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## Future-proofing issue trackers

### Motivation

Issue tracking software is essential to any team's development process. It helps teams to record and organize software bugs and assign bugs to team members. There are many tools available for issue tracking today, such as GitHub, Jira, and Trello. However, there are limitations that can hinder a team's ability to efficiently track their bugs. For example, services that become discontinued can cause a team's existing issue entries to be difficult to access, such as that of Google Code. Likewise, offline access to issue entries may be necessary. Our project aims to future-proof issue trackers by providing an offline interface, as well as support issue tracking from multiple sources.

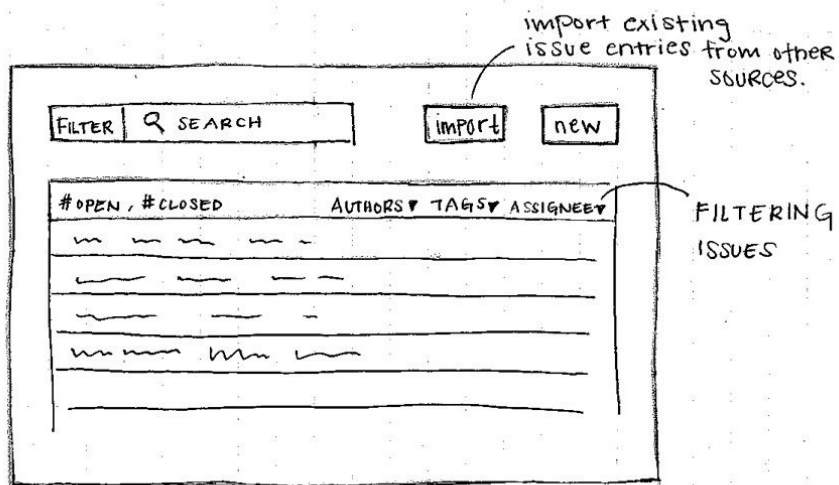
### Approach

We will first create an open-source unified issue tracker storage format based off of Google Code archive. We will create a conversion tool that will use existing issue tracker APIs to download tracked projects and convert the results into our unified file format. The unified format will be limited, but it will at least support projects, assignees, tags, and a couple other basic tracking features.

After Google Code archive, the first issue trackers to be supported will be ones with similar API support. For example, we could start with the many popular issue trackers which have a REST API. This could allow code reuse between the support of various issue trackers. We will also focus on building tools to add support for other issue trackers so that other contributors can easily join and so that issue trackers in risk of being discontinued can quickly be transferred to the unified format.

Once we have a unified file format, we can create a GUI similar to GitHub's issue tracker to view issues offline (see mockup below). The program will first only support offline viewing, but could over time become its own usable issue tracker.

Some other approaches to this problem have good integration with other issue trackers but are not powerful enough. For example, Taskwarrior is a promising open-source project but it does not support collaboration, Windows OS, or a user-friendly interface. There are also proprietary, enterprise approaches to unified issue trackers, but they do not have as broad integration with other issue trackers. By creating a file format that is open-source, we hope that integration will come more easily as more contributors join the project.



Issue tracking website mockup

## Challenges and Risks

There is always a risk that an attempt at a “unified” standard just becomes another competing standard (see xkcd #927 below). For this tool to be worthwhile we need to support as many issue trackers as possible. We hope to overcome this risk by building tools for easily adding support for other issue trackers so we don’t have to. We will also choose a simple format that is not too coupled to our program so that others can build their own viewer implementations.

