Software Requirements Specification

For Easy Food Tracker

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1. Introduction

The introduction of software requirement specification provides an in-depth document that describes what the software does, how will it be performed and includes information about all the functional and non-functional requirements. The aim of this document is to gather and analysis and give an entire insight of the complete Easy food tracker system by defining the problem statement and people's need in detail. Nevertheless, it also concentrates on the capabilities required by stakeholders and their needs while defining high- level product features. The detailed requirements and about the system (Easy food tracker) are provided in this document.

1.1 Purpose

The main purpose of this project named "Easy food tracker" is to make a user-friendly system for customers who love to experiment on different tested food on restaurant and go to restaurant to eat or test food. It might be helpful for the people who are the new comer in the Noakhali city and have no idea about the locations of the restaurants. It also this system will be eagerly used to help the restaurant owners to increase their network and to spread their restaurant name among huge people.

1.2 Project Scope

The main scope of this project named easy food tracker is to develop a web-based application. As more than 90% people use smartphone or pc and use internet, they can easily can use this application by browsing in any web-browser. For this reason, we are targeting to implement our system for web-application.

This SRS is also aimed at specifying requirements of software to be developed but it can also be applied to assist in the selection relation between the different stakeholders. The standard can be used to create software requirements specifications directly or can be used as a model for defining the system requirements.

1.3 References: Software Requirements, Third Edition(Karl Wiegers and Joy Beatty)

1.4 Overview

Finding best food is hard now a day. Easy Food Tracker will be a web application for all Bangladesh Restaurants Owner and all customers who likes travel and take different delicious food. People can easily find out their desire restaurant by using this application nearest him/her and can find out the other place restaurant's view, location, food information, food price, Special Offer, Facilities, Restaurant Quality using search bar. There will be a five Star rating option for every users who visited the restaurant and applying this procedure we can identify the friendly restaurant.

2. User Classes and Characteristics

There are three types of users in this system. They are Restaurants Owner/Manager , customers of the restaurants and Top Management/ Web site Controller. Here Restaurants Owner/ Manager are the main user of our site, they will be able to create profile about there restaurant in our site. On the other hand the customers can find out their desire able or affordable restaurant form our site easily only by doing system login.

Top Management/ Site controller will be the main author who have the main access of the site and have control power over the system.

In this project, there are two main user classes:

2.1 Restaurant owners: These users will be responsible for adding and maintaining information about their restaurants on the app. They will likely be interested in attracting more customers and improving the reputation of their restaurants. Restaurant owners/ managers can create a profile in the name of their restaurant. They must log in to the system and verify Gmail before creating a profile. In the case of profile creation, they will be able to upload the restaurant's name, location, restaurant picture, food menu and price list, quantity, video, various statuses. He will be able to update his restaurant's offers at different times. Users will be able to see comments and rating updates. In addition, they will be able to take food orders and keep the online delivery system running. They can collect payment through the online system. As every common people are now internet user and they always search google for everything so the restaurant owner will be benefited by creating their restaurant profile.

✓ Restaurant owners:

- May have experience in the food industry or running a business
- May be interested in using the app to promote their restaurant and attract more customers
- May be willing to spend time maintaining their restaurant's profile on the app

2.2 Customer: These users will be searching for restaurants and looking for information about them on the app. They may be interested in finding the best restaurants in a particular location or trying new and delicious foods. They may also be interested in leaving ratings and reviews of the restaurants they visit.

✓ Customers:

- May be interested in trying new and unique foods
- May be willing to travel to different locations to try different restaurants
- May be interested in leaving ratings and reviews of the restaurants they visit to help others make informed decisions about where to eat.

Other possible characteristics of these user classes include:

2.3 Project Manager (Top Management): The project manager would be responsible for overseeing the development and implementation of the app. They would work with the development team to ensure that the app is being built according to the project plan and that it meets the needs of the users. They would also be responsible for communicating with stakeholders and making sure that the project stays on track and within budget.

2.4 Development Team Lead: The development team lead would be responsible for managing the team of developers working on the app. They would assign tasks, ensure that the team is working efficiently, and help to resolve any technical issues that arise.

2.5 Product Manager: The product manager would be responsible for defining the features and functionality of the app. They would work with the development team to ensure that the app is meeting the needs of the users and that it is aligned with the overall goals of the project.

2.6 User Experience (UX) Designer: The UX designer would be responsible for designing the user interface and user experience of the app. They would work with the development team to ensure that the app is easy to use and navigate for the users.

2.7 Quality Assurance (QA) Tester: The QA tester would be responsible for testing the app to ensure that it is functioning properly and meeting the desired quality standards. They would work with the development team to identify and fix any bugs or issues with the app.

3. Design and Implementation Constraints

Design and implementation constraints are those that we have used to implement this project make successful. It also describes tool that enables developers and testers to view and interact with the user interface (UI) elements of this application.

3.1 User Interface Technology

User interface (UI) is everything designed into a system view that which person's associates with this system may like the interface of this system.

3.1.1 Programming Language:

JavaScript: JavaScript is a popular language for building web applications, and it is often used in conjunction with HTML and CSS to create the front-end of an app. JavaScript is known for its flexibility and versatility, and it is a good choice for building interactive and dynamic apps.

Java: Java is a popular language for building Android mobile apps, as it is the primary language supported by the Android operating system. Java is a powerful and versatile language, and it is widely used in many different types of projects.

3.1.2 JavaScript and jQuery Library

The most common use of JavaScript is to add client-side behavior to HTML pages, also known as Dynamic HTML (DHTML). Scripts are embedded in or included from HTML pages and interact with the Document Object Model (DOM) of the page. jQuery is a JavaScript library. jQuery greatly simplifies JavaScript programming. jQuery UI is a curated set of user interface interactions, effects, widgets, and themes built on top of the jQuery JavaScript Library. Whether you're building highly interactive web applications or you just need to add a date picker to a form control, jQuery UI is the perfect choice. jQuery UI is built for designers and developers alike. We've designed all of our plug-ins to get you up and running quickly while being flexible enough to evolve with your needs.

3.1.3 CSS Framework

CSS is a language that describes the style of an HTML document. CSS describes how HTML elements should be displayed. Build responsive, mobile-first projects on the web with the world's most popular front-end component library. Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mix INS, responsive grid system, extensive prebuilt components, and powerful plug-ins built on jQuery. The bootstrap code is included minified, which means that white spaces are removed to make the file size smaller and therefore make the load time faster for the file which improves the load time for the whole page. The main design that bootstraps ads without specifically adding design to elements is that when hovering over a link. This is fixed with some simple CSS code added to the CSS-file, unless the bootstrap CSS-file is included after the original, then bootstrap will override the custom ones and the changes will not be seen. Having some basic knowledge about how Bootstrap works before starting to use it would increase the efficiency and speed one might achieve the goal one has in mind for including bootstrap into the project.

3.2 Implemented Tools and Platform

In order to implement a web application like Easy Food Tracker, there are several tools and platforms that may be used, including:

3.2.1 Code editor

A code editor, such as Visual Studio Code, Atom, or Sublime Text, would be used to write and edit the code for the web application.

3.2.2 Web development framework

A web development framework, such as AngularJS, React, or Vue.js, would be used to build the web application. These frameworks provide pre-built components and tools that make it easier to create and maintain a large web application.

3.2.3 Front-end library

Libraries such as Bootstrap, Foundation, for UI component and layouts.

3.2.4 Back-end language

A back-end language, such as JavaScript or Node.js, would be used to handle server-side processing and manage the database.

3.2.5 Database management system

A database management system, such as MySQL, MongoDB, or Firebase, would be used to store and retrieve the information about the restaurants and their menus.

3.2.6 Version Control System

A version control system, such as Git, would be used to manage the source code and keep track of changes made to the codebase.

3.2.7 Hosting Platform

A hosting platform, such as Heroku, Amazon Web Services (AWS) or Google Cloud Platform (GCP), would be used to host the web application and make it available to users on the internet.

3.2.8 Accessibility and testing tools

The app must be tested using tools such as Lighthouse, Pa11y, and aXe to ensure that the app is accessible for users with different abilities.

3.2.9 Project management tools

Project management tools, such as Trello, Asana, or Jira, would be used to organize and track the progress of the project.

3.3 Web Server

A Web server is a program that uses HTTP (Hypertext Transfer Protocol) to serve the files that form Web pages to users, in response to their requests, which are forwarded by their computers' HTTP clients. Dedicated computers and appliances may be referred to as Web servers as well. We will use the Apache HTTP server to implement this project.

There are several popular web servers that could be used for this project, including:

3.3.1 Apache

Apache is an open-source web server that is widely used and has a large and active community. It is known for its stability, security, and scalability, and it can be easily configured to work with a variety of different languages and platforms.

3.3.2 Node.js

Node.js is a JavaScript runtime that allows you to run JavaScript on the server-side. It includes a built-in web server, making it easy to create web applications and APIs with JavaScript.

3.3.3 Firebase

Firebase is a mobile and web development platform by Google that provide a lot of services, among those services there is a hosting service which you can use to host your web application.

3.4 Database Server

We will use MySQL database server to store all of the information of this system. The reason behind to choose the database server are given below:

- Security
- Reporting and Data Mining
- Fault tolerance
- Performance diagnostics

4. Requirement Specification

Requirement specification is the process of identifying and documenting the specific requirements that the Easy Food Tracker app needs to meet. It is an important step in the software development process as it helps to ensure that the final product meets the needs of the users and stakeholders.

Here are some examples of requirements that might be included in the requirement specification for this project:

4.1 Functional requirements

These requirements specify the specific functionality that the app needs to provide, such as the ability to search for restaurants, view restaurant information, and leave ratings and reviews.

Functional requirements are the specific functionality that the Easy Food Tracker app needs to provide to meet the needs of the users and stakeholders. Here are some examples of functional requirements that might be included in this project:

4.1.1 Create account

FR-1	Restaurant owner & Customer may able to create account.		
Description	Customers and restaurant owners should register his/her account for the first time and be able to login to the account which was registered once. Already registered users will not face this stage. For this process user have to provide their basic details and verify them.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.1.2 Search restaurant

FR-2	Customer can search for restaurant		
Description	Customer should be able to search for restaurants by location, type of food, and other criteria.		
Stakeholders	Customer	**Priority**	High

4.1.3 View restaurant profile

FR-3	Both customer and owner can view the restaurant profile.		
Description	Customers should be able view the restaurant profile by searching or from default set by application. Also they should be able to view detailed information about a restaurant, such as its menu, prices, reviews and contact information.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.1.4 Order food.

FR-4	Customer will be able to order food.		
Description	Customer can be able to place an order for food from home.		
Stakeholders	Customer	**Priority**	High

4.1.5 Confirm order

FR-5	Customer can be able to Confirm order		
Description	Customer can be able to confirm order for he/she is ordering.		
Stakeholders	Customer	**Priority**	Medium

4.1.6 Location on maps

FR-6	Anyone be able to view Location on maps		
Description	Customers should be able to view the location of a restaurant on a map, as well as get directions to it and owner can add restaurant location.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.1.7 View orders

FR-7	View orders from customers		
Description	Restaurant owner should be able to view orders from the customers.		
Stakeholders	Restaurant owner	**Priority**	High

4.1.8 Accept orders

FR-8	Restaurants Owner should be able Accept orders		
Description	Owners should be able to accept order if ordering foods are available.		
Stakeholders	Restaurant owner	**Priority**	High

4.1.9 Reject orders

FR-9	Restaurants owner will be able to Reject orders		
Description	Restaurants owner can reject orders if ordering foods are not available.		
Stakeholders	Restaurant owner	**Priority**	High

4.1.10 Modify restaurant profile

FR-10	Restaurant Owner will be able to Modify or update restaurant profile		
Description	Restaurants owner should be able to modify restaurant's details or update profile according to their choice.		
Stakeholders	Restaurant owner	**Priority**	High

4.1.11 Receive notifications

FR-11	Customer and restaurant manager will receive notifications		
Description	Customer and restaurant manager can receive any type of notifications.		
Stakeholders	Restaurant owner	**Priority**	Medium

4.1.12 Provide rating or review

FR-12	Customer will be able to provide rating or review		
Description	A customer has to give a rating and review to the service man based on his work. And reviews will be added on service provider's profile. New customer selects a service man based on their rating.		
Stakeholders	Customer	**Priority**	High

4.1.13 Special offers

FR-13	Customer will be able to see special offers and owner of restaurant will be able to		
Description	Customers should be able to view information about special offers and facilities that a restaurant has and restaurant owners can add special offers.		
Stakeholders	Customer, restaurant owner	**Priority**	Medium

4.2 Non-Functional Requirement

These requirements specify the quality characteristics that the app needs to possess such as performance, security, and usability.

4.2.1 Performance

NFR-1	Performance		
Description	The application should load quickly and be responsive to its user interactions.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.2.2 Scalability

NFR-2	Scalability		
Description	The application should be able to handle a high number of concurrent users.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.2.3 Security

NFR-3	Security		
Description	The application should protect user data and prevent unauthorized access.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.2.4 Usability

NFR-4	Usability		
Description	The application should be easy to navigate and use for all users, including those with disabilities.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.2.5 Accessibility

NFR-5	Accessibility		
Description	The application should meet accessibility standards and guidelines, to make it available to as many people as possible.		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.2.6 Compatibility

NFR-6	Compatibility		
Description	The application should work on different devices and browsers		
Stakeholders	Customer, restaurant owner	**Priority**	High

4.2.7 Maintainability

NFR-7	Maintainability		
Description	The code should be well-organized and easy to maintain.		
Stakeholders	Development Team	**Priority**	High

4.2.8 Testability

NFR-8	Testability		
Description	The application should have automated tests in place to ensure the app is stable and free of errors.		
Stakeholders	Development Team	**Priority**	High

4.3 Usability requirements

These requirements specify how easy the app should be to use and navigate, and how accessible it should be to users with different abilities.

4.3.1 Simple and Intuitive navigation

UR-1	Simple and Intuitive navigation		
Description	The application should have a simple, consistent and easy-to-use navigation structure.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.3.2 Clear and consistent visual design

UR-2	Clear and consistent visual design		
Description	The application should have a clear and consistent visual design, which helps users understand the app's structure and organization.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.3.3 Accessible for all

UR-3	Accessible for all		
Description	The application should be designed to meet accessibility guidelines and standards, to make it available to as many people as possible.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.3.4 Search and filter options

UR-4	Search and filter options		
Description	The application should have a powerful and easy-to-use search and filter options that help users quickly find the information they need.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.3.5 Error Prevention and Recovery

UR-5	Error Prevention and Recovery		
Description	The application should be designed to prevent errors, and provide clear and concise feedback when errors occur, helping users recover from those errors.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.3.6 Feedback and confirmation

UR-6	Feedback and confirmation		
Description	The application should provide visual or audible feedback for actions taken, and confirmations for important actions such as ordering or booking.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.3.7 Help and documentation

UR-7	Help and documentation		
Description	The application should provide users with clear and easy-to-understand help and documentation.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.4 Security requirement

These requirements specify the measures that need to be taken to protect the app and its users' data, such as data encryption, user authentication, and access controls.

4.4.1 User Authentication

SR-1	User Authentication		
Description	Users should be required to provide a valid username and password in order to access their account.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.4.2 Encryption of sensitive data

SR-2	Encryption of sensitive data		
Description	Sensitive data such as passwords, payment information, and personal information should be encrypted while stored in database or in transit.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.4.3 Access control

SR-3	Access control		
Description	The application should restrict access to sensitive data and functionality based on the user's role and authorization level.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.4.4 Secure Transmission

SR-4	Secure Transmission		
Description	Data transmission between the user's device and the server should be secured using HTTPS.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.4.5 Input Validation

SR-5	Input Validation		
Description	The application should validate all input data and prevent malicious attacks such as SQL injection, Cross-Site scripting (XSS).		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.4.6 Regular Software updates

SR-6	Regular Software updates		
Description	The application should be regularly updated with the latest security patches and fixes.		
Stakeholders	Administrator	**Priority**	High

4.4.7 Vulnerability scans

SR-7	Vulnerability scans		
Description	The application should be regularly scanned for vulnerabilities and any issues found should be addressed promptly.		
Stakeholders	Administrator	**Priority**	High

4.5 Performance requirements

These requirements specify the desired level of responsiveness and speed of the app, as well as the number of concurrent users it should be able to handle.

4.5.1 Load time

PR-1	Load time		
Description	The application should have a fast load time, ideally under a few seconds.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.5.2 Responsiveness

PR-2	Responsiveness		
Description	The application should be responsive to user interactions and provide instant feedback for actions taken.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.5.3 Server Response Time

PR-3	Server response time		
Description	The server should provide a response time under a few seconds when handling requests from the application.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.5.4 Concurrent users

PR-4	Concurrent time		
Description	The application should be able to handle a high number of concurrent users without any significant performance degradation.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.5.5 Scalability

PR-5	Scalability		
Description	The application should be able to scale to accommodate increased traffic or user numbers.		
Stakeholders	Administrator	**Priority**	High

4.5.6 Optimization

PR-6	Optimization		
Description	The application should be optimized for performance, including techniques like caching, magnification and code splitting.		
Stakeholders	Administrator	**Priority**	High

Performance requirements are important because they determine how well the app will perform under different conditions and how well it can handle high traffic. It's essential that the app is responsive, fast and can handle a high number of concurrent users, as slow loading times and unresponsive interactions can discourage users from using the app. It's also important that the app is designed with scalability in mind, so it can be easily adapted to accommodate increased traffic or user numbers in the future.

4.6 Technical requirements

These requirements specify the technical constraints and limitations that the app needs to meet, such as the need to work offline, or to work on different browsers and devices.

4.6.1 Web Platform

TR-1	Web Platform		
Description	The application will be a web-based platform that can be accessed through a browser on desktop and mobile devices.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.6.2 Database

TR-2	Database		
Description	A database will be used to store information about restaurants, menu items, prices, and user ratings.		
Stakeholders	Customer, Restaurant owner, system	**Priority**	High

4.6.3 User Authentication

TR-3	User Authentication		
Description	The application will have user authentication features to allow users to log in and provide ratings		
Stakeholders	Customer, Restaurant owner, Administrator	**Priority**	High

4.6.4 Search Functionality

TR-4	Search Functionality		
Description	A search bar will be provided to allow users to search for restaurants based on location, cuisine, or restaurant name.		
Stakeholders	Customer, Restaurant owner, Administrator	**Priority**	High

4.6.5 Rating System

TR-5	Rating System		
Description	A five-star rating system will be implemented for users to rate their experience at each restaurant.		
Stakeholders	Customer, Restaurant owner	**Priority**	High

4.6.6 Map Integration

TR-6	Map Integration		
Description	The application will integrate with a mapping API to display the location of each restaurant on a map.		
Stakeholders	Customer, Restaurant owner, Administrator, System	**Priority**	High

4.6.7 Responsive Design

TR-7	Responsive Design		
Description	The application will have a responsive design to ensure a good user experience on different devices.		
Stakeholders	Customer, Restaurant owner, Administrator	**Priority**	High

4.6.8 Security

TR-8	Responsive Design		
Description	The application will have a responsive design to ensure a good user experience on different devices.		
Stakeholders	Customer, Restaurant owner, Administrator	**Priority**	High

4.7 Speed and Latency Requirements

Response Time: The application should respond to user requests within 2 seconds or less to ensure a good user experience.

Search Latency: The search functionality should return results within 1 second or less to ensure users can quickly find what they are looking for.

Data Load Time: The time it takes to load data from the database and display it on the page should be optimized to ensure a smooth user experience. This time should be less than 5 seconds for most pages.

Data Update Latency: Updates to restaurant information or user ratings should be processed and reflected in the database in real-time to ensure accurate and up-to-date information is displayed to users.

4.8 Precision and Accuracy Requirements

Data Accuracy: The information displayed on the platform, such as restaurant information, menu items, and prices, should be accurate and up-to-date. The restaurant owners or a designated administrator should have the ability to update this information as needed.

Search Results: The search results should accurately match the search criteria entered by the user and display the most relevant results first.

User Ratings: The user ratings should accurately reflect the experience of the user at each restaurant and not be influenced by any external factors.

Map Integration: The integration with the mapping API should accurately display the location of each restaurant on the map.

User Privacy: User information should be protected and kept confidential to ensure privacy and security for users.

4.9 Capacity Requirements

User Capacity: The platform should be able to support a large number of users simultaneously to ensure a smooth user experience. This may include considerations for traffic spikes and peak usage times.

Data Capacity: The database should be able to store a large amount of data, including information about restaurants, menu items, prices, and user ratings. The database should be designed with scalability in mind to accommodate growth over time.

Search Capacity: The search functionality should be able to handle a large number of search queries in a short amount of time to ensure quick and accurate results for users.

Rating Capacity: The rating system should be able to handle a large number of ratings for each restaurant to ensure accurate representation of user experiences.

Map Integration Capacity: The integration with the mapping API should be able to handle a large number of requests for map data to ensure accurate and up-to-date information is displayed to users.

4.10 Dependability Requirements

Requirements verification in the Easy Food Tracker project involves checking that the requirements have been specified correctly, that they are complete, and that they are feasible to implement. The following are some of the methods that can be used for requirements verification in this project:

4.11 Reliability and Availability Requirements

Reliability refers to the ability of a system to perform its intended function without fail. A reliable system is one that operates consistently and accurately, even under adverse conditions.

Availability refers to the ability of a system to be accessible and operational when needed. An available system is one that can be used by users when they need it, without interruption or delay.

In the context of the Easy Food Tracker project, it is important to ensure that the platform is reliable and available so that users can access information about restaurants, view ratings, and search for restaurants without interruption. This will help ensure a high-quality user experience and build trust in the platform.

Requirement	Stakeholder
24/7 Availability	Development Team
Maximum Downtime of 1 hour per year	Development Team
Data Integrity	Database Administrator
Backup and Recovery	Database Administrator
Disaster Recovery	Development Team
Robust Security Measures	Security Team

4.12 Robustness and Fault Tolerance Requirements

Robustness refers to the ability of a system to continue functioning correctly even in the presence of unexpected inputs or conditions. A robust system is one that can handle changes in inputs or conditions and still deliver the desired output.

Fault tolerance refers to the ability of a system to continue operating even when there are errors or failures in its components. A fault-tolerant system is one that can detect and recover from errors without impacting the overall operation of the system.

Here are some potential robustness and fault tolerance requirements for the Easy Food Tracker project:

- **Input Validation:** The platform should validate user inputs to prevent incorrect or malicious data from affecting the functionality of the system.
- **Error Handling:** The platform should handle errors gracefully and provide meaningful feedback to users to help them resolve issues.
- **Load Balancing:** The platform should be designed to balance the load across multiple servers to ensure that the platform can handle high levels of traffic without impacting performance.
- **Redundancy:** The platform should be designed with redundancy in mind to ensure that a single component failure does not impact the overall operation of the system.
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4.13 Safety Critical Requirements

Safety critical requirements refer to the requirements that are necessary to ensure the safety of the users of the system. In the context of the Easy Food Tracker project, safety is of utmost importance because the platform is used by people to find information about restaurants and to make decisions about where to eat.

Here are some potential safety critical requirements for the Easy Food Tracker project:

Data Accuracy: The information provided by the platform about restaurants should be accurate and up-to-date to prevent users from making incorrect decisions about where to eat.

User Privacy: The platform should protect the privacy of users by implementing secure storage and handling of user data.

Health and Safety Information: The platform should provide information about the health and safety policies of restaurants to help users make informed decisions.

Accessibility: The platform should be accessible to all users, regardless of ability, to ensure that everyone can access the information they need.

4.14 Maintainability and Supportability

Requirement	Stakeholder
Code modularity	Administrator
Documentation	Administrator, Support Team
Testability	Administrator, Testing Team
Scalability	Administrator
Version control	Administrator
Monitoring and logging	Operations Team, Support Team
Upgradeability	Development Team, Operations Team
User feedback mechanism	Support Team, Customer, Owners
Issue tracking system	Development Team, Support Team

4.15 Maintenance Requirements

Maintenance Requirements in this project are focused on ensuring the ongoing operation and performance of the Easy Food Tracker web-based application. These requirements are based on the principles of maintainability and supportability, and may include the following:

1. Regular software updates to address security vulnerabilities and bug fixes.
2. A robust backup and disaster recovery plan to minimize downtime and data loss.
3. Documented processes for troubleshooting and resolving common issues.
4. A user-friendly interface for reporting and tracking maintenance-related incidents.
5. Regular performance monitoring and optimization to ensure optimal application performance.
6. A dedicated support team to respond to user inquiries and resolve any issues in a timely manner.
7. A knowledge base of frequently asked questions and how-to guides for end-users.
8. A plan for regularly reviewing and updating documentation and training materials.

4.16 Supportability Requirements

Here are some potential supportability requirements for the Easy Food Tracker project:

Documentation: Detailed documentation should be provided for the platform to allow for easy maintenance and support.

Monitoring and Logging: The platform should have monitoring and logging capabilities to help identify and resolve issues quickly.

Upgradeability: The platform should be designed in a way that allows for easy upgrades and maintenance.

User Feedback Mechanism: A mechanism for users to provide feedback on the platform should be provided to allow for continuous improvement.

Issue Tracking System: An issue tracking system should be implemented to help the support team keep track of and resolve issues.

4.17 Adaptability Requirements

Here are some potential adaptability requirements for the Easy Food Tracker project:

- **Scalability:** The platform should be designed in a way that allows it to easily scale up or down as needed.
- **Customization:** The platform should allow for customization to meet the specific needs of individual users or organizations.
- **Integrality:** The platform should be able to integrate with other systems as needed.
- **Compatibility:** The platform should be compatible with different types of devices and operating systems.

4.18 Security Requirements

Security is a critical concern in any web-based application, especially one that handles sensitive information such as user data and personal information.

Here are some potential security requirements for the Easy Food Tracker project:

- **Data encryption:** All sensitive data should be encrypted in transit and at rest to prevent unauthorized access.

- **Access control:** The platform should have a robust access control system to ensure that only authorized users can access sensitive information.
- **Authentication:** Users should be required to authenticate before accessing the platform.
- **Input validation:** The platform should validate user inputs to prevent malicious attacks such as SQL injection and cross-site scripting (XSS).
- **Regular security updates:** The platform should receive regular security updates to address newly discovered vulnerabilities.

4.19 Access requirements

Access requirements refer to the restrictions and permissions associated with accessing the platform and its various features.

Here are some potential access requirements for the Easy Food Tracker project:

- **User roles:** The platform should have different user roles (e.g., administrator, user, restaurant owner) with different levels of access and permissions.
- **Geolocation:** The platform should be able to determine the user's location to provide relevant information about nearby restaurants.
- **Mobile access:** The platform should be accessible on mobile devices for users on the go.
- **Offline access:** The platform should be designed to work offline in areas with poor internet connectivity.
- **Search bar:** The platform should have a search bar to allow users to easily find information about restaurants.

4.20 Privacy Requirements

Privacy is a crucial aspect in any web-based application that handles personal information.

Here are some potential privacy requirements for the Easy Food Tracker project:

- **Data collection consent:** Users should be able to provide informed consent for the collection of their personal data, including name, email address, and location information.
- **Data storage and retention:** The platform should store personal data securely and for a limited time period, only retaining data as long as necessary for the purpose for which it was collected.

- **Data sharing policy:** The platform should have a clear and transparent policy for how personal data is shared with third parties.
- **Data encryption:** Personal data should be encrypted both in transit and at rest to protect against unauthorized access.
- **User control over data:** Users should be able to access, update, and delete their personal data at any time.
- **Logging and auditing:** The platform should log and audit access to personal data to detect and prevent unauthorized access.

4.21 Usability and Human Integrity Requirements

Usability and human integrity are important factors to consider when developing a web-based application.

Here are some potential requirements related to usability and human integrity for the Easy Food Tracker project:

- **User-centered design:** The platform should be designed with the needs and preferences of the user in mind, taking into consideration factors such as ease of use, accessibility, and overall user experience.
- **User feedback mechanism:** The platform should provide a mechanism for users to provide feedback and suggest improvements.
- **Compliance with accessibility standards:** The platform should be accessible to users with disabilities and comply with relevant accessibility standards.
- **User data protection:** The platform should protect the privacy and personal data of users and provide appropriate security measures to prevent unauthorized access or misuse.
- **Ethical data use:** The platform should only use personal data for the purposes for which it was collected and should not engage in unethical practices such as selling or sharing personal data without the user's consent.

4.21.1 Ease of Use Requirements

Requirement	Stakeholder	Description
Intuitive navigation and user interface	Customer, Owner	The platform should have a simple and intuitive navigation structure, with a user interface that is easy to use and understand.
Consistent design and layout	Customer, Administrator	The platform should have a consistent design and layout throughout, to reduce confusion and improve the user experience.
Search functionality with filters	Customer, Administrator	The platform should provide a search function that is easy to use and provides relevant results, with the ability to filter results to narrow down the search.
User-friendly information presentation	Customer, Administrator	Information presented on the platform should be easy to understand and clearly presented, using simple and concise language and appropriate visual aids where necessary.
Clear and concise error messages	Customer, Administrator	Error messages should be clear and concise, explaining the issue and providing guidance on how to resolve it.
Option for users to provide feedback and suggestions	Customer, Restaurant owner, Administrator	The platform should provide a mechanism for users to provide feedback and suggest improvements, to help the platform evolve and improve over time.

4.21.2 Accessibility Requirements

Accessibility requirements are critical for ensuring that the Easy Food Tracker web-based application is usable by everyone, including individuals with disabilities. Here are a few examples of accessibility requirements that can be considered for this project:

- **Compliance with accessibility standards**: The platform should comply with accessibility standards such as Web Content Accessibility Guidelines (WCAG) 2.1, to ensure that it is usable by people with disabilities.

- **Keyboard-only navigation:** The platform should be usable with only a keyboard, with no mouse or other pointing device required.

- **Screen reader compatibility:** The platform should be compatible with screen readers, allowing people with visual impairments to access its content and functionality.

- **High contrast mode:** The platform should provide a high contrast mode option to make it easier for people with low vision to use the application.

- **Alternate text descriptions:** All images, videos, and graphics should have alternate text descriptions to make it easier for people with visual impairments to understand the content.

- **Simple and clear language:** The language used in the platform should be simple and clear, with short paragraphs and headings, to make it easier for people with cognitive disabilities to understand the content.

4.21.3 User Documentation

Component	Description	Stakeholder
User manual	Detailed instructions on how to use the Easy Food Tracker web application, including a step-by-step guide on how to search for restaurants, rate them, and access their information	Customer, Restaurant Owner
Quick start guide	A concise, easy-to-follow guide for users to quickly get started with the application	Customer, Restaurant Owner
FAQ	A list of frequently asked questions about the Easy Food Tracker application, with answers to common issues that users might encounter	Customer, Restaurant Owner
Video tutorials	A series of short video tutorials that explain different features of the application and how to use them	Customer, Restaurant Owner

4.22 Look and Feel Requirements

Component	Description	Stakeholder
Branding	The visual representation of the Easy Food Tracker brand, including the logo, color palette, typography, and visual style	Customers, Restaurant Owner, Marketing
User interface	The way the application looks and feels to the user, including the layout, design, and user experience	Customer, Restaurant Owner
Accessibility	The design of the application to make it accessible to users with disabilities, including color contrast, font size, and navigation	Customer with disabilities, Restaurant Owner
Responsiveness	The ability of the application to adjust its layout and design based on the device it is being viewed on, whether it be a desktop computer, tablet, or smartphone	Customer, Restaurant Owner

4.22.1 Appearance Requirements

Appearance Requirements refer to the visual and design aspects of the Easy Food Tracker web application. This includes the color scheme, typography, and overall aesthetic of the application. These requirements are important to ensure that the application is visually appealing and consistent with the branding of the product. Some key areas to consider in terms of Appearance Requirements include:

- Consistent use of brand colors and typography
- User-friendly layout and design
- High-quality graphics and images
- Appropriate use of whitespace to create a clean and uncluttered look
- Responsiveness of the design for different screen sizes

It is important to involve stakeholders such as end-users, marketing, and restaurant owners in determining the specific Appearance Requirements for the Easy Food Tracker web application, to ensure that the final product is visually appealing and meets the needs of all stakeholders.

4.23 Legal Requirements

- Data Privacy and Protection: The application must comply with laws such as the European Union's General Data Protection Regulation (GDPR) and California Consumer Privacy Act (CCPA) regarding the collection, storage, and use of personal data.
- Intellectual Property: All content, including images and text, must be either original or properly licensed to avoid copyright infringement.
- Terms of Service: The application must have a clear and concise Terms of Service agreement that outlines the rights and responsibilities of users and the company.
- User Content: The application must have a policy in place to moderate user-generated content, including reviews and ratings, to ensure that it complies with laws regarding hate speech, defamatory statements, and other illegal or harmful material.
- Advertising: The application must comply with laws regarding advertising and marketing, including truth in advertising and disclosure of sponsored content.
- Accessibility: The application must comply with accessibility standards, such as the Web Content Accessibility Guidelines (WCAG), to ensure that it is usable by people with disabilities.

4.23.1 Standard Requirements

- User-Centered Design: The application must have a user-centered design that takes into account the needs and goals of the users, and provides a simple, intuitive, and attractive interface.
- Responsiveness: The application must be fully responsive, meaning it must be accessible and usable on a range of devices, including desktop computers, tablets, and smartphones.
- Performance: The application must have fast load times, be able to handle high traffic, and provide a smooth and responsive user experience.
- Accessibility: The application must be accessible to users with disabilities, including screen readers and keyboard navigation, and must comply with accessibility standards such as the Web Content Accessibility Guidelines (WCAG).
- Security: The application must have robust security measures in place to protect sensitive user data and prevent unauthorized access.
- Scalability: The application must be scalable, meaning it must be able to handle an increasing number of users and restaurants as the user base grows.
- Testing: The application must be thoroughly tested before launch to ensure that it meets the requirements and provides a high-quality user experience.

5. Requirement Engineering Process

Requirements Engineering (RE) determines software requirements according to customer requirements or needs. Requirements engineering process includes –

- Requirements elicitation
- Needs modeling
- Requirements analysis
- Requirements assurance & validation
- Requirements management.

- **Requirements Elicitation Techniques:** This involves gathering requirements from stakeholders, including users, restaurant owners, and other relevant parties, to determine the needs and goals of the project. This can be done through interviews, surveys, and other methods.

- **Requirements Analysis:** This involves reviewing the requirements gathered from elicitation and determining the feasibility of the project, including any technical or legal constraints.
- **Requirements Specification:** This involves documenting the requirements in a clear and concise manner, including any functional and non-functional requirements. This documentation serves as the basis for the design and development of the project.
- **Requirements Validation:** This involves verifying that the requirements meet the needs of the stakeholders and are complete and accurate. This can be done through testing and review by stakeholders.

- **Requirements Management:** This involves tracking and managing changes to the requirements throughout the project lifecycle to ensure that they are up to date and accurate.
- **Requirements Verification:** This involves testing the project to ensure that it meets the requirements and provides the desired functionality and user experience.

5.1 Requirements elicitation Technique

Requirements elicitation in the Easy Food Tracker project involves gathering information about the needs and goals of the stakeholders to determine what the project should deliver. The following are some of the methods that can be used for requirements elicitation in this project:

- **User Surveys:** Conducting surveys with potential users to understand their needs and preferences, including what they would like to see in a food tracker application.
- **User Interviews:** Conducting in-depth interviews with users to understand their specific needs and pain points when it comes to tracking food.

5.1.1 Hold Elicitation Interviews

Stakeholder interviews are a vital part of the requirement engineering process for Fast Service. One-on-one interviews with customers and service providers are an efficient way to gather requirements and understand their specific needs. This information can then be used to resolve conflicts more effectively during group workshops. By conducting individual interviews beforehand, the time spent in group workshops is reduced and allows for a focus on resolving any remaining conflicts. We mainly perform our interview based on some specific criteria.

- Short description about easy food tracker
- Inform about use of personal information
- Dealing with customer
- Review System
- Payment System

5.1.2 Distribute Questionnaires

The questionnaire is an effective tool for gathering information on styles, changes in attitudes and preferences, and user satisfaction. To minimize fatigue or frustration for the respondent, our questions were kept concise and grouped together based on topics. This allowed the respondent to focus on specific areas and provided a clear rationale for each question. The main advantage of using this survey approach was the ability to collect responses in a standard manner, allowing for the consolidation of information from a large number of people.

We use two separate set of questionnaires for this process-

- For Customer
- For Restaurants Owner

5.1.3 Competitor Analysis

Analyzing competitor applications to understand what features and functionality are popular and in demand in the market.

5.2 Requirements analysis

Requirements analysis in the Easy Food Tracker project involves reviewing and evaluating the requirements gathered from the requirements elicitation process to determine the feasibility of the project. The following are some of the steps involved in the requirements analysis phase:

- **Requirements Prioritization:** Determining which requirements are most important and should be given priority in the development of the application.
- **Requirements Validation:** Verifying that the requirements are complete, accurate, and consistent with the goals of the project.

- **Requirements Traceability:** Mapping the requirements to specific features and functionality in the application, to ensure that all requirements are met.
- **Feasibility Analysis:** Evaluating the technical and economic feasibility of the project, including any limitations or constraints that need to be taken into account.

5.3 Requirements specification

Requirements specification in the Easy Food Tracker project involves documenting the requirements in a clear and concise manner, so that they can be used as a basis for the design and development of the application. The following are some of the steps involved in the requirements specification phase:

- **Requirements Documentation:** Writing detailed and unambiguous documentation of the requirements, including functional and non-functional requirements.
- **Requirements Organization:** Organizing the requirements in a clear and logical manner, with a focus on usability and maintainability.
- **Requirements Traceability:** Ensuring that each requirement is traced back to its source, so that changes can be tracked and evaluated.
- **Requirements Communication:** Communicating the requirements to stakeholders and other relevant parties, to ensure that everyone is on the same page and that the requirements are clearly understood.

5.4 Requirements validation

Requirements validation in the Easy Food Tracker project involves checking that the requirements have been correctly implemented in the application and that they meet the needs and goals of the stakeholders. The following are some of the methods that can be used for requirements validation in this project:

- **Prototype Testing:** Creating a working prototype of the application and testing it with users to validate the requirements and identify any issues or areas for improvement.

  System Interface Analysis

  The initial step in System Interface Analysis is to determine the systems with which the new system will need to communicate. This can involve various types of systems, such as servers on the internet, software on the same host, hardware devices, or other systems with different functions. To ensure effective communication between the new system and other systems, it is crucial to accurately identify the systems that will be involved and to understand their functions and requirements.

- **Requirements Traceability:** Using the traceability information to verify that all requirements have been implemented in the application.
- **Stakeholder Review:** Engaging stakeholders to review the application and provide feedback on whether the requirements have been met.

Review the Requirements

The process of negative peer review, particularly the thorough evaluation method, is a hallmark of the highest-quality software development processes. Our team of reviewers, representing diverse perspectives, thoroughly evaluated written requirements, analysis models, and information related to disability to ensure that the software meets the highest standards. This type of rigorous review helps to identify any weaknesses or areas for improvement in the software development process.

Test the Requirements

We test constitute an alternative view of the requirements. We also conduct writing tests about how to tell if the expected functionality was correctly implemented. Derive tests from the user requirements to document the expected behavior of the product under specified conditions.

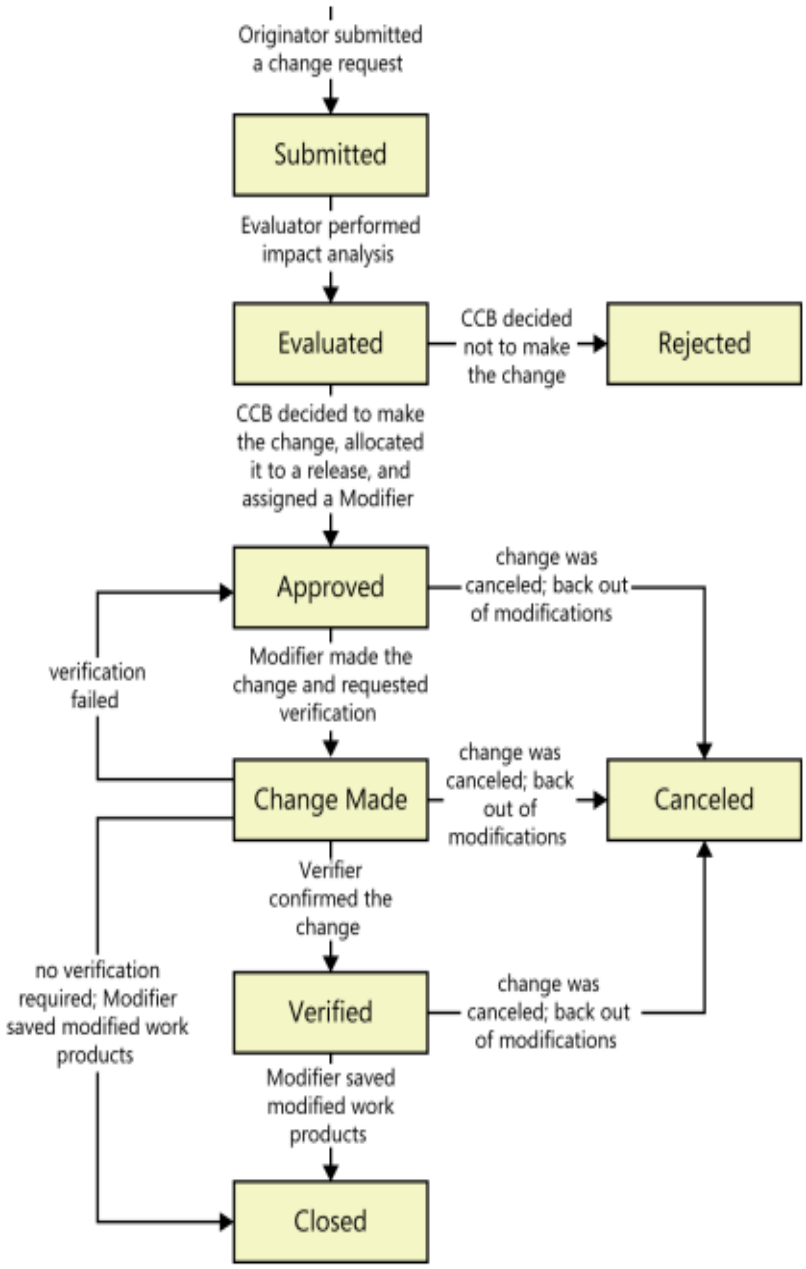
- **Automated Testing:** Using automated testing tools to verify that the requirements have been implemented correctly and that the application behaves as expected.

5.5 Requirements management

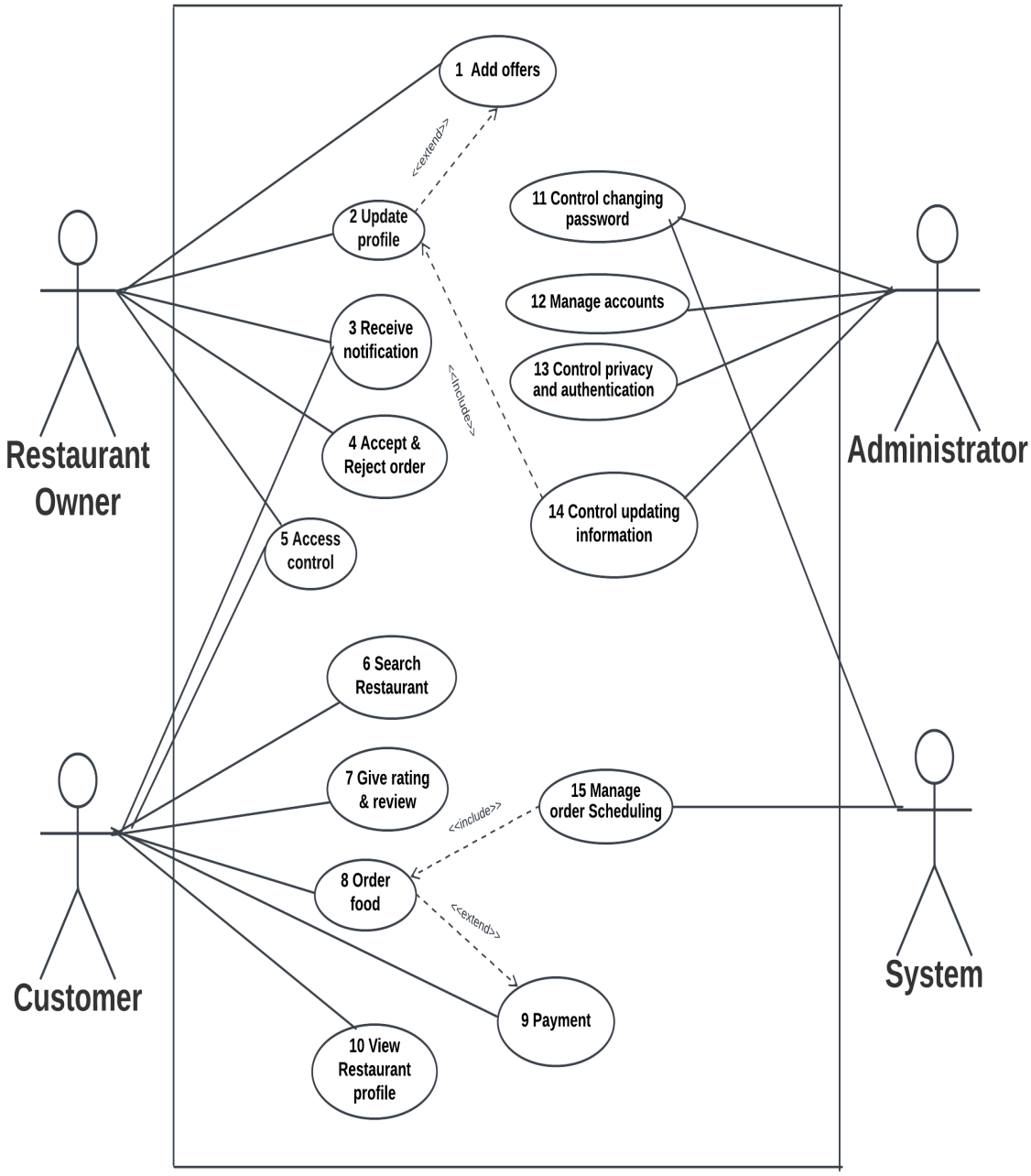
Requirements management in the Easy Food Tracker project involves the processes of planning, tracking, and controlling changes to the requirements throughout the project lifecycle. The following are some of the key aspects of requirements management in this project:

- **Requirements Planning:** Defining the approach and resources needed for requirements management, and establishing the processes and tools to be used.
- **Requirements Tracking:** Monitoring and controlling changes to the requirements throughout the project, to ensure that they are correctly implemented and that the application meets the needs of the stakeholders.
- **Requirements Change Control:** Managing the process of making changes to the requirements, including evaluating the impact of changes, communicating changes to stakeholders, and updating the requirements documentation accordingly.

5.6 Requirements Change Control Board Diagram



6. Use Case Diagram



7. Use Case Description

7.1 Update Profile

User Case	**Update profile**	
Goal	To allow the restaurant owner to update their existing profile information	
Preconditions	Restaurant Owner has already created a profile and is logged into the web application.	
Post Condition	N/A	
Success End Condition	Restaurant's profile information is updated and saved in the web application.	
Failed End Condition	N/A	
Primary Actors: **Secondary Actors:**	Restaurant Owner N/A	
Trigger	Owner selects "Update Profile" option from the web application.	
Main Success Flows	**Step**	**Action**
	1	Restaurant Owner is taking to profile editing page.
	2	Restaurant Owner clicks on update option.
	3	Then, can update any of their existing name, location, menu list and can upload new photos.
	4	Restaurant Owner confirms and saves their update information.
Alternative Flows	N/A	
Quality Requirements	1. System should provide clear and easy-to-use options for updating profile information. 2. Profile forms should be concise and easy to understand. 3. The system should store and track customer profile information accurately. 4. The system should have a way to confirm changes with the customer.	

7.2 Add Offers

Use Case	**Add Offers**	
Goal	To allow the system admin to add new offers for the users of the food tracker	
Pre-conditions	System admin is logged in to the web application.	
Success End Condition	The new offer is saved in the food tracker and is available for the users to see and use.	
Failed End Condition	N/A	
Primary actors	**Restaurant Owner**	
secondary actors	N/A	
Trigger	System admin selects "Add Offers" option from the web application menu.	
Basic Flow	**Step**	**Action**
	1	Restaurant owners click on update profile.
	2	Then click on add offers.
	3	Restaurant owners add offers with time duration.
	4	Save the offers.
Alternative Flow	N/A	
Quality requirements	The platform must provide relevant and up-to-date information about each update.	

7.3 Receive Notifications

User Case	**Receive Notification**	
Goal	To allow the restaurant owner & customer to receive notifications related to their food tracker orders.	
Pre-conditions	Customer/ Owner has already created a profile and is logged in to the web application.	
Post-Conditions	N/A	
Success End Condition	Restaurant Owner receives notifications related to their food tracker orders. Customer receives the confirmation notifications as their order.	
Failed End Condition	N/A	
Primary Actors: **Secondary Actors:**	Owner Customer	
Trigger	Owner selects "view notification" option	
Main Success Flows	**Step**	**Action**
	1	Customer Creates an Order
	2	Send notification to the owner
	3	Owner receives the notification from the customer
	4	If Food is available restaurant owner accept the order
	5	Send confirmation massage to the customer
Alternative Flows	Step	Action
	4a	**If Food is not available restaurant owner reject the order**
	4a1	**Send reject notification massage to the customer**
Quality Requirements	1. The system should generate accurate and complete confirmation reports for all customer orders. 2. The confirmation report should be presented in a clear and easy-to-understand format. 3. The system should be able to retrieve order information with in 5s.	

7.4 Accept/Reject Orders

Use case	**Accept/ Reject Orders**	
Goal	To allow the system admin to accept or reject food tracker orders placed by users.	
Pre-conditions	The restaurant owner has already created a profile and is logged in to the web application; System admin is logged in to the web application.	
Post-Conditions	a) Food Available b) Food Not Available	
Success End Conditions	Order status is updated to either "Accepted" or "Rejected" and the customer is notified of the status change.	
Failed End Conditions	N/A	
Primary actor **Secondary actor**	Restaurant Owners Customer	
Trigger	Click on “Notifications”	
Main Success Flow	**Steps**	**Action**
	1	Click on “Notifications”
	2	Check for orders.
	3	If there is any order restaurant owner will check for available food .
	4	If food is available, then accept the order.
	5	If food is not available then reject the order.
Alternative Flow	**Steps**	**Action**
	3a	If there is no order.
	3a1	Back to the homepage.
Quality requirements	1. The system should generate accurate and complete confirmation(accepted/rejected) reports for all customer orders. 2. The confirmation report should be presented in a clear and easy-to-understand format. 3. The system should be able to retrieve order information with in 5s.	

7.5 Access Control

User Case	**Access Control**	
Goal	Customer and restaurant can create profile and to get access in the website.	
Preconditions	Go to the website.	
Post Condition	The customer & Restaurant Owner has successfully accessed the system and performed the desired actions.	
Success End Condition	The customer & Restaurant Owner has successfully accessed the system and performed the desired actions.	
Failed End Condition	N/A	
Primary Actors: **Secondary Actors:**	Restaurant Owner, Customer Administrator	
Trigger	N/A	
Main Success Flows	**Step**	**Action**
	1	Go to the website.
	2	Then check whether the customer and restaurant owner have an account.
	3	If the customer and restaurant owner have any account then select to sign in.
	4	Enter Email or User Name.
	5	Enter the password.
	6	If information is valid
	7	Then customer and restaurant owner gets access to the website.
Alternative Flows	**Step**	**Action**
	3a	If customer and restaurant have not any account then create an account and the administrator will set the information.
	6a	If the information is not valid then customer and restaurant owner setup email and password again.
Quality Requirements	1. The owner's account information is secure and protected from unauthorized access or tampering. 2. The system provides fast response times and is capable of handling a large number of requests from owners.	

7.6 Search Restaurants

Use Case	**Search Restaurants**	
Goal	To allow the customer to search for restaurants in the food tracker.	
Preconditions	N/A	
Success End Conditions	The customer is able to view a list of restaurants matching their search criteria.	
Failed End Condition	N/A	
Primary actors **Secondary actors**	Customer System	
Trigger	The customer selects the "Search Restaurants" option in the web application.	
Main Success Flows	**Step**	**Action**
	1	The customer is taken to the search page.
	2	Click on the search bar.
	3	Search with location.
	4	If found show the result.
Alternative Flows	4a. If no restaurants match the search criteria, the system displays a message saying "No results found".	
Quality Requirements	1. The system must display the search results within 3 seconds of the customer submitting the search query. 2. The platform must provide relevant and up-to-date information about each update. 3. The platform must provide clear and detailed about search restaurant, location, images, and specifications.	

7.7 Give Rating/Review

Use Case	**Give rating/review**	
Goal	To allow the customer to give a rating or review of the food and restaurant after paying for an order	
Pre-conditions	The customer has already created a profile and is logged in to the web application; Restaurant profile has already been created in the food tracker with a menu; The customer has already paid for an order.	
Success End Conditions	The restaurant's rating/review has been updated in the food tracker	
Failed End Conditions	N/A	
Primary actors **Secondary actors**	Customers Restaurant Owners, Administrator, System	
Trigger	User has paid for an order and wants to give a rating or review of the food and restaurant	
Main Success Flows	**Step**	**Action**
	1	The customer selects the order they want to rate/review.
	2	Provide review & rating.
	3	Click on Submit button.
	4	Administrator confirms the rating and/or review has been submitted.
	5	Administrator updates the rating/review of the restaurant in the food tracker.
Alternative Flow	4a. If does not submit then click on submit button again.	
Quality Requirements	1. System should provide clear and easy-to-use options for submitting rating. 2. Feedback forms should be concise and easy to understand. 4. The administrator should have a way to follow up with customers if necessary.	

7.8 Order Food

Use Case	**Order food**	
Goal	To allow the customer to order food from a selected restaurant in the food tracker.	
Pre- conditions	• The customer has already created a profile and is logged in to the web application. • Restaurant profile has already been created in the food tracker with a menu. • User has viewed the menu of the selected restaurant.	
Success End condition	The order has been placed and the restaurant has received it for preparation.	
Failed End Condition	N/A	
Primary actors **Secondary actors**	Customer Restaurant Owners	
Trigger	User selects a restaurant from the search results or from the list of their previous orders and wants to place an order.	
Main Success Flows	**Step**	**Action**
	1	Click on order food.
	2	Then customer select the item.
	3	Item is added to the cart.
	4	Customer confirm the order.
	5	Make payment
Alternative Flow	4a. If does not confirm the order, item remain in the cart.	
Quality Requirements	1. The system should protect the customer's payment information from unauthorized access or disclosure	

7.9 Payments

Use Case	**Payments**	
Goal	To allow the Customer to securely pay for their food tracker orders.	
Pre-conditions	Customers have already created a profile and logged in to the web application and confirmed an order for food.	
Post conditions	1. Download invoice 2. Go to the restaurant home page	
Success End Condition	Customer's payment is processed, and their order status is updated as paid. They will get a payment successful notification.	
Failed End Condition	1. If sufficient balance is not in the account. 2. Provide verification code getting wrong.	
Primary Actors: **Secondary Actors:**	Customer Owner	
Trigger	Customer selects "Payment" option after adding menu items to their food tracker.	
Main Success Flows	**Step**	**Action**
	1	The customer is taken to the payment page.
	2	Click on “Pay” option
	3	Selects cash on delivery or online payment
	4	If select online payment, then select mobile banking or card for ordering food.
	5	Then make payment and confirm for payment
Alternative Flows	**Step**	**Action**
	4a	If selects cash one payment handover the delivery man or direct restaurant owner hand.
Quality Requirements	1. The payment gateway should be secure and reliable. After complete payment, dashboard will be redirected within 2s. 2. The payment gateway should be integrated with the system for a seamless payment experience. 3. The system should provide clear and concise payment options for customers. 4. The system should provide an error message for failed payments.	

7.10 View Restaurant Profile

Use Case	**View Restaurant Profile**	
Goal	To allow the customer to view detailed information about a restaurant in the food tracker.	
Pre-conditions	Restaurant profile has already been created in the food tracker.	
Success End Condition	The customer is able to view detailed information about the selected restaurant and its menu.	
Failed End Condition	N/A	
Primary actors **Secondary actors**	Customer Restaurant Owner, Administrator	
Trigger	The customer selects a restaurant from the search results.	
Main Success Flows	**Step**	**Action**
	1	Selects a restaurant from the search results.
	2	System displays detailed information about the selected restaurant (location, view menu, name, view photos etc.)
Alternative Flow	N/A	
Quality Requirements	1. The system must display the targeted search results within 3 seconds of the customer submitting the search category. 2. The platform must allow customers to easily navigate between categories and subcategories. 3. The platform must provide accurate and up-to-date information on restaurant availability. 4. The platform must respond quickly to category search requests and display the results in a user-friendly manner.	

7.11 Control Changing Password

User Case	**Control Changing Password**	
Goal	For achieve strong security.	
Pre-conditions	The restaurant owner and customer has an account with the Easy Food Tracker application. The user is logged in to the application.	
Post Conditions	N/A	
Success End Condition	Successfully Change the password.	
Failed End Condition	N/A	
Primary Actors: **Secondary Actors:**	Customer, Restaurant Owner Administrator, system	
Trigger		
Main Success Flows	**Step**	**Action**
	1	The customer and restaurant owner selects the "Change Password" option from the account settings menu.
	2	The system prompts the customer and restaurant owner to enter their current password.
	3	The customer and restaurant enters their current password and confirms it.
	4	The system prompts the restaurant owner and customer to enter a new password.
	5	The customer and restaurant owner enters a new password and confirms it.
	6	The system verifies the new password meets the necessary security requirements (e.g., length, complexity).
	7	The system updates the password for the customer and restaurant owner account.
	8	The system confirms the password has been changed and returns the user to the account settings menu.
Alternative Flows	**N/A**	
Quality Requirements	1. The platform must use secure methods for storing and transmitting login credentials. 2. The platform must provide real-time updates to the customer's account information. 4. The platform must ensure the confidentiality of the customer's personal information.	

7.12 Manage account

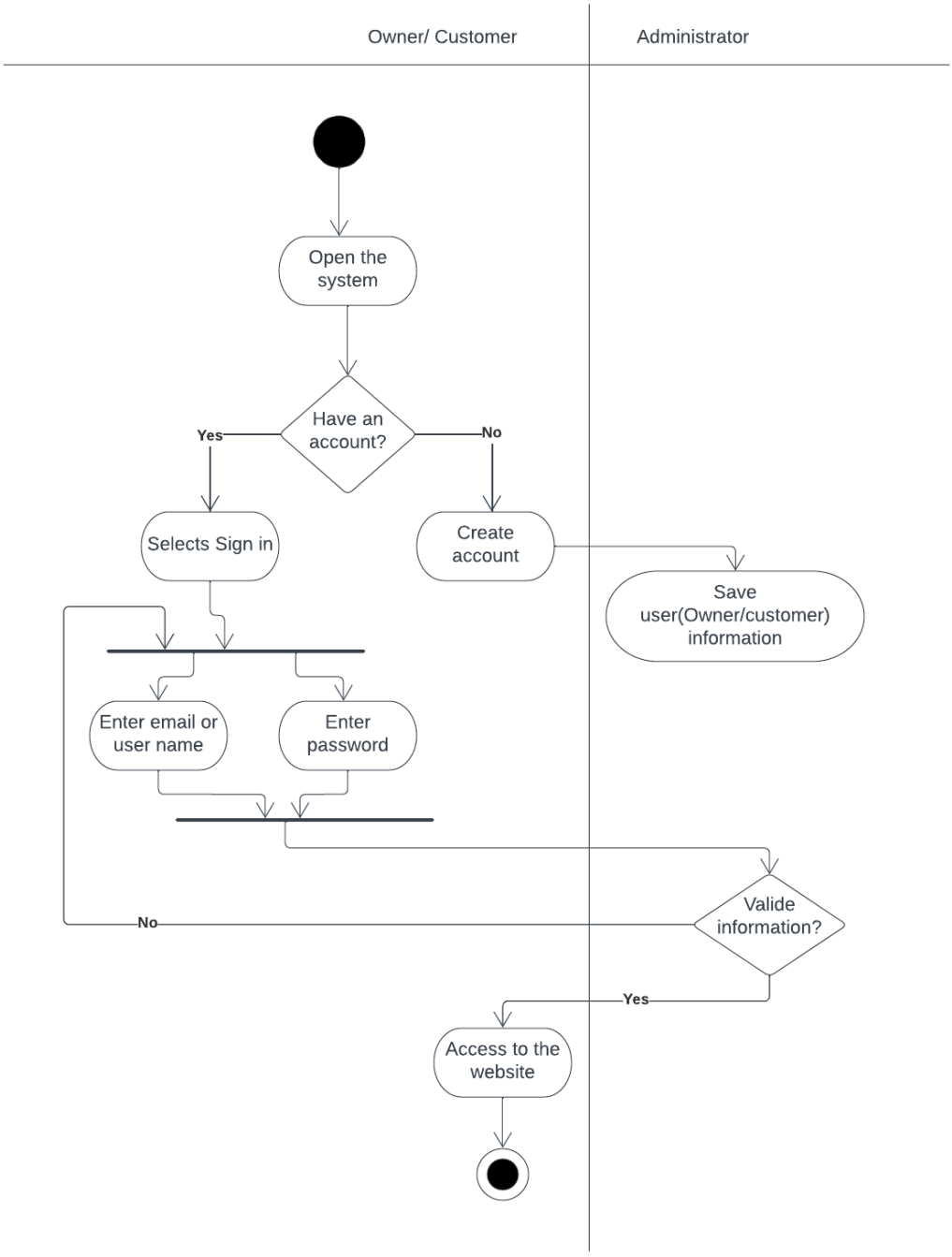
Use Case	**Manage account**	
Goal	To allow customers and restaurant owner to manage their account information, such as updating personal details and viewing order history.	
Pre-conditions	• The customer's and the restaurant owner has created an account and wants to manage their account information. • The administrator will manage for deleting restaurant account	
Success End Condition	The customer's and the restaurant owner account information is updated or remains unchanged. Customer's order history and payment information are available for viewing.	
Failed End Condition	N/A	
Primary actors **Secondary actors**	Administrator Owner, Customers	
Trigger		
Main Success Flows	**Step**	**Action**
	1	Customer selects the "My Account" option in the web application.
	2	Customer is directed to the account management page.
	3	Customer can view and edit their personal information, such as name, address, email, and phone number.
	4	Customer can view their order history.
	5	Customer can update their payment information.
	6	Customer can change their password.
	7	Customer confirms changes made to their account information. | Alternative Flows | A. Customer declines to make changes to their account information.
	8	Customer selects the "Cancel" button on the account management page.
	9	The web application retains the original account information.
Alternative Flows	N/A	
Quality Requirements	Ensure better Security	

7.13 Manage order scheduling

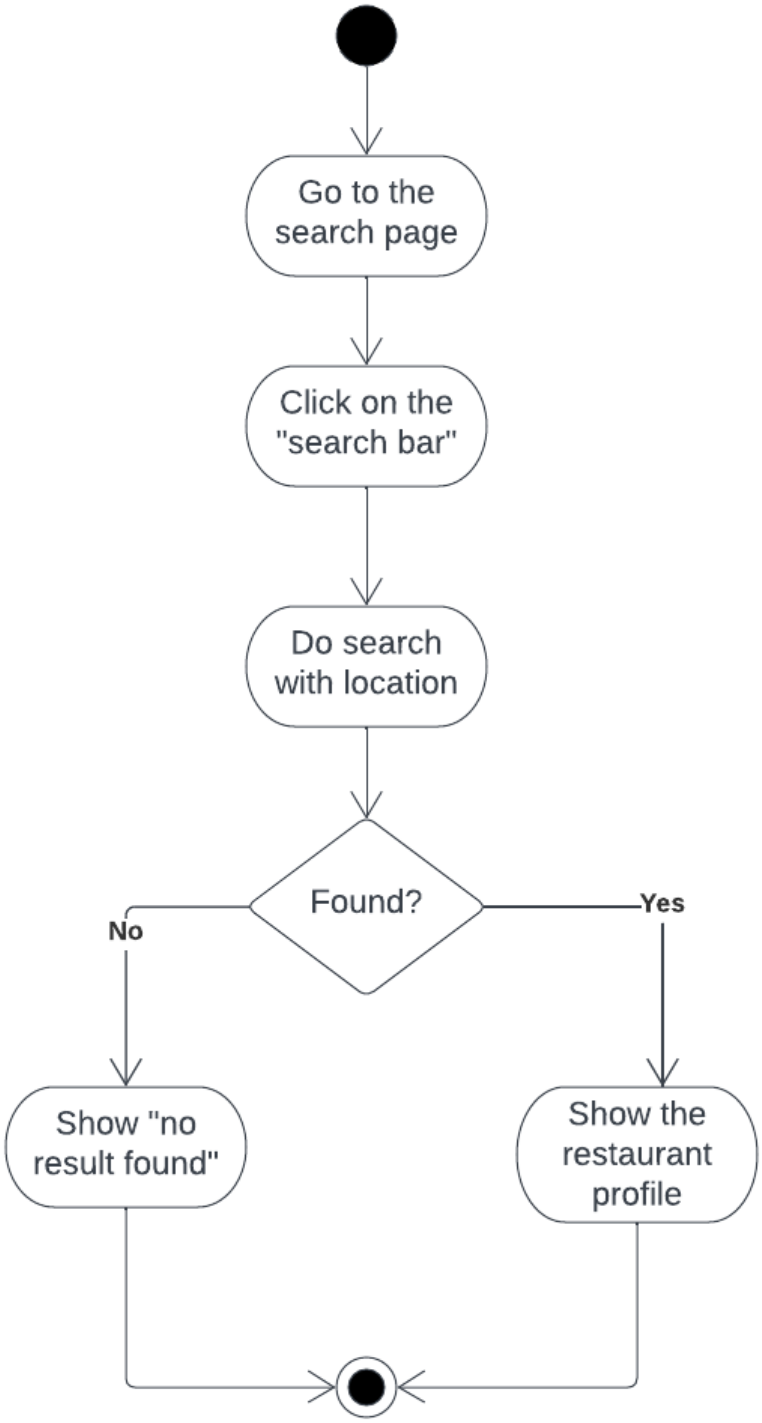
Use Case	**Manage Order Scheduling**	
Goal		
Pre-Conditions	The Customer must have a profile on the Easy Food Tracker web application.	
Success End Conditions	The customers order is saved in their order history and the restaurant's order list is updated.	
Failed End Conditions	N/A	
Primary actors **Secondary actors**	System Restaurant Owner, Customers	
Trigger	N/A	
Main Success Flows	**Step**	**Action**
	1	Customer selects a restaurant and views its menu.
	2	Customer selects items from the menu to add to their order.
	3	Customer reviews the order details and confirms the order.
	4	System sends the confirmation and manages the duration time to send the confirmation to the customer.
	5	Customer receives a confirmation from the system for the order.
Alternative Flows	N/A	
Quality Requirements	1. The system must save the order history of the customer with time. 2. System must send the confirmation massage to the customer with in 15 second.	

8. Activity Diagram

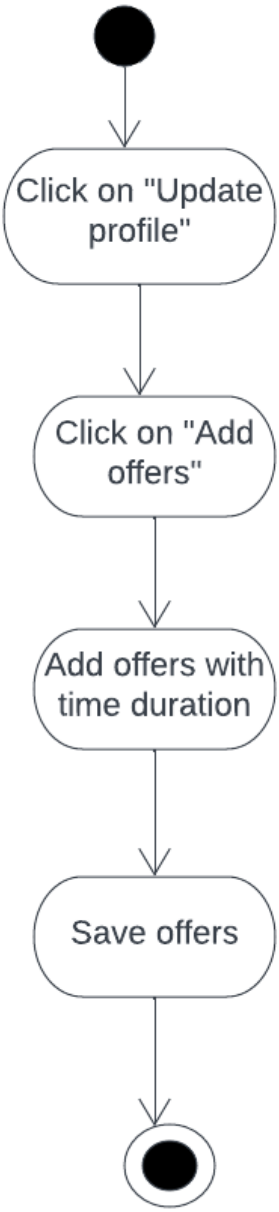
8.1 Access Control



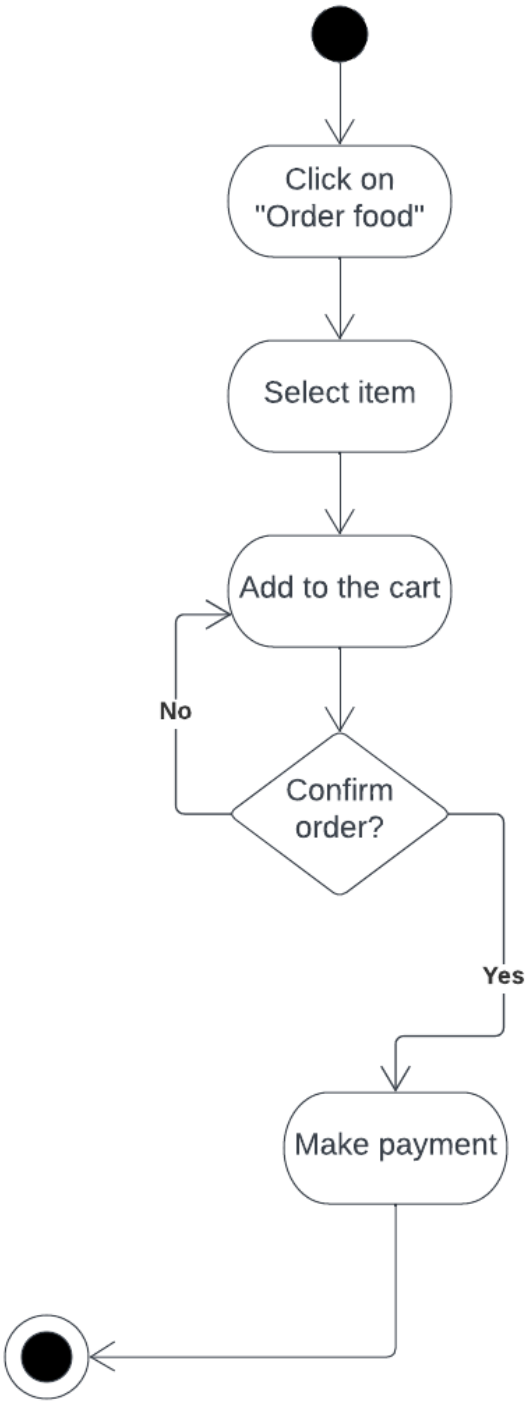
8.2 Search Restaurant



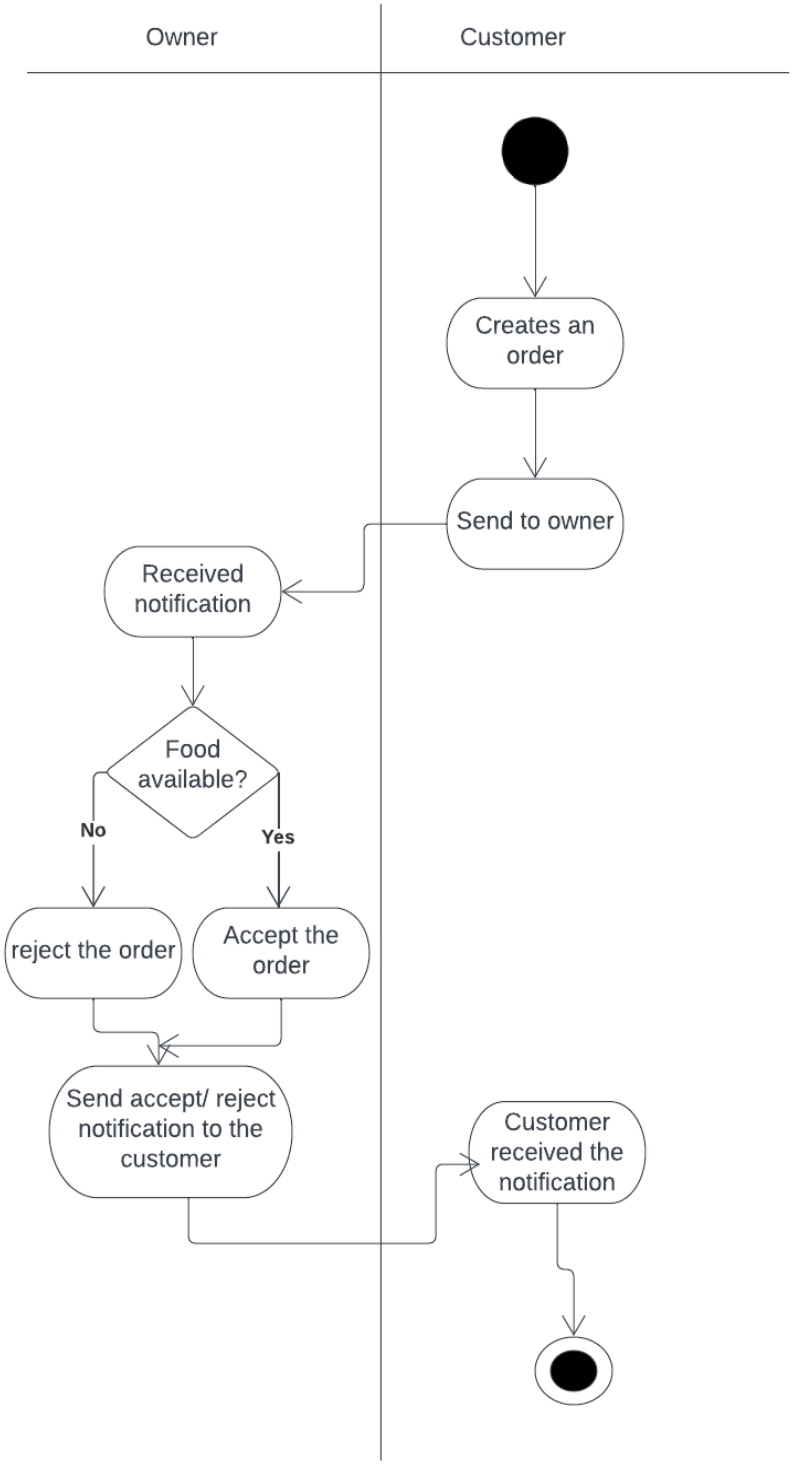
8.3 Add Offers



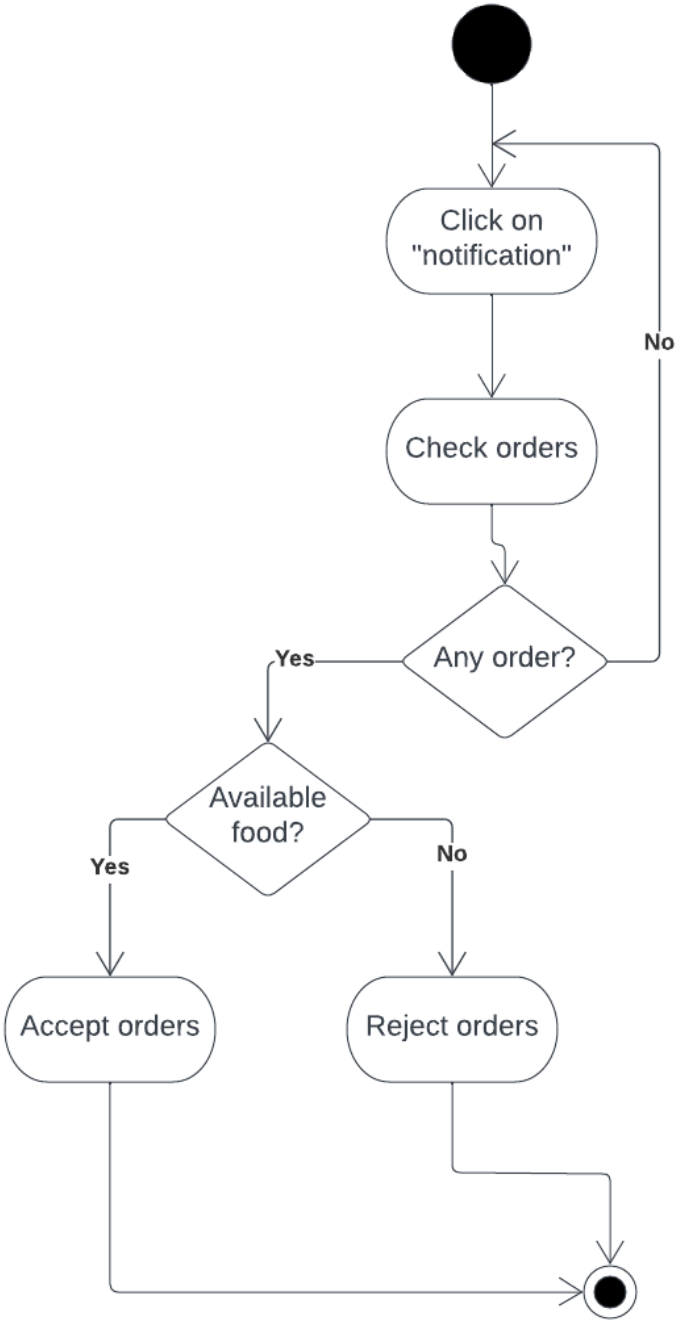
8.4 Order Food



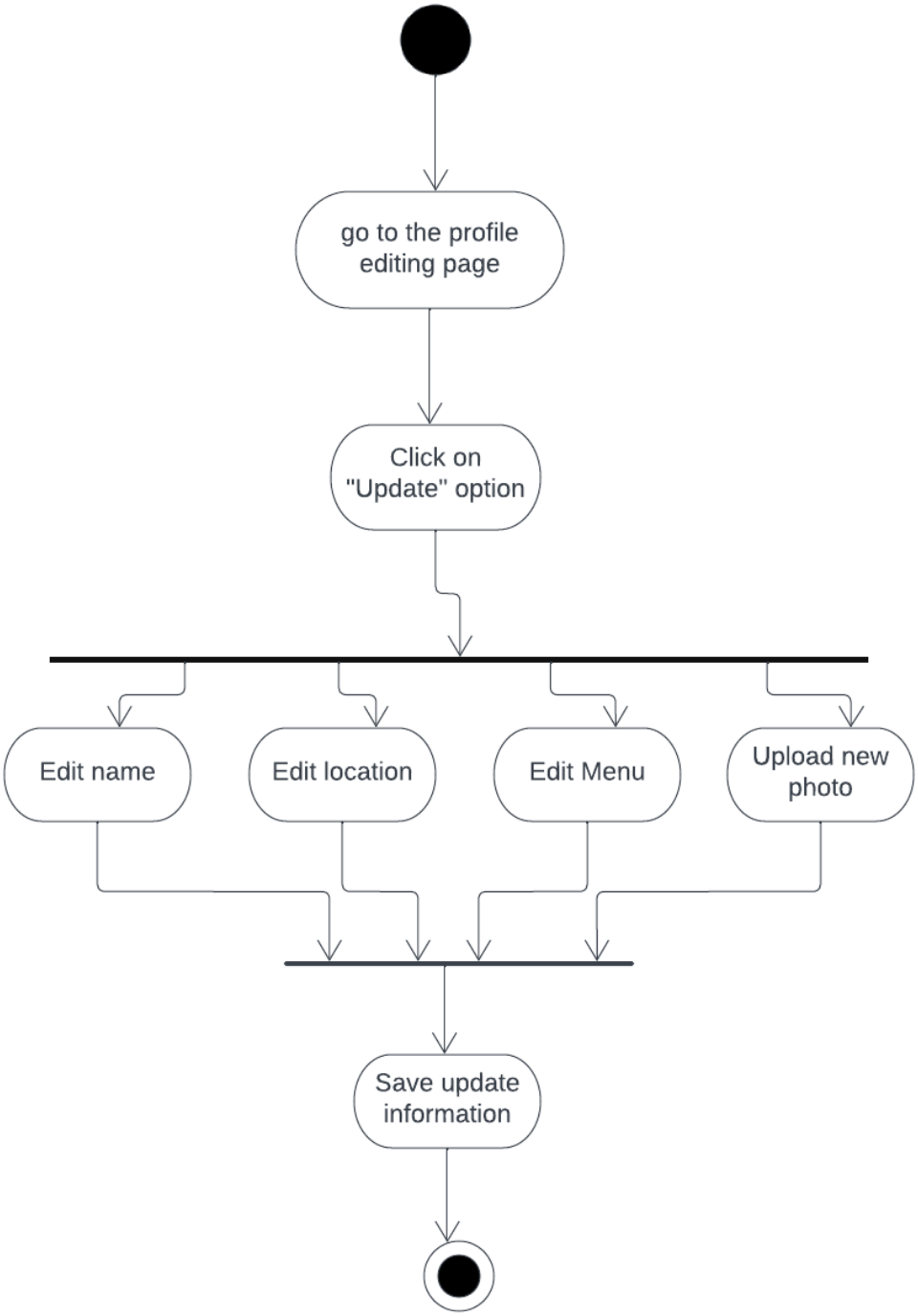
8.5 Receive Notifications



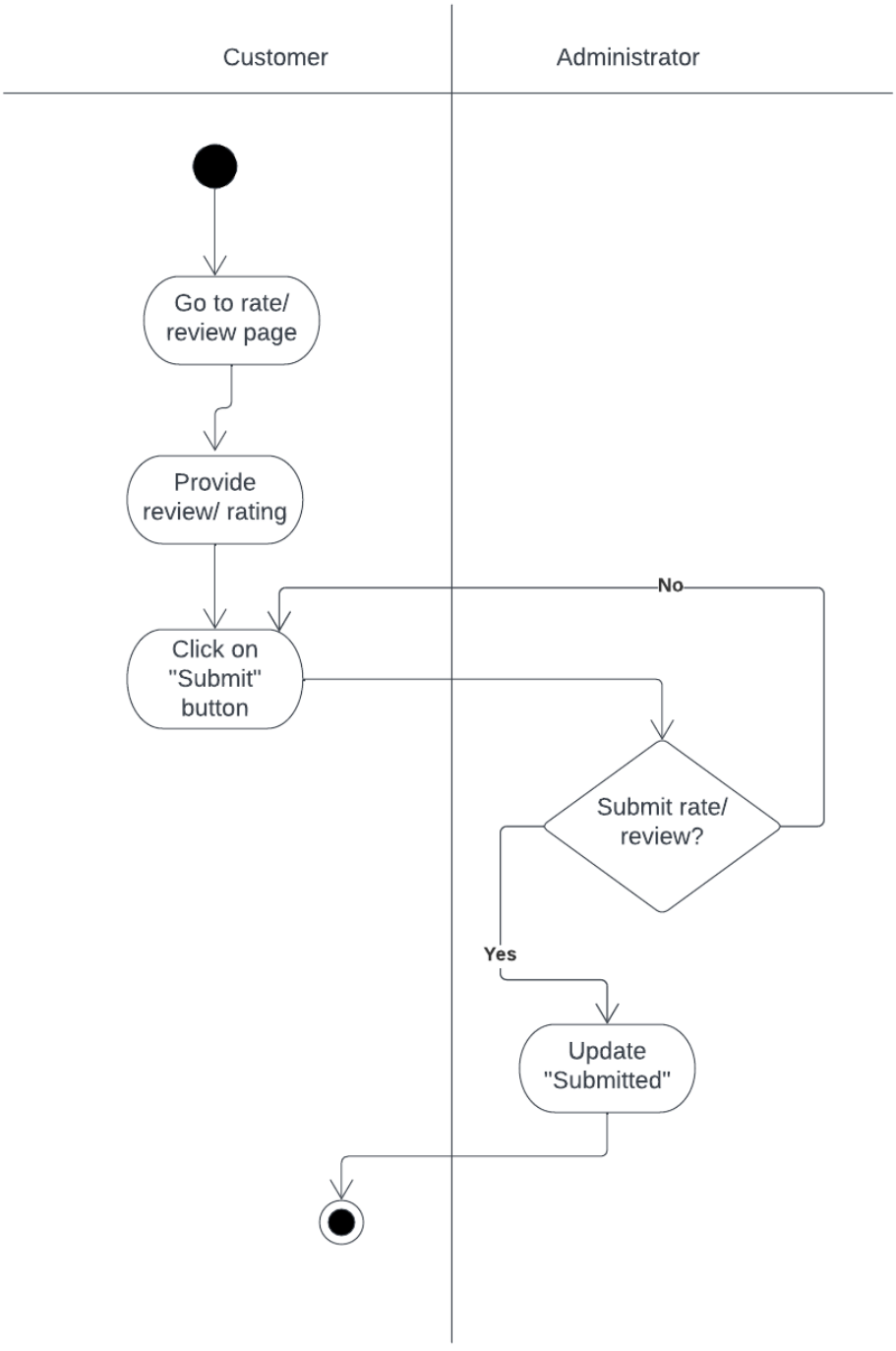
8.6 Accept & Reject Orders



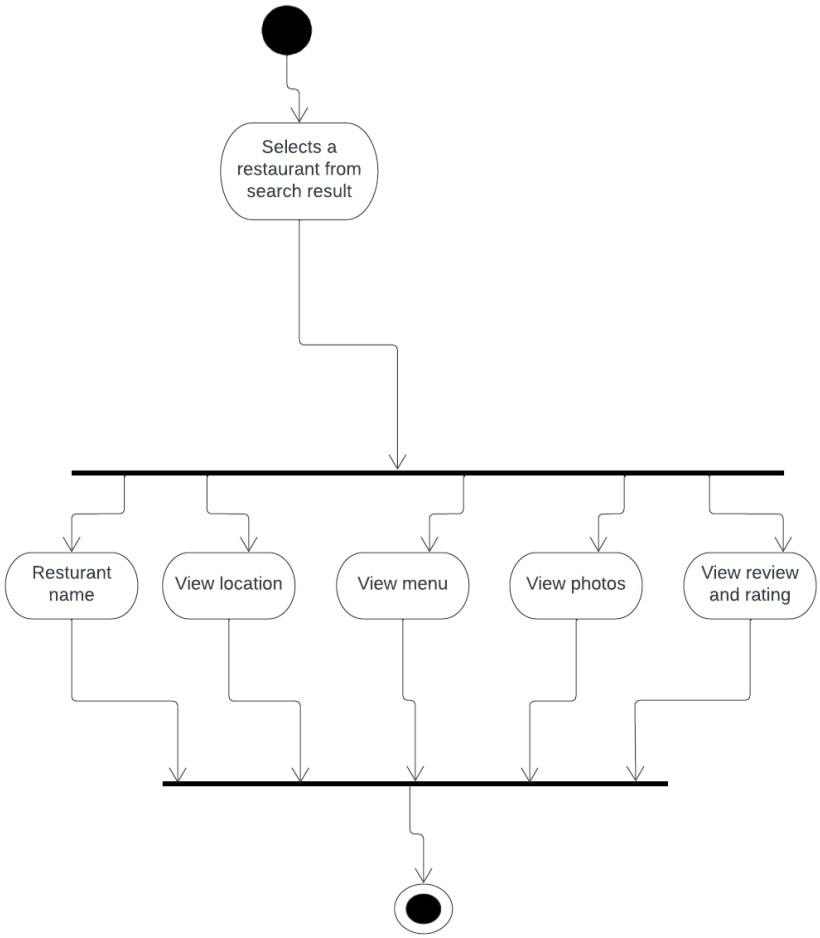
8.7 Edit Profile



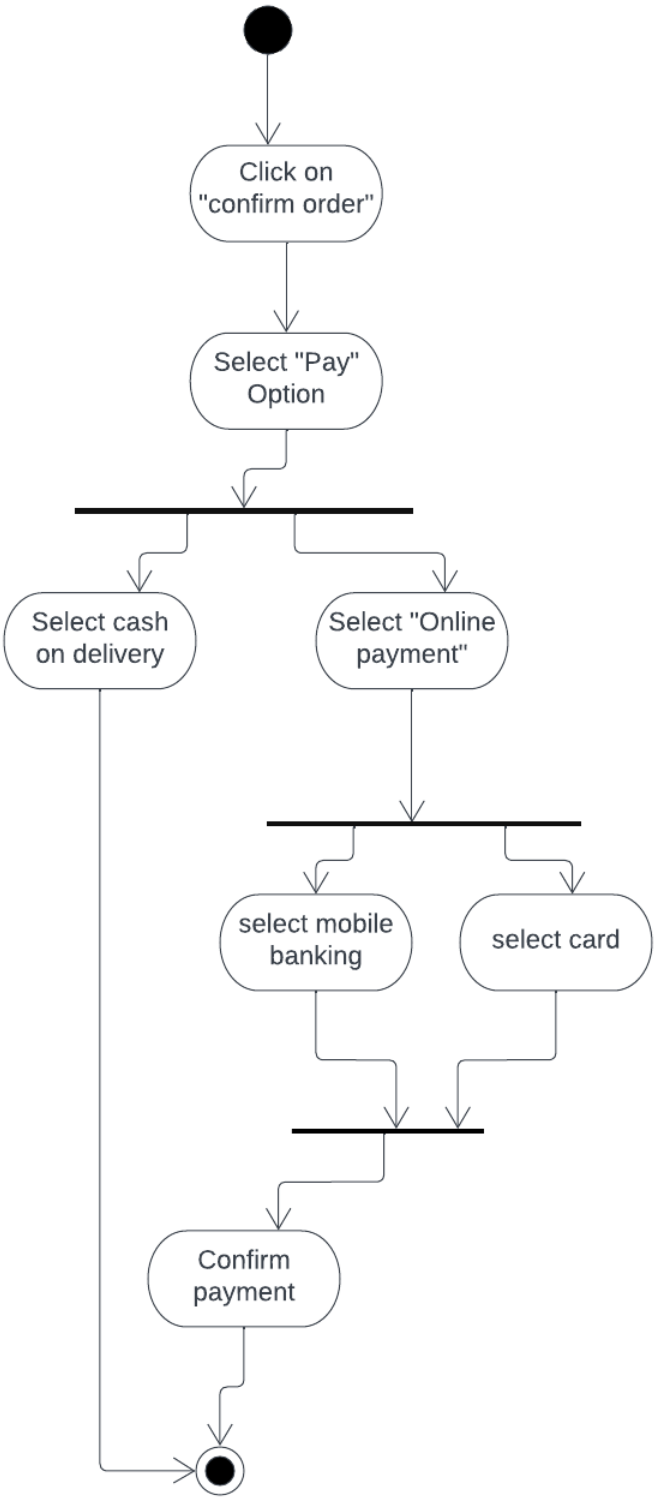
8.8 Review/Rating



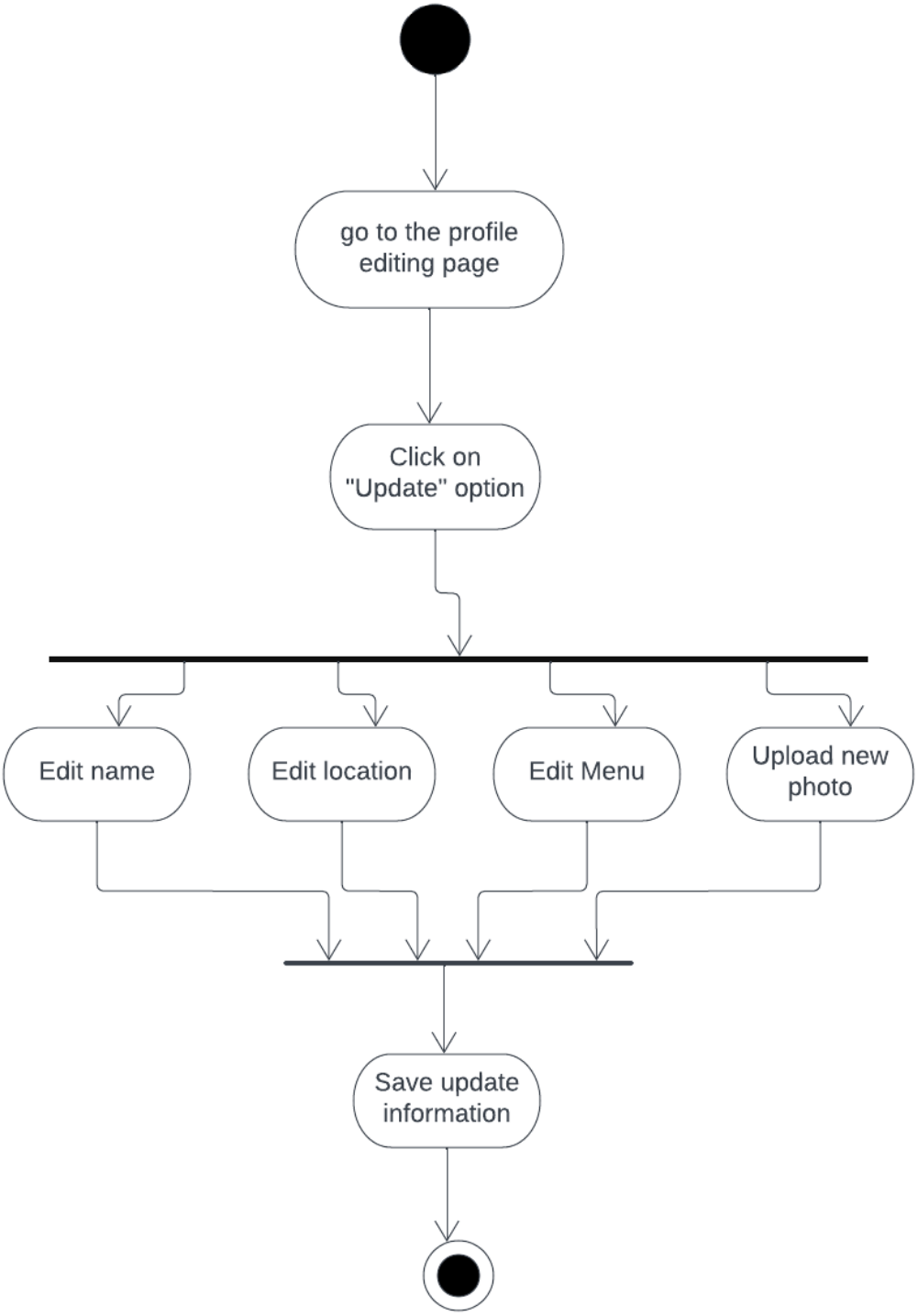
8.9 View Restaurant Profile



8.10 Payment



8.11 Update Profile



9. Requirement Traceability Matrix

A requirement traceability matrix (RTM) is a document or tool that is used to track and manage the relationship between project requirements and other project artifacts. The RTM provides a way to trace requirements throughout the project development lifecycle, from initial conception through to final delivery, ensuring that all requirements have been addressed and tested.

The purpose of an RTM is to establish a clear link between each requirement and the various stages of the project, such as design, development, testing, and delivery. The matrix typically consists of a table that maps each requirement to a corresponding design specification, test case, or other project deliverable. The matrix also provides a way to track the status of each requirement, such as whether it has been implemented, tested, or verified.

Some of the key benefits of an RTM include:

1. Improved visibility: By providing a clear and structured view of the requirements and how they relate to other project artifacts, an RTM can help improve visibility and reduce ambiguity around the project requirements.
2. Better requirement management: An RTM can help ensure that all requirements are properly documented, tracked, and tested throughout the project lifecycle, reducing the risk of missed requirements or incomplete testing.
3. Improved quality assurance: By providing a systematic approach to requirement testing and verification, an RTM can help improve the overall quality of the project deliverables.

Overall, an RTM is an important tool for ensuring that project requirements are properly documented, tracked, and tested, and can help improve the overall success of the project.

9.1 Description:
FR----Functional Requirement
UC---Use Case

9.2 Functional Requirement:

FR1---Restaurant owner & Customer may be able to create account.

FR2--- Customer can search for restaurant.

FR3--- Both customer and owner can view the restaurant profile.

FR4--- Customer will be able to order food.

FR5--- Customer can be able to Confirm order.

FR6--- Anyone be able to view Location on maps.

FR7--- View orders from customers.

FR8--- Restaurants Owner should be able Accept orders.

FR9--- Restaurants owner will be able to Reject orders.

FR10-- Restaurant Owner will be able to Modify or update restaurant profile.

FR11-- Customer and restaurant manager will receive notifications.

FR12-- Customer will be able to provide rating or review.

FR13--Special offers given by Restaurant Owners & see by Customer

9.3 Use Case:

UC1: Add offers
UC2: Update profile
UC3: Receive notification
UC4: Accept & Reject order
UC5: Access control
UC6: Search Restaurant
UC7: Give rating & review
UC8: Order food
UC9: Payment
UC10: View Restaurant profile
UC11: Control changing password
UC12: Manage accounts
UC13: Control privacy and authentication
UC14: Control updating information
UC15: Manage order Scheduling

Requirement Traceability Matrix

FR/UC	UC1	UC2	UC3	UC4	UC5	UC6	UC7	UC8	UC9	UC10	UC11	UC12	UC13	UC15	UC15
FR1					✓										
FR2						✓				✓					
FR3										✓					
FR4				✓				✓	✓				✓		✓
FR5				✓				✓							✓
FR6										✓					
FR7			✓	✓											
FR8			✓	✓											
FR9			✓	✓											
FR10		✓									✓	✓		✓	
FR11			✓												
FR12							✓								
FR13	✓														

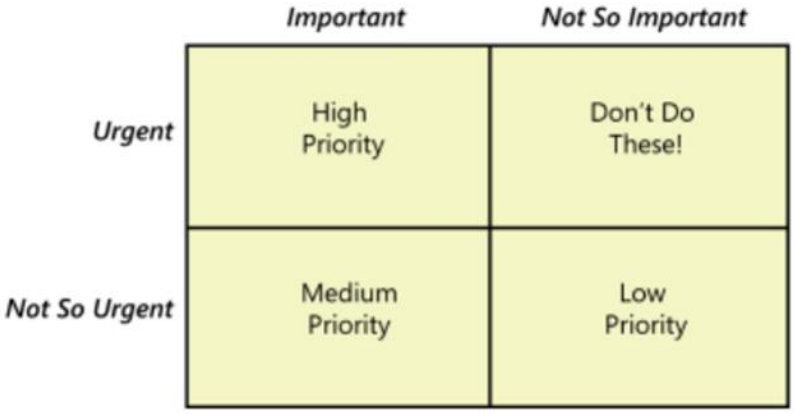
10.Appendix

10.1 Prioritization of Requirements

We've prioritized the functional requirements by following Three-level Scale technique.

10.1.1 Three-level Scale

A three-level scale of requirement prioritization could be:



1.High Priority: Requirements that are critical to the success of the project and must be implemented for the project to be considered successful. These requirements are typically related to the core functionality of the product or service being developed, and failure to implement them could result in significant negative consequences.

2.Medium Priority: Requirements that are important to the success of the project but are not critical. These requirements may have an impact on the user experience or provide additional functionality, but their absence would not necessarily result in project failure.

3.Low Priority: Requirements that are nice-to-have but not essential. These requirements may provide additional features or enhance the user experience, but their absence would not have a significant impact on the success of the project.

4.Don't Do This : These items are less important but still urgent. They should be addressed after completing the higher priority medium priority items. The items on the right side of the dividing line within this category have a higher priority.

This prioritization scale can help teams make informed decisions about where to focus their efforts and resources, and can also be used to guide trade-offs when there are competing demands on the project.

10.1.2 Prioritization of the requirements of Easy Food Tracker

According to the requirements of the different stakeholder we use the three level scale and prioritized our requirements as follow :

FR1---Restaurant owner & Customer may be able to create account.(High)

FR2--- Customer can search for restaurant. (High)

FR3--- Both customer and owner can view the restaurant profile. (High)

FR4--- Customer will be able to order food. (High)

FR5--- Customer can be able to Confirm order. (Medium)

FR6--- Anyone be able to view Location on maps. (High)

FR7--- View orders from customers. (High)

FR8--- Restaurants Owner should be able Accept orders. (High)

FR9--- Restaurants owner will be able to Reject orders. (High)

FR10-- Restaurant Owner will be able to Modify or update restaurant profile. (High)

FR11-- Customer and restaurant manager will receive notifications. (High)

FR12-- Customer will be able to provide rating or review. (High)

FR13--Special offers given by Restaurant Owners & see by Customer (Medium)

NFR1—Performance (High)

NFR2— Scalability (High)

NFR3— Security (High)

NFR4— Usability (High)

NFR5— Accessibility (High)

NFR6— Compatibility (High)

NFR7— Maintainability (High)

NFR8— Testability (High)

UR1-- Simple and Intuitive navigation (High)

UR2-- Clear and consistent visual design (High)

UR3-- Accessible for all (High)

UR4--Search and filter options (High)

UR5-- Error Prevention and Recovery (High)

UR6-- Feedback and confirmation (High)

UR7-- Help and documentation (High)