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Assignment 5 – Open Source Software: Project Implementation

My individual project is called “Adopt-A-Hydrant”, which is an improvement of the open source coding project of the same name that is developed on GitHub by an organization named Code for America. This is a web-based application, and it allows citizens of Boston, Massachusetts to claim ownership of city fire hydrants; “claiming ownership” refers to taking the responsibility of shoveling out that hydrant during snowstorms. This process is put in place to aid communities and public safety, as dangerous snowstorms and weather events can cause fire hydrants to be inaccessible to fire departments in an emergency. Public sanitation cannot shovel out every fire hydrant at once after a strong winter storm, so having people on the streets taking care of this beforehand saves a large amount of time and has the potential to aid in an emergency situation.

In terms of functionality, the current system has two major sections: the login form and the map. The login form can be accessed by both new and existing users, and is tied to a PostgreSQL database. It allows users to sign in, sign out, edit their user credentials and profile info, and search for hydrants near a specific location. On the map, markers in the form of pins are dropped around the current view of the map, indicating the location of a fire hydrant. If it is red, the hydrant is currently unclaimed and can be named and taken by any current user by clicking the icon and then clicking the “Adopt!” button. If the marker is green, this means that a user has already adopted the fire hydrant. In the original functionality, a button exists named “Send reminder to shovel”; this button can be clicked, which will send an email to the current owner reminding them to shovel their fire hydrant.

My major focus in developing for this project was to add functionality that would improve communication and the overall user experience. I had originally planned to create a simple chat log, which would exist within the window for each fire hydrant and allow for open communication between users. However, this proved to be a time-consuming and unreasonable task to complete given my minimal experience with Ruby on Rails and the time constraints on the project. Instead of a chat log, I created a second button called “Request Ownership”. Clicking this button sends an email notification to whoever currently owns the hydrant, and tells them that a user has requested to take over its responsibility. This satisfies my original goal of creating a channel of communication between users. I added a frame at the top of the map interface that displays aesthetically pleasing and detailed information about weather in the Boston area; during the winter season, this information is very important to users who are deciding which hydrant that they would like to adopt. On the left side of the screen, I implemented a picture of a snow shovel with a link to a website where users can shop for deals on various snow shovels and equipment. The goal with the weather app and link to the online marketplace was to turn this app into a “winter hub” for users in Boston, giving them access to the hydrant service as well as relevant information that would aid them in the event of severe weather. I also implemented a small change to the map interface: zooming in and out was originally only controlled by clicking the +/- buttons on the bottom right of the frame. However, I added functionality for the mouse-wheel to be utilized as a scrolling device, saving users clicks and improving on their overall experience and ease of use.