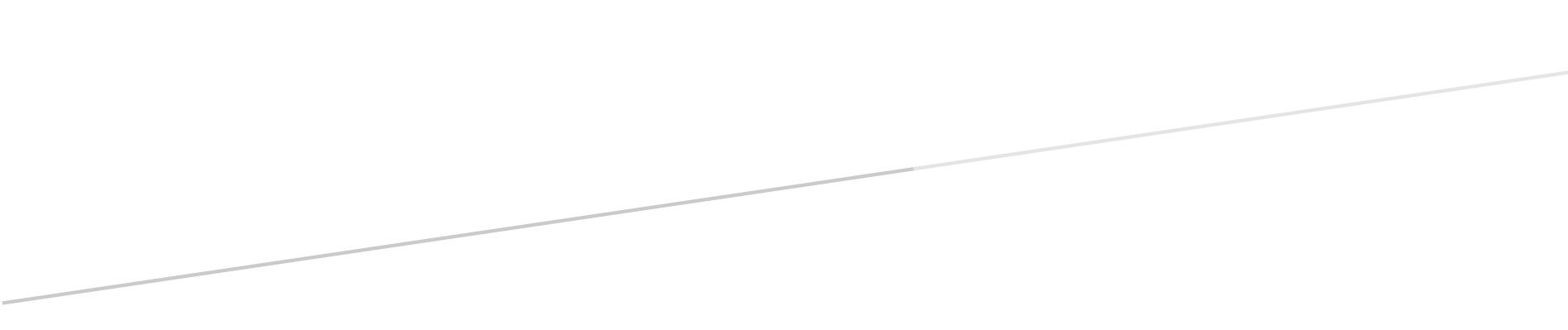
Anne Nguyen & David Leach

12/1/2022

Restaurant web app

Software Requirements Specification



Abstract

A web app that allows customers to order from their favorite  
restaurants seamlessly, providing a simple and fast ordering process.

# Table of Contents:

1. Functional Requirements

1. Login and Signup

2. Customer Functions

3. Admin Functions

4. Other Functions

2. Non-Functional Requirements

1. Security

2. Quality

3. External Interface Requirements

1. User Interfaces

2. Software Interfaces

|  |  |  |
| --- | --- | --- |
| **Name** | **Date** | **Reason for changes** |
|  |  |  |
|  |  |  |
|  |  |  |

# 1 Functional Requirements

## 1.1 Account Creation & Sign In

### 1.1.1 Account Creation

1.1.1.1 Form

* The user will have the following required and non-required form input options to fill out
  + Required:
    - Name
    - Email
    - Password
    - Confirm password
    - Checkbox – Agree to Terms and Conditions
  + Non-required:
    - Phone

1.1.1.2 Password strength testing and minimum requirements

* Password will be given a strength rating
  + Sections are Weak, Okay, Good, and Great
  + Corresponding colors to these opens should be red, orange, yellow, and green
* Minimum requirements for the password will be shown
  + Each item should have its own icon showing whether or not it has met that requirement

1.1.1.3 Validation

* On clicking a Submit button at the end of the form, the client side should confirm the following:
  + All required boxes are filled
  + Email is correctly formatted
  + Password meets requirements
  + The Password and Confirm Password inputs match
* If any fail, alert user to error

1.1.1.4 Successful Account Creation

* User info should be stored in database
* User is sent to a page informing them of the success
* User is then redirected to the menu page

1.1.1.5 Return to Log In

* A button should be placed on the registration page that allows a user to navigate back to the log in page

### 1.1.2 Sign In

1.1.2.1 Form

* The user will be shown a form with an input for their email address and password

1.1.2.2 Validation & Authentication

* At the end of this form will be a Sign In button. When clicked:
  + Client side will confirm that boxes are both filled
    - If empty, error will show under the corresponding box informing the user
  + Database will be searched for the input email
    - If not found, error message will show under the email input box
    - If found, will then continue authentication
  + User input for password will be authenticated by comparing it to the stored password in the database

1.1.2.3 Successful Sign In

* After it has been confirmed that the user’s password is correct, the client will store a cookie that holds the user’s information for later visits
* User is sent to the menu page

1.1.2.4 Create Account

* A button will be placed under the login form to allow the user to be directed to the account creation page

## 1.2 Customer Functions

### 1.2.1 Select Items from menu

1.2.1.1 Add Item Button

Every item shall have a button that will be used to add that item to the user’s cart

On click, the item information should be collected and used to create that item as an element in the cart

On click, the add button will flash, showing “Added!” This will fade back into the normal button

Each click adds one item to the cart

### 1.2.2 Add & Remove Items From Cart

1.2.2.1 Cart Information Stored by Client

* The items that are in the user’s cart should be held in localStorage. This is so that the cart can persist even after the window has been closed.
* When the object holding the data for the cart contents is updated, that is then sent to localStorage to replace the current saved value, if there is any.

1.2.2.2 Item Quantity Display

* There shall be an input box for each item. This will display the current selected quantity for that specific item.
* A minus (-) and plus (+) button shall be on either side of the input box. These will allow the user to adjust the amount of each item from the cart menu.
* This item number will not be able to go below 0 or above 10.

### Update Total Cost

1.2.3.1 Update Total Button

* A button will be placed at the bottom of the cart list that will allow the user to update the total cost of the cart contents
* This is to avoid unnecessary performance loss that could be caused by a system that automatically updates as the user changes item quantities

### 1.2.4 Payment Option Selection

1.2.4.1 Card or Cash Selector

* (decide on a selector style) will be available at checkout to choose whether the user will be paying with card or in person with cash
* The card option should be selected by default

1.2.4.2 Card selection

* When the card option is selected, a form shall be displayed for the user to enter their card information
* The card number input will require 16 numbers to pass a validity check
* There will be a cardholder name input
* There will be an input for the card’s expiration date. This must be set to the current month as the soonest option available
* There will be a CVV number input, this will require 3 digits to pass a validity check
* A tip option will be available only while this payment option is selected (See 1.2.5)
* The user will only be able to attempt to complete their purchase if all of these input fields are filled and meeting their requirements.

1.2.4.3 Cash Selection

* When cash option is selected, a string will be displayed to inform the user to show their receipt to the cashier when they arrive

### 1.2.5 Option to Leave a Tip

1.2.5.1 Display

* The option for the user to leave a tip shall only be available when the card option is selected. This is because the user will be provided to option to tip when paying in person.

1.2.5.2 Predefined Tip Options

* The user shall be given predefined options for tips. These will include 3 percentages, being 15%, 20%, and 25%, as well as an option to provide their own amount.
* Each of the 3 predefined options will display the calculated tip amount at that percentage.

### 1.2.6 Successfully Place Order

1.2.6.1 Order Timer

* When the user first enters the checkout page, a timer will begin
* This timer will not persist if user leaves checkout screen, but will start from 0 again
* This timer is used to keep track of the time it takes for the user to successfully complete their order

1.2.6.2 Order Submission

* Cart information will be stored for use in creating the receipt
* Cart content should be cleared
* User should be shown a “Order complete” message, which will redirect to the finalized order page, which will contain the receipt

### 1.2.7 Order Receipt

1.2.7.1 Items Ordered

* There will be an itemized list of the items purchased.
* Each item will show its quantity
* For items with longer names, abbreviations should be used

1.2.7.2 Customer Information

* Customer information will be shown at the top of the receipt
* This will include their name, their payment selection, time that the order was completed, and the time taken from start to end of checkout
* If the card payment option was selected, it will show a preview of the card number, with the first 12 digits hidden

1.2.7.3 Total Cost

* A subtotal will be given below the item list
* If tip was added, the tip should be shown below the subtotal
* The tax fee should also be shown based on the state that the store is located
* A the sum of these numbers will then be shown as the total cost

## 1.3 Admin Functions

### 1.3.1 Admin Account

1.3.1.1 Hard Coded Account

* In order to ensure that the admin will always have access, the sign in information for the admin account will be written in the code
* The admin account information should be obfuscated

## 1.4 Other Functions

### 1.4.1 Animate.css

### 1.4.2 jQuery

### 1.4.3 Dexie.js

### 1.4.4 Ionicons

### 1.4.5 Jest

# 2 Non-Functional Requirements

## 2.1 Security

### 2.1.1 Admin Account Information

2.1.1.1 Obfuscation

* The admin sign in information should be obfuscated to help hide it within the code.
* Any other potential security-related code should also be obfuscated.
* Resource: <https://www.obfuscator.io/>

### 2.1.2 Cookies

2.1.2.1 Client Side User Information

* When a user logs in, a cookie will be stored to save that user’s sign in within their browser
* Cookies provide a higher level of security than other options such as localStorage and sessionStorage
* Cookies can also be set to expire after a set amount of time and be used for authorization

## 2.2 Quality

### 2.2.1 Code Review

2.2.1.1 Review Process

* After each unit of the web app has been completed, the code will be reviewed by another member of the development team
* The code will be reviewed visually, making sure to read through each line for any possible errors or redundancies
* Once the code has passed review, it will pass through to testing

### 2.2.2 App Testing

2.2.2.1 Testing Process

* Each module should be run through thorough testing
* Unit testing should be done with tests written using the Jest framework
* Once unit testing is carried out, integration testing can begin to ensure that the unit works correctly within the full system environment
* When integration testing has passed, functional testing can begin. This will just be a simple test, using the software as a user would.
* Carrying out tests in this order will help catch bugs early, allowing faster fixes and providing a better user experience on release.

# 3 External Interface Requirements

## 3.1 Customer Interfaces

### 3.1.1 Home Page

3.1.1.1 Restaurant Home Page

* When the customer first enters the web page, they will be greeted by a home page. This home page will show a brief overview of the restaurant utilizing the web app.
* At the top of the page will be the restaurant name as well as an option to sign in for returning customers.
* The body will have a place for a headline, a brief description, and images that will draw the customers in either through showing products offered, or providing an idea of the atmosphere that will be experienced by customers of the restaurant.
* At the end of the description, there will be a call to action to guide the user into signing in or creating an account.

### 3.1.2 Account Creation & Sign In

3.1.2.1 Account Creation

* The account creation interface will be a simple form that appears, requesting user input.
* Required fields should be marked with an asterisk to inform the user of these requirements.
* The fields shown will be: name, email, password, confirm password, phone number, and a checkbox to agree to the terms and conditions.
* The password input will show requirements for the password, with each requirement having an icon to show whether or not that requirement has been met.
* The password input will also display the password strength. The levels shown will be weak, shown in red, okay, shown in orange, good, shown in yellow, and great, shown in green. Each level will light up as it is met.
* Below all of the fields will be a button to confirm the user’s account creation. Below that will be a smaller link to direct the user to the sign in interface if they already have an account.
* Upon successful account creation, the user will be informed that the account has been made, and be redirected to the menu page.

3.1.2.2 Sign in

* The sign in page will simply show an input field for their email and their password.
* Below these fields will be a button to confirm the sign in attempt. Below that will be a link to direct the user to create an account if they do not already have one.
* Upon successfully signing in, the user will be informed that the account has been made, and be redirected to the menu page.

### 3.1.3 Menu Interface

3.1.3.1 Restaurant Menu

* The menu page will include a navbar that will include the restaurant name, the separate sections of the menu for quick navigation, and a cart icon to allow the user to have a quick view of the contents currently in their cart
* The body will make up the menu itself. This will show all of the offered items, separated by headers informing the user of the current section.
* Each item entry block will show the name of the item, a brief description of the item, the cost, and a button to add the item to the cart.
* At the bottom of the page will be the footer, which will show contact information and social media links.

### 3.1.4 Cart and Checkout

3.1.4.1 User Cart

* The user’s cart will show what has been added so far. It will provide an item name, quantity and cost of each item.
* The user will be able to adjust the quantity of individual items in the cart using incrementing buttons on either side of the quantity display.
* There will be a button to direct the user to the checkout page.

3.1.4.2 User Checkout

* All items, their quantities, and their costs should be displayed as it was in the cart. The quantity should also be adjustable. There will be a button at the bottom of the list that will allow the user to update their total cost if they choose to change any quantities or remove an item.
* The user will be given the option to choose to pay online with a credit or debit card, or in person with cash.
* An optional tip selection will be shown that will allow the user to select between 15%, 20%, 25% or to enter their own dollar amount. This option will only be available when the card selection is chosen.
* The taxes (before tips) will be shown, followed by the tip amount, followed by the total cost.
* If the card option is chosen, there will be fields underneath of the total cost where the user can fill out the name on the card, card number, expiration date, and CVV.
* At the end will be the button to submit the order.

3.1.4.2 Order Complete

* Once the order has been completed, it will inform the user that they have successfully ordered their items.
* The user will then be redirected to the finalized order page, which will display the receipt.
* The receipt itself will show an itemized list of the order with the name and quantity of each item.
* Customer name, payment type, the last 4 digits of the card if chosen, the time of order completion and time taken to complete the order will be shown at the top of the receipt.
* The bottom of the receipt will show the subtotal, taxes, tip amount if chosen, and the total cost.

## 3.2 Admin Interfaces

### 3.2.1 Admin Menu

3.2.1.1 Edit Menu Items

* The menu will be displayed as it is for the customer, but the option to add the item will be replaced by the option to edit the item.
* When selected, the admin will be able to edit the name, details, and cost of each item. There will also be a delete button shown. When clicked, the admin will be prompted to confirm this deletion.
* There will be an option to save the changes made to and item when in editing mode.
* At the end of each section will be an option to add a new item. When clicked, the admin will be prompted to provide the name, description and cost of the new item. There will be a button to confirm the entry.

3.2.1.2 Sign Out

* The only other option available to the admin will be to sign out, which will be shown at the top of the page.