

SSW 215 Individual Software Engineering

Final Report

SnackBar

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Executive Summary

The following report details the process involved with building our project. We detailed our strategy , testing and execution of our idea. Our code is linked in a github repository openly available at this link: <https://github.com/cgiordano16/TheSnackBar>.

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1. Introduction

1.1. Purpose and Scope

The purpose of this project is to develop a functional website using technologies we learned inside and outside of the classroom. The technologies we were taught in class were HTML/CSS, javascript, python, and sqlite.

1.2. Product Overview (including capabilities, scenarios for using the product, etc.)

The product we are building allows users to create an account with our website and see a catalog of snack items that are available to them. Scenarios for the website include logging in, signing up and viewing the catalog. We had to ensure that the user trying to log in was in our database. In addition, when a user signed up we needed to make sure that their passwords matched each other.

2. Project Management Plan

2.1. Project Organization

The project was organized earlier in the semester. We were asked to develop a project development plan early in the semester, and it helped us develop timelines. We were able to determine what members of the team worked on different aspects of the project, and we were able to develop tangible deliverables for the project.

2.3. Risk Analysis

The main risk associated with this project was acquiring user information such as usernames and passwords. The passwords needed to be properly hashed to prevent any exploitations.

2.4. Hardware and Software Resource Requirements

The software resources we utilized for this project were mongoDB, javascript, HTML/CSS, and react. For the project we had to put extensive time and effort into learning react and mongoDB. Most of the project time was spent learning these tools in order to build exactly what we needed.

2.5. Deliverables and Schedule

1. Design Website: Have either digital or hand drawings for all website pages.
2. Derive Architecture for the website: Discuss and designDevelop the API and Database structure to optimally flow with the website.

Complete 1 and 2 by April 2nd

3. a) Develop HTML/CSS and JavaScript front end elements for the initial profile creation, login, and sign up pages. (This will entail building the webpage to determine the likes and dislikes of the user.)
b) Develop table structure for Users and Tags.
c) Build API routes for users and tags CRUD database functionality.

Complete 3 by April 16th

4. a) Develop HTML/CSS and JavaScript front end elements for the search/list page.
b) Develop table structure for Items. (These will be the snacks connected to the tags.)
c) Build API routes for items CRUD database functionality.
5. Build website

2.6. Monitoring, Reporting, and Controlling Mechanisms

The method we used to monitor, report and control our project was over github. We both were committing and pushing our code to github in order to create clear transparency among the group as to what was being completed on the project. The total lines of code cleared over one thousand in terms of code written by group members. Other libraries were utilized, but we did not count those in our count since we did not write those.

2.7. Professional Standards

The professional standards required us to maintain effective communication with each other. Since we were only a two person team it required us to maintain constant communication with each other.

2.8. Impact of the project on individuals and organizations

The impact of the project on individuals will be a customized user experience to list a catalog of snack items. It will help them see new snack items to give inspiration on what to eat.

3. Requirement Specifications

3.1. Stakeholders for the system

The stakeholders for the system will be anybody who is interested in diversifying their food options. The stakeholders can range from a very diverse group of people since many people will be looking for quality snack items.

3.2. Use case model

The use case model for this based on the actions of the user. The main functionality of our app was setting up a good signup/login system, and after that let the user browse a catalog based off the tags they had as interests. Each user had their own tags of snacks, so their catalog would be personalized. Some of the features we would like to add would be a search bar, and adding purchasing options.

3.2.1. Graphic use case model

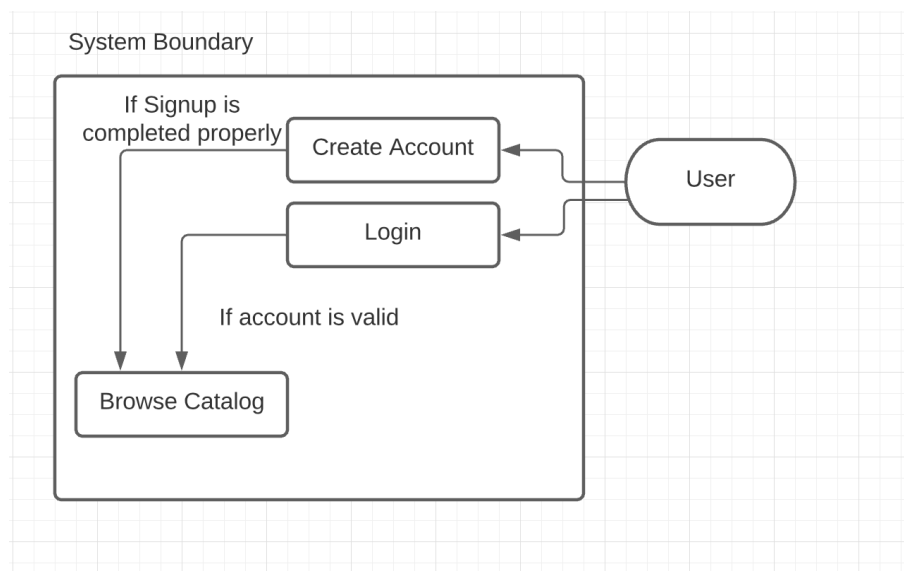


Figure 3.0: Graphic Use Case Model

3.2.2. Textual Description for each use case

User does not have account: User must create an account and fill out the fields correctly, if they complete it properly they will be able to view their own catalog.

User does have an account: User logs in with there credentials, and if they match those in our database then they are able to view their own catalog.

3.3. Rationale for your use case model

The rationale for our use case model was based off of what we wanted our website to be capable of. We initially determined that we wanted our website to have personalized users and based off of that we developed our use case model. Based on research from other websites we knew that users would either be in our database or not in our database. Before they enter the personalized catalog we had to check that they exist in our system.

3.4. Non-functional requirements

Some of the non functional requirements that we had for this project were following development standards set by our group, compatibility with a wide array of web browsers, and maintainability of the site. First a non functional standard of following development standards was to ensure that we have a continuous and smooth development process. If we did not follow standards it could lead to sloppy code and multiple bugs in the product. The next requirement was to work with a wide array of browsers. This required us to make sure that we were using elements that showed up on multiple browsers since our users will be using a wide array of browsers. The final requirement was to ensure the maintainability of the site was not too difficult. Once we launch the site we do not want to have a lot of bugs and errors, so if we write good and clean code we will be able to uphold this requirement.

4. Architecture

4.1. Architectural model

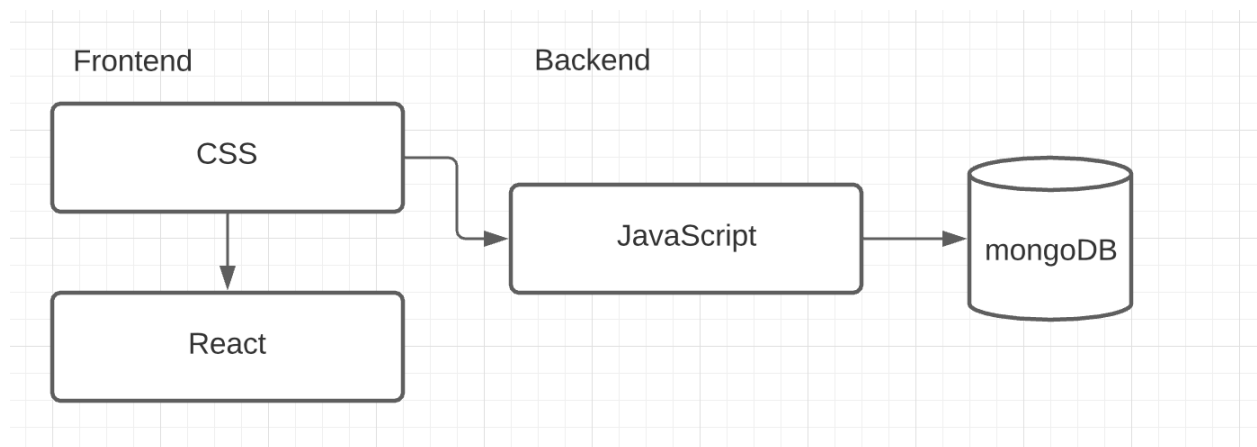


Figure 4.0: Architectural Model

4.3. Technology, software, and hardware used

The software we used for this project was:

- HTML5/CSS3
- JavaScript
- React
- MongoDB

The hardware we used for this project was:

- Development hardware: Laptops
- Test Hardware: Laptop
- Target/Deployment Hardware: Mallard Server

The software we used for this project was taught in the class besides React and MongoDB. React and MongoDB required extensive learning outside of the classroom.

4.4. Rationale for your architectural model

We used these technologies for the architectural model because they were diverse enough in capabilities to support our project. First was the front end technologies. These technologies allowed us to

5. Design

5.1. GUI (Graphical User Interface) design

The GUI was designed by looking at existing sites and getting inspiration from their success. One example was this site. The image in the background served as inspiration for our website, and the website pages and login were at the top.



Figure 5.0: Design Inspiration

In order to get a grasp on GUI design we decided to plan out our website in a drawing first. Doing these drawings first helped us quickly map out their design in JSX. JSX is the html equivalent of react, both languages are very similar outside of a few minor naming convention differences.

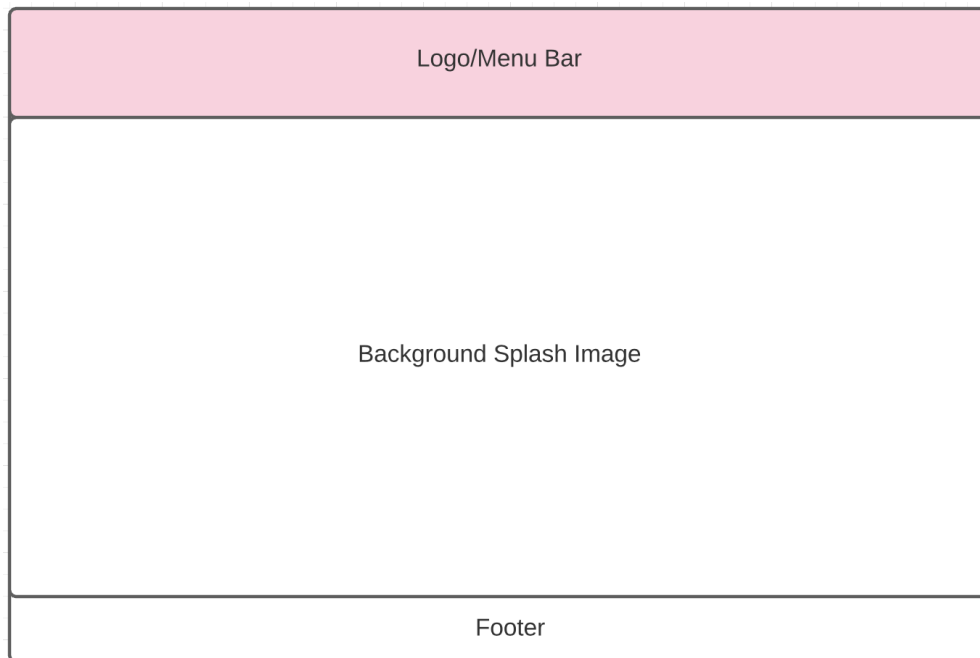


Figure 5.1: Homepage Design

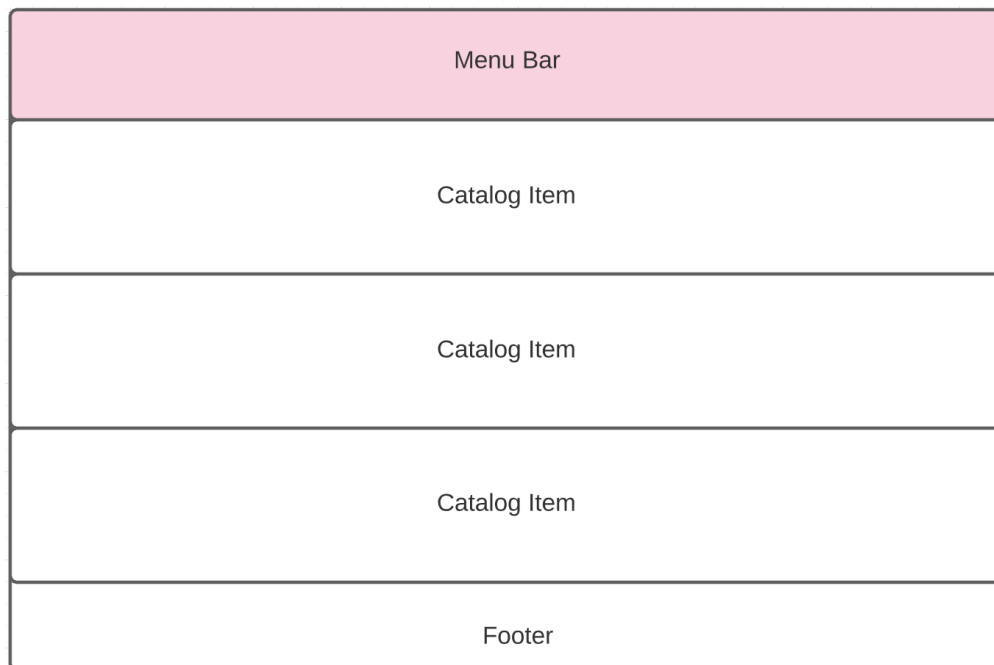


Figure 5.2: Catalog Page Design

5.4. Rationale for your detailed design model

The rationale for our design model is based off of our experienced knowledge off of our initial design research. We looked at established websites and saw their success in terms of how easily they were navigated. We wanted to recreate this in our site, and have built a site that is easy to navigate.

6. Test Plan

6.1. Requirements/specifications-based system level test cases

Requirement 1: User must be able to log in with their existing account credentials

Requirement 2: System must be able to check whether user attempting to log in exists

Requirement 3: System must be able to check whether password entered for user account exists

Requirement 4: User must be able to create an account

Requirement 5: System must check to make sure that username is available

Requirement 6: System must ensure that passwords created match

7. References

[1]“React Introduction,” *Introduction to React*. [Online]. Available: https://www.w3schools.com/react/react_intro.asp. [Accessed: 1-May-2021].

[2] M. C. Lucic, R. O. Oyeleke. “SSW Course Modules”. *Individual Software Engineering*. 2021