Working with Open Source Software: Sugarlabs

by CSCI 462 team Open Source Mafia
Patrick McCabe, Joshua Hones, Bradley Odac, Cormac Conahan

Abstract

Free Open Source Software (FOSS) and Humanitarian Free Open Source Software (H/FOSS) have been a steady trend in the ten years. For our capstone project, our group worked with git and a Python project, Sugarlabs, to contribute to their H/FOSS project. Sugarlabs is an activity based, open source learning platform for children in underdeveloped areas of the world. They were key in the deployment of the “One Laptop per Child” initiative that was started in the early 2000s. We focused on the Music Blocks activity from Sugarlabs, which is a music creation application that is built similarly to the Scratch programming language with music blocks that can be built into musical output. Our group focused on the examples folder and the need for a README document to describe all the examples that have been made for Musicblocks.

Process

Looking for an Open Source Project

When searching for an HFOSS project to work on, it should match two criteria: familiarity with aspects of its structure such as the language its written in, and interest in the purpose of the project itself.

When selecting a project, our first consideration is the programming language of the project.
Using this criteria, we narrowed our candidates to three: Tanagaru, Cadasta, Sugar Labs, and OpenMRS

1. Sugar Labs is focused on helping children learn through software.
2. Cadasta is focused on helping communities document their land rights.
3. OpenMRS is focused on the storage of patient medical records for hospital systems.

Opening Communication

The next step before looking for issues to work on is opening a line of communication with the community and managers of the project you’ve chosen. A good way to do this is to look for a mailing list.

Through our semester long project, we communicated with Sugarlabs through their IRC Channels, Github Issue comments, and their Mailing List to communicate with the maintainers.

Looking Through Issues

Once you’ve found your project and set up a line of communication, the next step is to look through the issues and find something to work on within the scope of your abilities while still providing a challenge. It’s important to comment and let the community know you’re working on the issue you’ve chosen.

Given this criteria, our team has primarily worked on the documentation Issue #2346 for MusicBlocks where we categorize songs and list pertinent data.

Forking, Cloning, and Sifting

After finding an issue and “claiming” it per se, the next step is to fork the repository, clone your fork, and sift through the necessary data/code to hone in on the issue you’re trying to resolve. Remember that HFOSS is community based, and there’s no harm in asking questions. Be sure to read and follow the project’s contribution guidelines.

We used git and GitHub to both clone, investigate the root causes of the issues, add any pertinent files, and contribute to the project.

Pull Request

Last but not least, and surely not the shortest step, after you’re satisfied with your addition to the project, you have to submit a pull request from your forked repository to the main one with a description following that project’s contribution guidelines. Your PR will most likely go through multiple revisions and changes per the maintainers’ requests.

Patrick: Pull Request #2918 for Musicblocks
Josh: Pull Request #2910 for Musicblocks
Cormac:Pull Request #2909 for Musicblocks
Bradley: Pull Request #2919 for Musicblocks

Reflections

Patrick

I enjoyed this process of contributing to an H/FOSS project. I enjoyed making scripts to help my teammates and automate some of our processes.

Josh

This project opened my eyes to how software development works in HFOSS environments. Contributing to an HFOSS project was beneficial to me by giving me real world experience and allowing me to contribute to a great cause.

Bradley

Working on this project was a new experience for me and was truly exciting. Having different strengths on the team really helped make the project seamless

Cormac

At the beginning of this class, contributing to HFOSS seemed like an impossibly intimidating task. All of my previous work was with school assignments with clearly laid out parameters and expectations. However, now I feel comfortable with the process of open source contribution and discussing issues with the community. The experiences gained from this class will definitely benefit me in real-world engineering scenarios.