BSF Portfolio

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Section One: Program

The source code of the program is located on our github repo: [G3-BSF](#).

Section Two: Teamwork

This project was completed by a team of four developers. Within our group dynamic there ended up being two primary engineers and two engineers. For the most part, team members one and two developed/contributed the most on the project. In order to help share the workload, team members 3 and 4 created the technical documents for the Users and any future developers.

Team Member One:

This team member was responsible for creating and figuring out how to run and use Firebase. This was a massive portion of the project as Firebase included hosting, database selection, and API design. Team member one was also instrumental in the implementation of CRUD operations for the various app features. As well as they implemented the page routing plan and created the initial database schema and original UI design. Overall, they contributed around 27% of the total project.

Team Member Two:

Team member two was another important collaborator who implemented key features of the project. The first being the waiver functionality which was a core requirement for the project. They also created a login page in order to protect the website. And the last big

feature that was implemented was the email API, which sends two emails to users who sign up.

For developers, team member two was also responsible in setting up unit tests for the project to satisfy continuous integration requirements. Team member three contributed around 27% towards the project.

Team Member Three:

Team member three created various screens that used database API calls to display the proper information for that screen. A key feature that member three took on was styling and some UI changes. For the grand scheme of the project, the styling wasn't the most important feature but was huge to show the client that we cared about how the final product would look and feel.

Member three helped with the creation of user documentation and helped out the other members with any tasks they may have had. Team member three contributed close to 22% of the total project.

Team Member Four:

Like member three, team member four created various screens to display information, but their biggest contribution was a screen that allowed for the user to import the bridger codes and then export them through the database. Team member one helped out with the export function.

Team member four also created both the user and the developer technical documents. Another technical document that they created was the bug tracker. While this was a requirement for the project-- it was helpful for any team member to check and fix bugs if they had the time. Lastly this team member contributed around 24%.

Section Three: Design Pattern

A design pattern that was used for this project was the Model-View-Controller (MVC) pattern. What this pattern does is specify that the web app consists of a data model (M),

presentation of the information/data (V), and controlling the information/data (C). The pattern then requires that each of these three things be separated into different objects and mostly relates to the UI/interaction portion of the application.

You can see this in our project in a couple of different areas. Our data model is a firebase NoSql database where we house all of the information. The presentation of the data is all of our various screens located in /react_project/src/screens/. And lastly our controlling of the data is located under /functions/api/. This separation that the MVC naturally creates was great in increasing presentation as we knew where everything was located. For example, we didn't have to search through each .js file looking for our database calls. We knew exactly where they were located.

Section Four: Technical Writing

There are two pieces of technical writing that accompany this portfolio. One document is a user help guide and the other is a programming document that outlines the project and what tools we used or had to install to accomplish it.
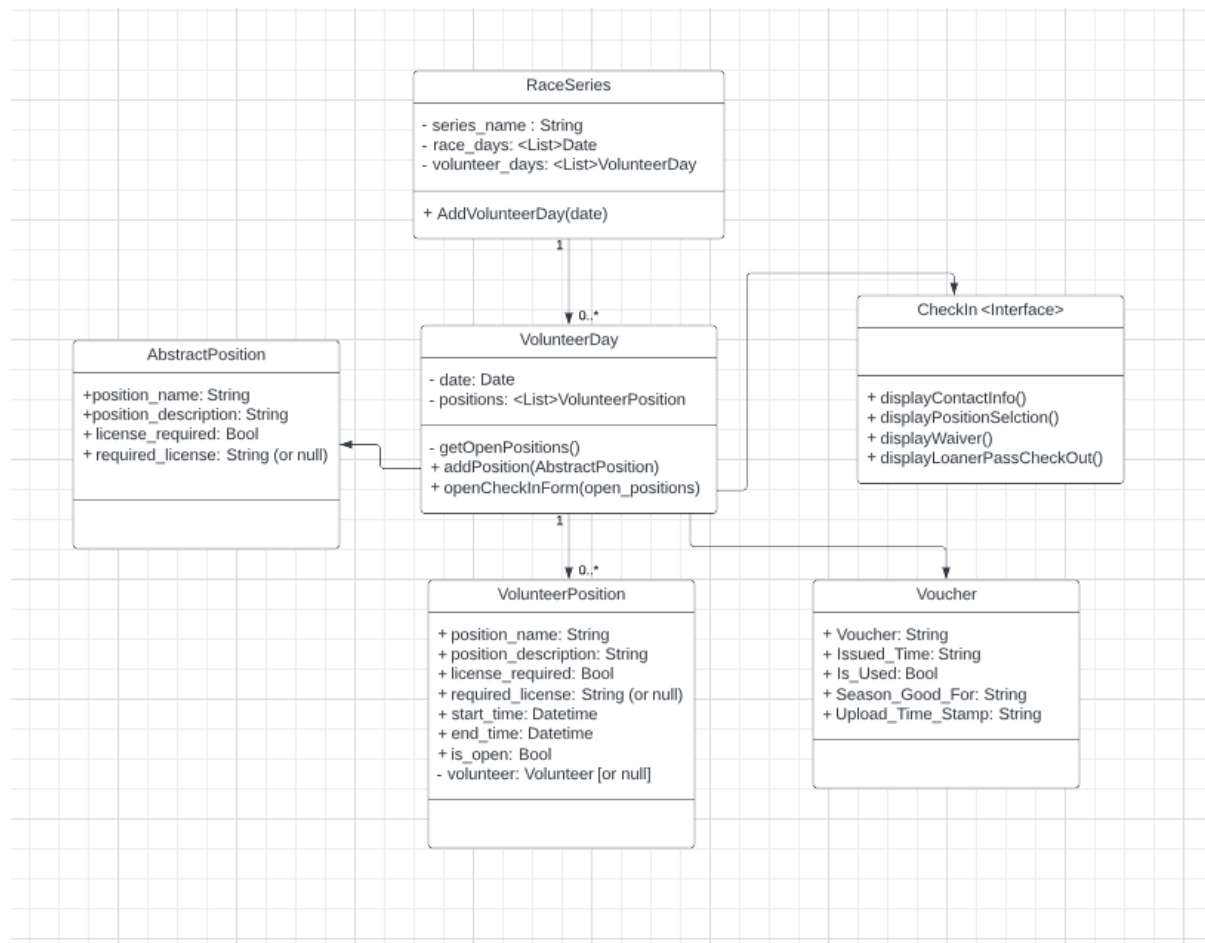
User Document:

The user document is located under the help tab on our [BSF website](#) as well as you can view the document through the project in /react_project/src/screens/help.js.

Developer Document:

The developer document is located in the README.md on our [GitHub repository](#).

Section Five: UML

Section Six: Design Trade Offs

There were many small design trade offs made during this project in order to make sure
functionality was both complete and robust. One design trade off that was made during this
project (and the most notable one) had to do with the importing and exporting of the
voucher codes. The team member responsible for implementing this was having trouble
figuring out how to create one atomic transaction for the whole file. Due to time

constraints, there are multiple transactions that have to occur which increases the overall time complexity for this function. Thankfully, the file size will not be big enough to make any notable difference.

Section Seven: Life Cycle Model

The life cycle that was utilized during this project was the Agile Software Development Life Cycle. This life cycle was one of the biggest reasons why this project was a success for a couple of different reasons: two week sprints and standup meetings.

Sprints are one of the key things that makes Agile methodologies successful and it helped our team out tremendously. For starters, it forced us to start working on the project early and not put it off closer to the deadline. It also helped show progress not only to ourselves but to our client, as every two weeks there was some improvement made to the website whether it was big or small.

Standup meetings are another big Agile component that helped our team not only make progress but better communicate. These were short five to ten minute meetings where the team was able to chat and talk about how things were going, whether that be about the current sprint or other life circumstances that could be going on.This allowed us to better get to know one another and increase productivity.

Overall, the Agile life cycle model that was used was the best possible for this project as it made us work on it consistently throughout the semester and complete the project in a timely manner.