Open Source Software: Proposal and Specifications

CSC 415 Fall 2019 – Jordan Sinoway

Project Title: SOLVER (Student OnLine Voter Engagement and Registration)

Github Repository: https://github.com/jbennet-t/SOLVER

VM: student2@csc415-server20.hpc.tcnj.edu

Social Issue:

The social issue I am attempting to address is getting students registered to vote, as well as informing people about upcoming elections, the politicians who are running, and what their stances are. A large percentage of the population fails to go out and vote for most elections, meaning that their voices are unheard. People are more likely to go out and vote if they are informed about the elections and what the politicians are campaigning on.

Option Choice:

Out of the available choices, I picked Option 2. My main reasoning for this is that I believe that my project idea is viable and can have a positive social impact. Originally, I was more interested in Option 1, but found that there was very little an individual with my level of coding experience code do to assist in the existing open source projects.

Platform Choice:

For my platform, I have decided on creating a web-based application. I believe that this is the best choice, as a website can be easily sent to students via campus-wide emails. A phone app would not work in this instance, as people are often reluctant to download apps.

The project will be written in Ruby, using the Ruby on Rails framework, along with PostgreSQL.

Project Idea (In One Sentence):

Web-app aimed at informing students about upcoming elections and candidates and encouraging them to get registered and vote.

Discussion:

My project idea is innovative, as there is currently no such platform deployed at TCNJ. Students currently receive information from internet and the news about candidates and elections but are not encouraged to go out and vote. They may also be unaware of how to register, when to register, and are likely relying solely on information from internet sources.

The project aims to present information about elections, candidates, and voting in a simple way, and allow people to decide for themselves. The application will also encourage users to register to vote, and present information on how to register.

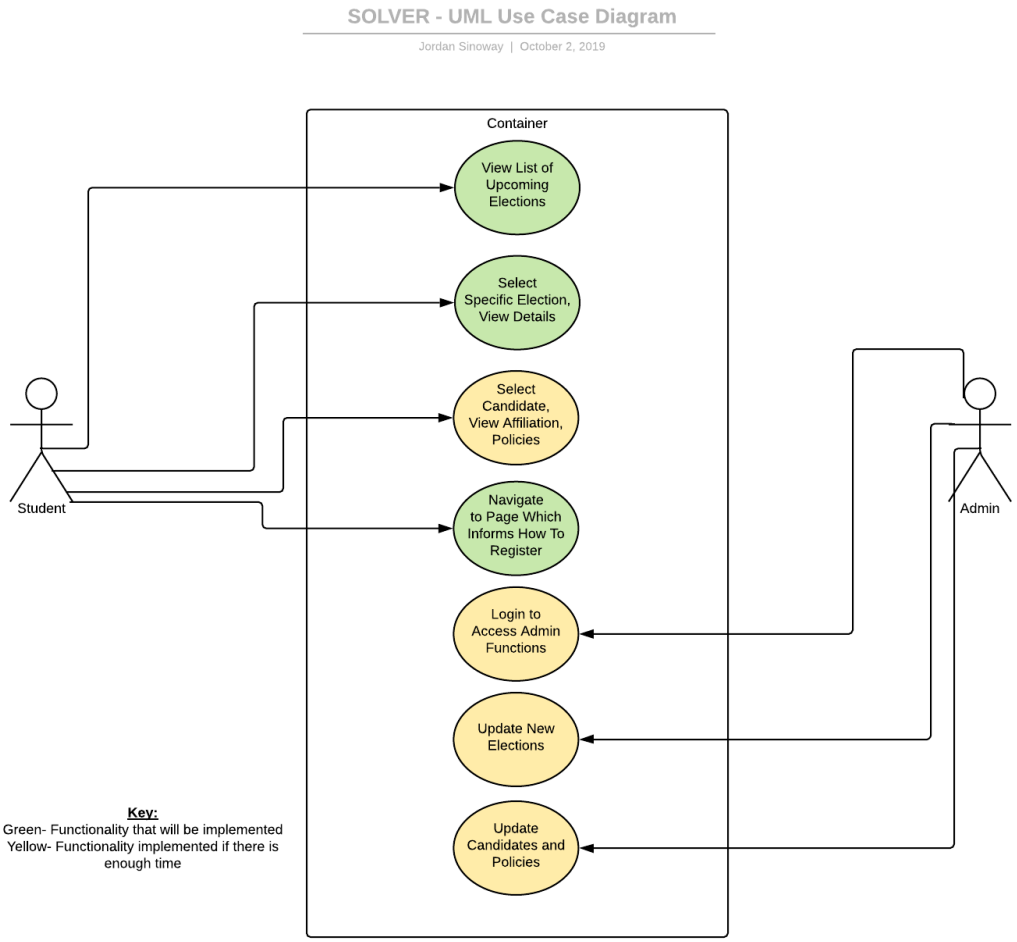
Algorithms, Data Structures, and Software Engineering Concepts:

The users will have the option to input local townships and areas, and an algorithm will search through a database of upcoming local elections, and the candidates running. The algorithm will fetch the date of voting, the candidates running, and a summary of their policies.

The database be PostgreSQL based, and will store a list of the local elections, candidates, and their policies.

During the creation of this program, I intend to follow Agile methodologies, and use the evolutionary modeling concept to continuously develop prototypes that can change as I move through the process. I will also keep in regular contact with CELR, who are stakeholders in this project.

Use Case Diagram:



Projected Timeline:

Task	Week
Understand the domain	1
Initial contact with CELR representative	1
Learn Ruby on Rails	1-4
Learn PostgreSQL	2-5
Prototype 1	2-4
Present Prototype 1 to CELR rep	4
Prototype 2	5-7
Present Prototype 2 to CELR rep	7
Final Build	7-9
Present Final Build to CELR rep	9
Final Project Submission	10

List of Resources:

1. Rails Tutorial: https://www.railstutorial.org/book
2. Book: Agile Web Development with Rails 5.1
3. Build your first Rails app (YouTube video): https://www.youtube.com/watch?v=wbZ6yrVxScM
4. Ruby on Rails in 60 Minutes (YouTube video): https://www.youtube.com/watch?v=pPy0GQJLZUM&t=1s