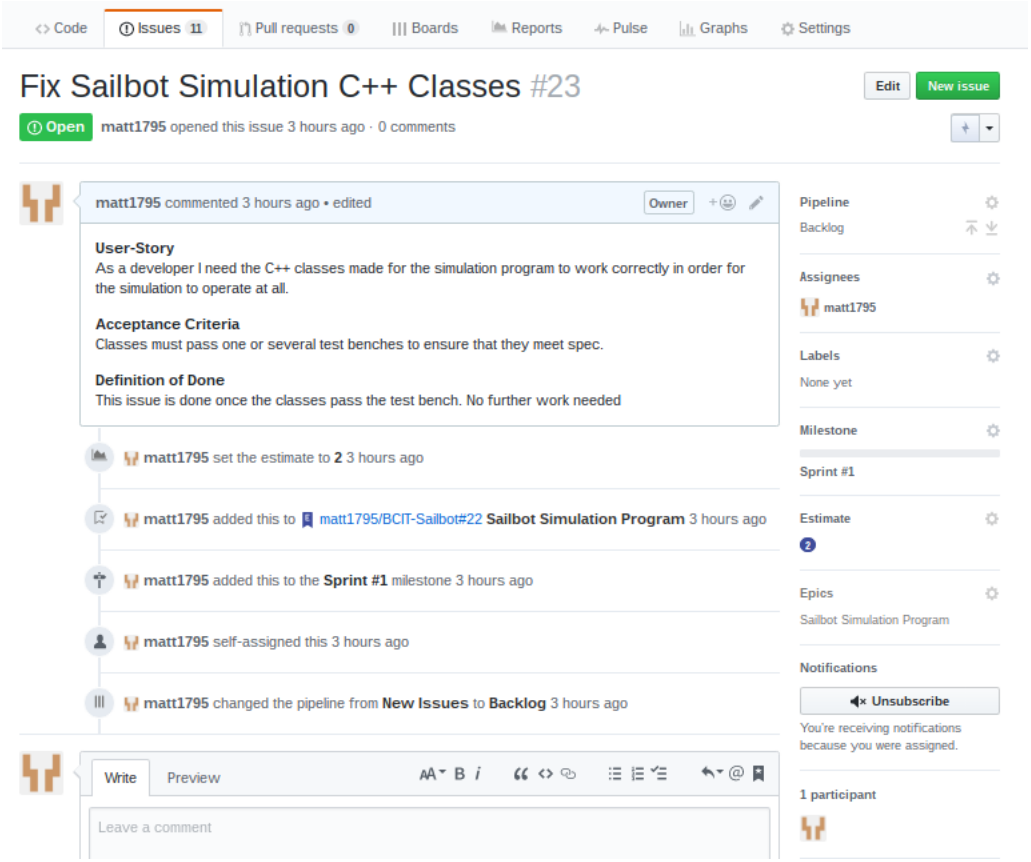
The Kanban (Boards)

From the main screen of the repository you'll find a "Boards" tab, go to that and you'll find something like this:



This is called a Kanban. This is a visual tool the team uses to represent how work is going and help plan for the future. You'll notice that there are different sections labeled "backlog" or "In Progress". These are called pipelines and they represent the state that an "issue" is in.

Issues are the smaller boxes you see inside the pipelines and they are project broken down into relatively simple tasks. Click on one and you'll find something like the following:



Here we will find more information on the issue, there are assignees who are the ones responsible for closing the issue (completing the task), Milestones and Epics that the issue is part of. Team members are able to discuss the issue as there is a comments section.

When making an issue, it does not have to be fully fleshed out. As we plan, an issue might get fairly large and need to be broken down later. When an issue is not described sufficiently for work it is kept in the Backlog pipeline. Here it will be planned and scheduled into the next sprint (see Milestones) and only then may it move to another pipeline, namely the In Progress pipeline.

Once the issue is complete and tested, meeting the acceptance criteria, the issue gets moved into the Reeview/QA pipeline for fellow team members to review work/code. Once a couple team members give it the OK, then the issue can be closed.

Epics

Epics are larger tasks that are made up of smaller issues. For example one might be "Design and Build Power System" - this is not a simple task and will need to be broken down into "Determine how many batteries are needed", "Source charge controller", etc.

Milestones

Where Epics relate tasks through subject, Milestones relate tasks through time. Milestones are groups of tasks that are scheduled to be completed by a certain time. Milestones are also known as sprints and they are completed periodically.