American International University-Bangladesh (AIUB)
Department of Computer Science
Faculty of Science &Technology (FST)
Fall 23-24

Section: B
Software Quality Assurance and Testing

Food Waste Reduction Management

A Report submitted By

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Company: Codemen Solutions Limited

Sign: Bashir Khan

Date: 21. 12. 2023

Software Test Plan

for

<Food Waste Reduction (Zero Waste)>

Version 1.0 approved

Prepared by <Helen Chora Chowdhury, Rowjatul Jannat>

<American International University-Bangladesh>

<25 December,2023>

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Revision History

Revision	Date	Updated by	Update Comments
0.1	18/12/2023	Helen Chora Chowdhury	First Draft
0.2	20/12/2023	Rowjatul Jannat	Second Draft
0.3	21/12/2023	Helen Chora Chowdhury	Third Draft
0.4	22/12/2023	Rowjatul Jannat	Fourth Draft
0.5	23/12/2023	Helen Chora Chowdhury	Fifth Draft
0.6	24/12/2023	Rowjatul Jannat	Final Draft

1. TEST PLAN IDENTIFIER: RS-MTP01.3

2. REFERENCES

1.Smith, J., & Johnson, K. (2019). Agile Software Development: Principles, Practices, and Pitfalls. Source: IEEE Transactions on Software Engineering, 45(7), 789-805.
2. Beizer, B. (1995). Software Testing Techniques (2nd ed.).
3. Galin, D. (2015). Software Quality Assurance: From Theory to Implementation.

3. INTRODUCTION

Background to the Problem

The issue of food waste is a complex challenge that spans the entire food supply chain, from production to consumption. Globally, an estimated one-third of all food produced for human consumption is lost or wasted. This staggering amount, roughly 1.3 billion tons annually, not only represents a significant economic loss but also has profound environmental and social implications. At its core, the problem stems from inefficiencies across the entire supply chain, from production and distribution to consumption. Food waste occurs at each stage due to factors such as overproduction, inadequate storage and transportation, stringent cosmetic standards, and consumer behaviors. The consequences of food waste extend beyond mere economic losses; it significantly contributes to environmental degradation through resource depletion, excessive energy consumption, and the release of greenhouse gases from decomposing organic matter in landfills. Furthermore, the ethical dilemma of wasting food while millions suffer from hunger underscores the urgency of addressing this issue. The project to reduce food waste is not merely an environmental initiative; it is a holistic approach to transforming our relationship with food, promoting responsible consumption, and fostering a more resilient and compassionate global community.

Solution to the Problem

We require a solution that will assist us in automating and tracking our work. We are an NGO (Zero Waste) that works to feed the poor and children. We've seen that people in Dhaka waste a lot of food every day (via office programs, buffets, and so on). We're on a quest to increase the use of these foods. We called other restaurants, and they agreed to give us those meals before they spoiled, or to store them until we could collect them. We have some employees and are still accepting applications. Let me explain the process: restaurant will open a collect request from their dashboard with the most time they can spare. We will accept the request for collection and assign an employee to pick up the food. Following collection, our personnel will distribute the foods, and the collect request will be completed. The system must also keep track of all

collection requests and their information. To address the critical issue of food waste, the proposed solution involves the development of a comprehensive Food Waste Reduction App. This software aims to tackle the problem at multiple levels, leveraging technology to empower individuals, businesses, and communities to make informed decisions and minimize unnecessary food wastage. The app features inventory management functionalities, allowing users to track their food items with a barcode scanner or manual entry, coupled with expiration date notifications. The solution is particularly appropriate as it addresses the root causes of food waste by targeting inefficiencies in inventory management, meal planning, and community collaboration. The app is designed to be user-friendly, encouraging widespread adoption, and can be monetized through partnerships with grocery stores, promotional features. Furthermore, the potential for partnerships with local businesses, charities, and governmental agencies enhances the feasibility and impact of the app.

4. REQUEIREMNT SPECIFICATION

4.1 System Features

1. **Sign Up**

   Functional Requirements:

   1.1. Users (admin, employee, restaurant) can access the Sign-up page from the home screen.
   1.2. Users must provide a unique username, valid email address, a strong password, and all personal information.
   1.3. The system validates the email address format and ensures that the username is not already taken.
   1.4. After successful submission, a confirmation email is sent to the user for verification.
   1.5. Users can verify their email by clicking on the verification link in the email.
   1.6. After email verification, users are registered and can proceed to log in.

   Priority: High

   Pre-conditions: User must fill up all the input field.

2. **Login**

   Functional Requirements:

   2.1. Users (admin, employee, restaurant) can access the Login page for login.
   2.2. Users must provide their registered email and password.
   2.3. The system validates the entered credentials against the database.
   2.4. After successful login, users are directed to the home page.

   Priority: High

Pre-conditions: User must be registered and have a verified email address.

3. **Forgot Password**

Functional Requirements:

3.1. Users can access the Forgot Password link on the login page.
3.2. Users must enter their registered email address for password recovery.
3.3. The system sends a password reset link to the user's email.
3.4. Users can click the link to reset their password and set a new one.

Priority: Medium
Pre-conditions: User must have a registered and verified email address.

4. **Home page**

Functional Requirements:

4.1. After successful login, users are directed to the Home page.
4.2. The home page displays a dashboard with relevant information and options.
4.3. Users can select a specific feature to use them.
4.4. Each feature includes details about food, restaurants etc.

Priority: Medium
Pre-conditions: User must be logged in.

5. **Change Password**

Functional Requirements:

5.1. Users can access the change password section from their profile settings.
5.2. Users must enter their current password and the new desired password.
5.3. The system verifies the current password before allowing a password change.
5.4. After successful validation, the password is updated.

Priority: High
Pre-conditions: New password must adhere to security policies and differ from recent passwords.

6. **Update Profile**

Functional Requirements:

6.1. Users (admin, employee, restaurant) access the update profile page.
6.2. Users can modify profile information such as name, contact details, profile picture and other relevant data.
6.3. The system ensures that any changes made adhere to data format and validity requirements.

6.4. After successful profile update, users receive a confirmation message, and the system reflects the changes in the users' profile.

Priority: High
Pre-conditions: Authentication is required, and the new profile information, especially the password, must meet security policies and differ from recent passwords.

7. Inventory Management

Functional Requirements:

7.1. Users (admin, employee) can access the Inventory Management section.
7.2. Users can manually add items to the inventory with details such as name, quantity, and expiration date.
7.3. The system validates entered item data for accuracy and completeness.
7.4. The app tracks the storage location of each item to facilitate easy retrieval.
7.5. Users receive notifications for items approaching their expiration dates.
7.6. Users can edit or delete items from the inventory.
7.7. The system maintains a history of item usage and disposal for analytical purposes.
7.8. Different access levels (admin, employee) with specific permissions for managing the inventory.

Priority: High
Pre-conditions: Authenticated user access, secure data entry validation, accurate storage tracking, timely expiration alerts, proper user permissions, usage history.

8. Expiration Tracking

Functional Requirements:

8.1. Users, including admins, employees, and restaurants, should have access to the Expiration Tracking feature.
8.2. Users must input and maintain accurate information about expiration dates for each item in the system.
8.3. Users must be able to customize alert preferences, such as the timing and frequency of expiration notifications.
8.4. Users need the ability to view and edit expiration dates for items in the inventory.
8.5. Maintain historical data on expired items for analysis and waste reduction strategies.

Priority: High
Pre-conditions: Authenticated user access, accurate item information maintenance, functional notification system.

9. Collect Request

Functional Requirements:

9.1. Users, including admins, employees, and restaurants, should have access to the Collect Request feature.

9.2. Employees collect the requests from restaurants and distribute among people.

9.3. Provide fields for users to specify details such as item names, quantities, and preferred collection times.

9.4. Implement permissions to control which users can submit, view, or manage collection requests.

Priority: High

Pre-conditions: Authenticated users (admin, employee, restaurant) accessing Collect Request with accurate details submission, notification system, status tracking, scheduling, user permissions, and operational reporting.

10. Request List

Functional Requirements:

10.1. Users, including admins, employees, restaurants can access the request list page.

10.2. Users can filter and search for specific requests based on criteria such as status, date, or requester.

10.3. The system allows users to update the status of requests, indicating their progress.

10.4. The system generates reports on request statuses, providing insights for process optimization.

10.5. After accessing the Request List, users can easily navigate back to the home page or other relevant sections.

Priority: High

Pre-conditions: Authenticated users (admin, employee, restaurant) accessing Request List with accurate request details, integrated inventory system, user permissions, and operational reporting mechanisms.

11. Restaurant Details

Functional Requirements:

11.1. Users including admins, employees, restaurants can access the restaurant details page.

11.2. Users can view all the restaurants.

11.3. Admins or restaurants owners can edit restaurants' details.

11.4. Permissions are implemented to control who can view, edit, add, or delete restaurant details.

11.5. After accessing or modifying restaurant details, users can easily navigate back to the home page or other relevant sections.

Priority: High
Pre-conditions: Restaurants must be registered with the system.

12. Employee Details

Functional Requirements:

12.1. Users including admins and employees can access the Employee Details page.
12.2. Admin can view, edit, add, or delete employee details.
12.3. Admin can add employees to collect the request and distribute it.

Priority: High
Pre-conditions: All employees must be registered with the system.

13. Donate Food

Functional Requirements:

13.1. Restaurants or users can donate food from this page.
13.2. Provide options for users to choose specific donation categories or campaigns.
13.3. Employees will check this and collect the food and deliver it.
13.4. A thank you message, or email is sent to donor's expressing gratitude for their contribution.

Priority: High
Pre-conditions: All restaurants have good, fresh wastes food for donating.

14. Setting

Functional Requirements:

14.1. Users including admins, employees, restaurants can access the Settings page.
14.2. Users can change passwords, update profile, language, and general information.
14.3. After a successful update, users receive a confirmation message and the system changes on every page.

Priority: High
Pre-conditions: Must need differ from the other information.

15. Feedback:

Functional Requirements:

15.1. All can access the feedback section.

15.2. Users can submit feedback through a designed form.

15.3. Admin, employee can respond to feedback, providing resolutions or acknowledgments.

Priority: Medium

Pre-conditions: User must be logged in.

16. Contact Us:

Functional Requirements:

16.1. All users can access contact us page.

16.2. A user-friendly contact form allows users to input their name, email, and message.

16.3. Admins can respond to inquiries, providing resolutions or further information.

Priority: High

Pre-conditions: User must be logged in.

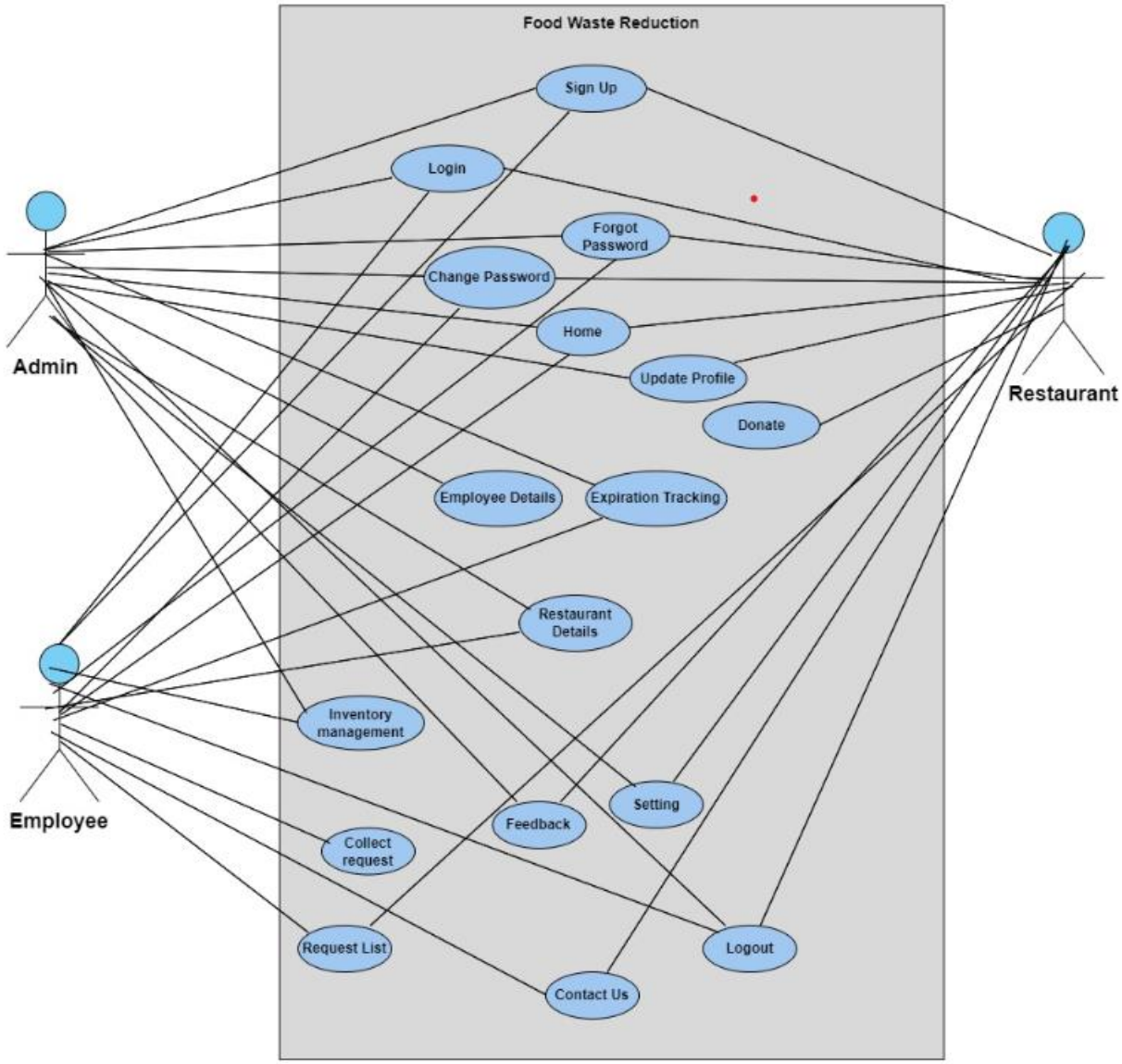


Fig 1: Use case diagram.

4.2 System Quality Attributes

Usability: The user interface should be designed with simplicity and clarity, enabling users to easily navigate through the app. Instructions and interactions is intuitive, ensuring a positive user experience. An everyday customer of our very own ought to have the alternative to post about his/her gadgets on a regular of 5 minutes and a restrict of 7 minutes. Our framework highlights are not difficult to advance as route is particularly basic. It's Easy for a new or uncommon user to determine out how to utilize the framework.

Reliability: The system's reliability is crucial in ensuring accurate tracking and management of inventory. Users should trust that the app provides timely and reliable information, especially concerning expiration alerts. No software is free from bug. Our software provides the desired output; its accuracy has been verified. Because our program has been validated and no misleading output is generated, it is more reliable for our users to use.

Performance: The app's responsiveness is essential for a seamless user experience. Real-time updates on inventory changes, quick processing of requests, and efficient handling of data contribute to optimal performance.

Scalability: As the user base and data volume grow, the system should handle increased load and transactions without sacrificing performance. Scalability ensures that the app can accommodate the expanding needs of users.

Security: Robust security measures should be in place to protect user data, login credentials, and personal information. Encryption and secure transmission protocols are vital to prevent unauthorized access and ensure user privacy.

Flexibility: Users should have the flexibility to customize settings, preferences, and notification options according to their specific needs. This attribute enhances user satisfaction and engagement.

Modularity: Each system should be built in accordance with our modules. Our system is made up of various modules that are all linked together to form a full system. So, we can simply detect a bug in any module and then correct only that module; we don't have to worry about other modules, making our tester's job easier. Furthermore, because our system is built on modules, we may add new functionality to it.

Maintainability: A well-organized and modular codebase ensures that updates and maintenance tasks can be performed efficiently. This attribute contributes to the system's longevity and adaptability to future changes. Consistency in providing accurate information is fundamental. Features like expiration tracking and donation requests should function without unexpected errors, ensuring users can rely on the system.

Accessibility: The system should be designed with accessibility features, making it usable for individuals with disabilities. This includes features like screen readers and keyboard navigation, fostering inclusivity among users.

These quality attributes collectively contribute to the success and effectiveness of the Food Waste Reduction system, ensuring it meets user expectations while providing a reliable, secure, and user-friendly experience.

4.3 System Interface

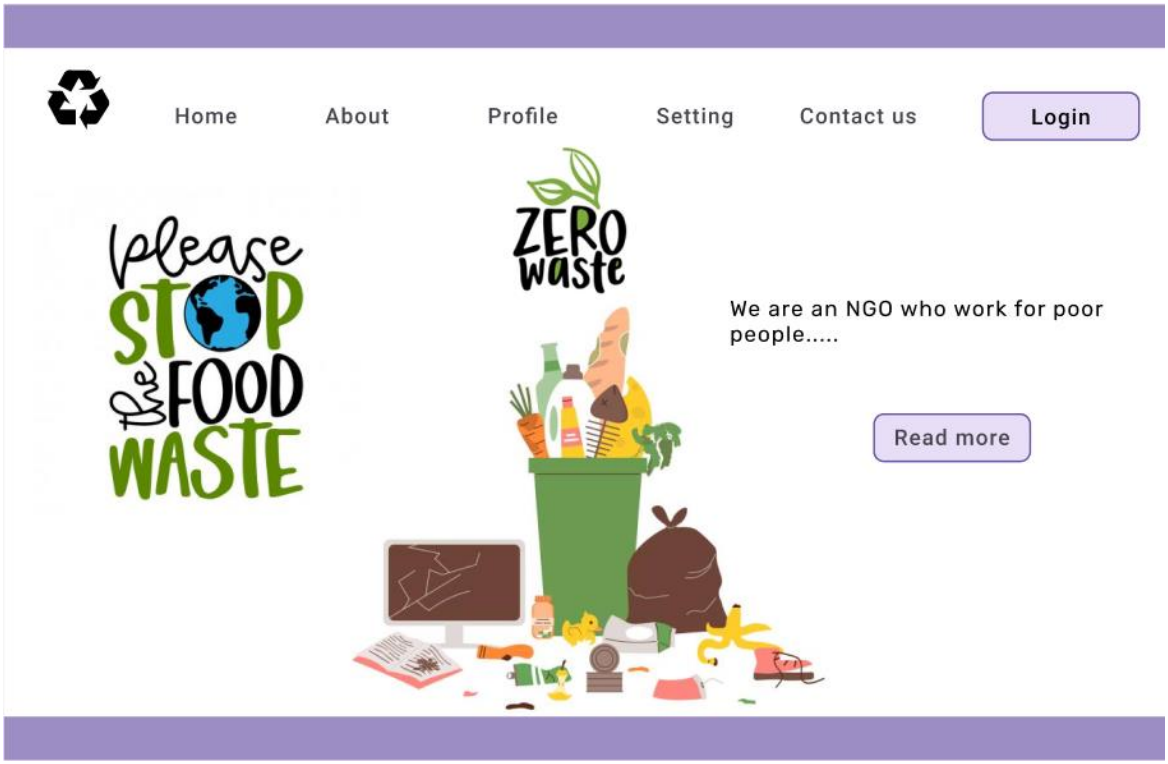


Fig 2: Home Page

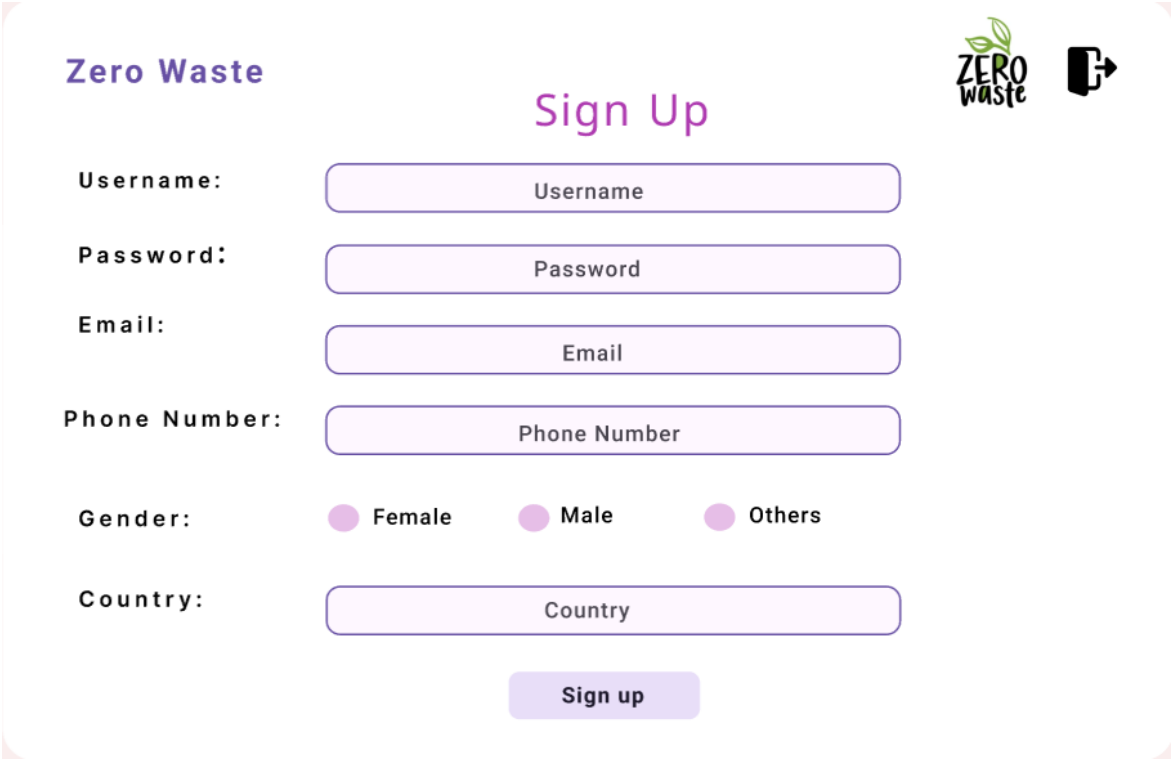


Fig 3: Sign up

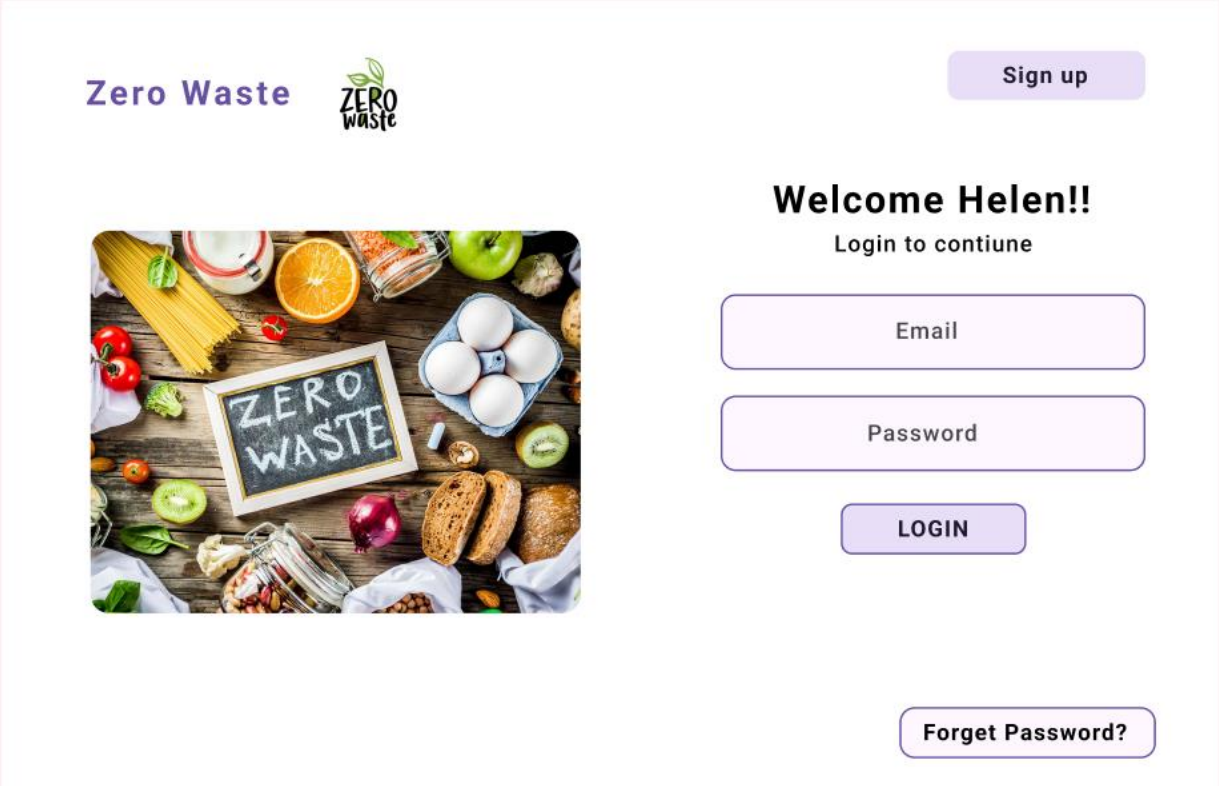


Fig 4: Login

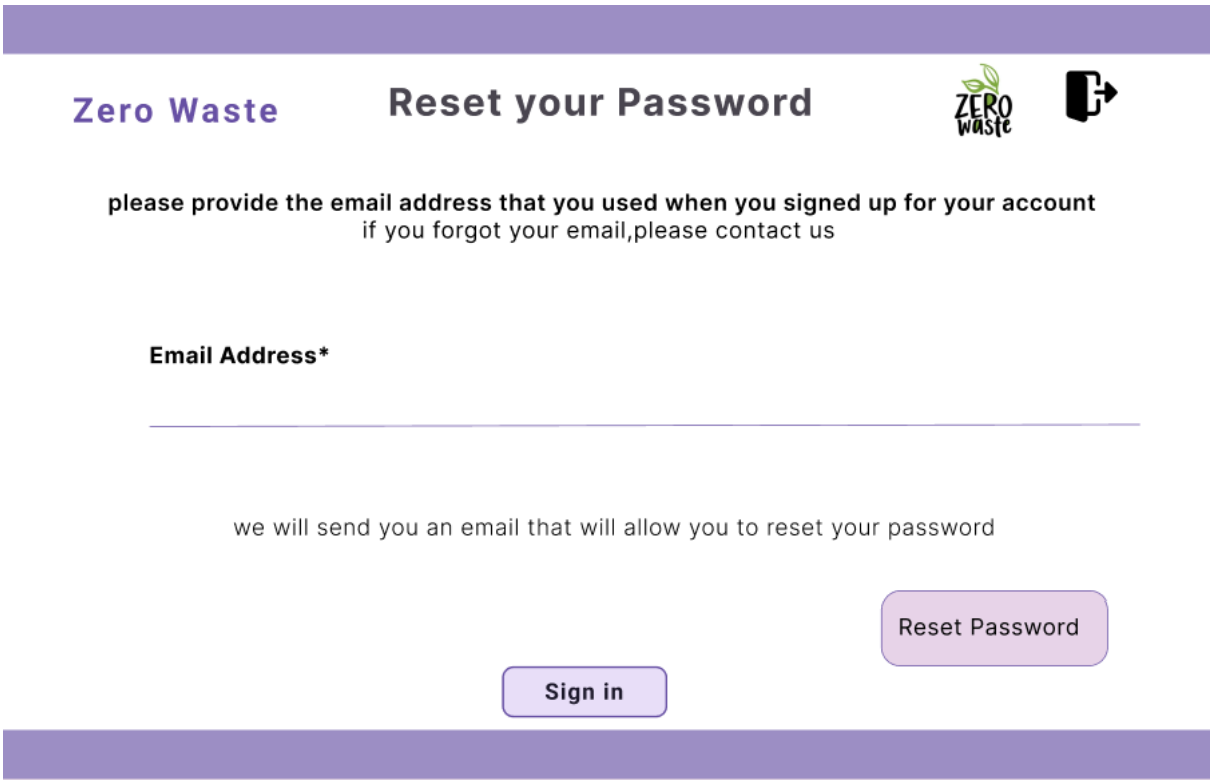


Fig 5: Forgot Password

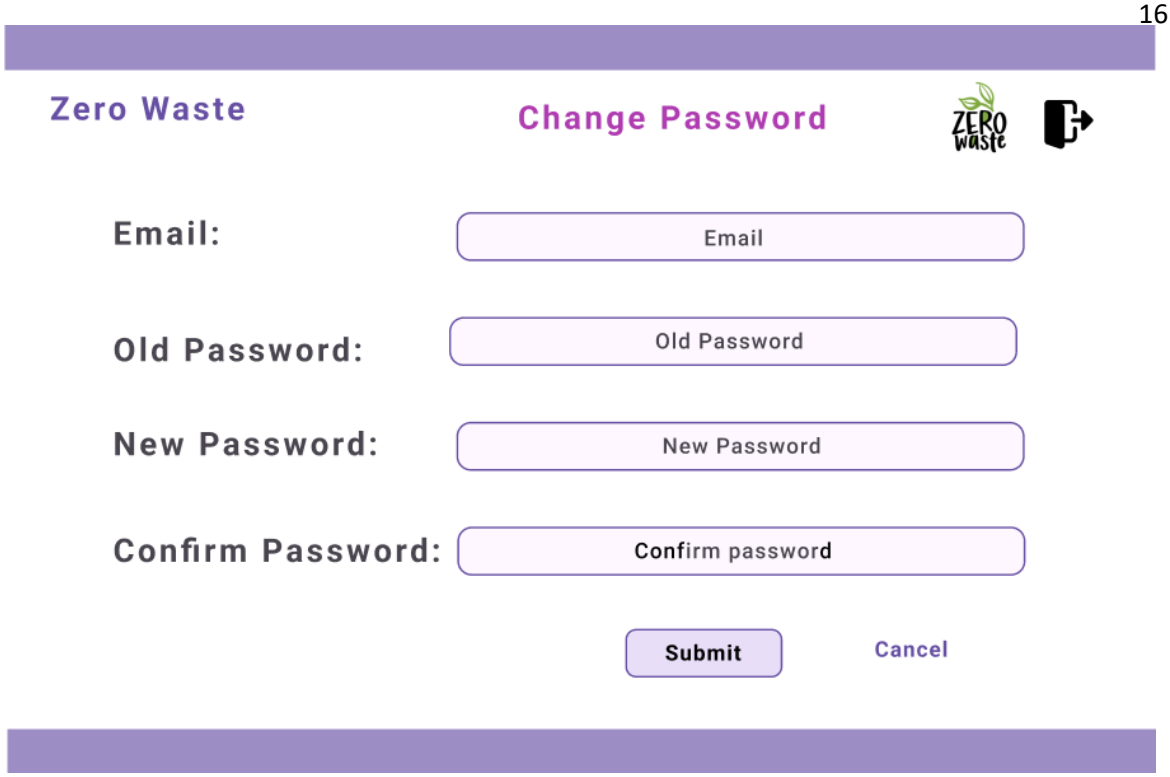


Fig 6: Change Password

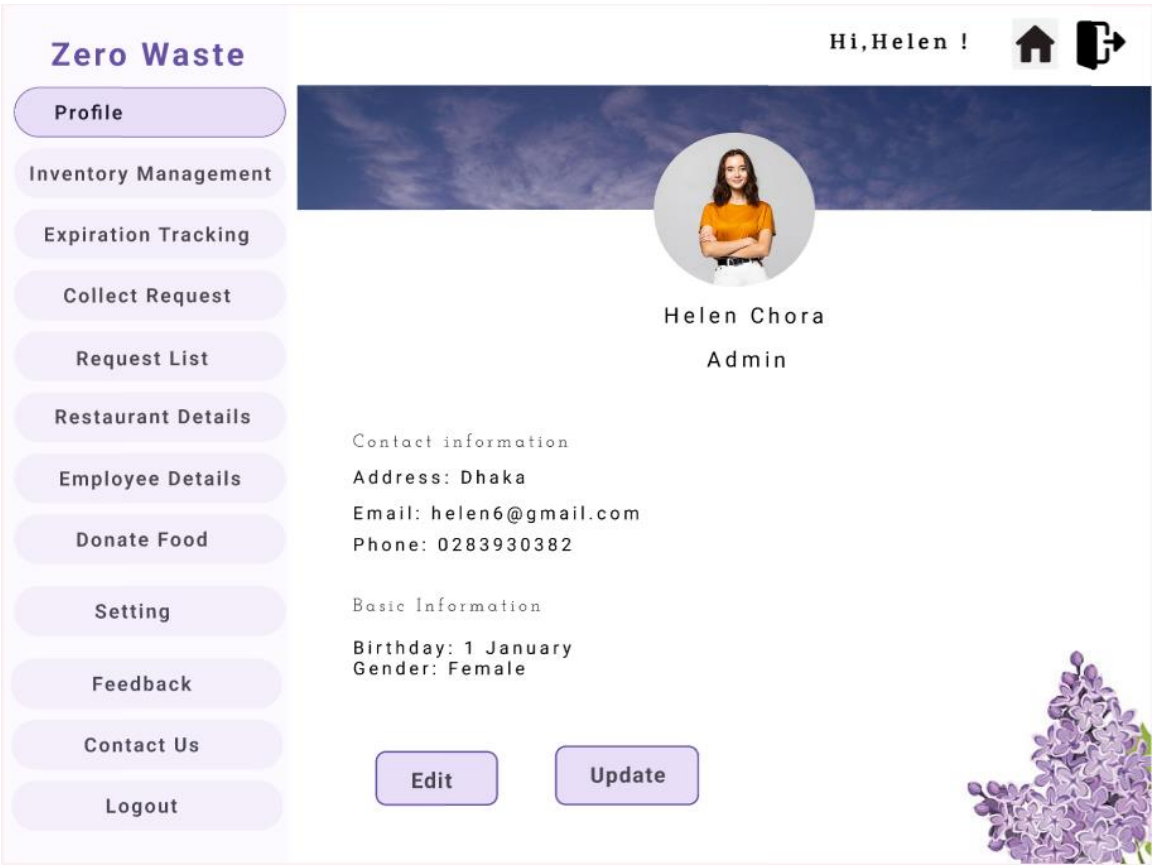


Fig 7: Profile

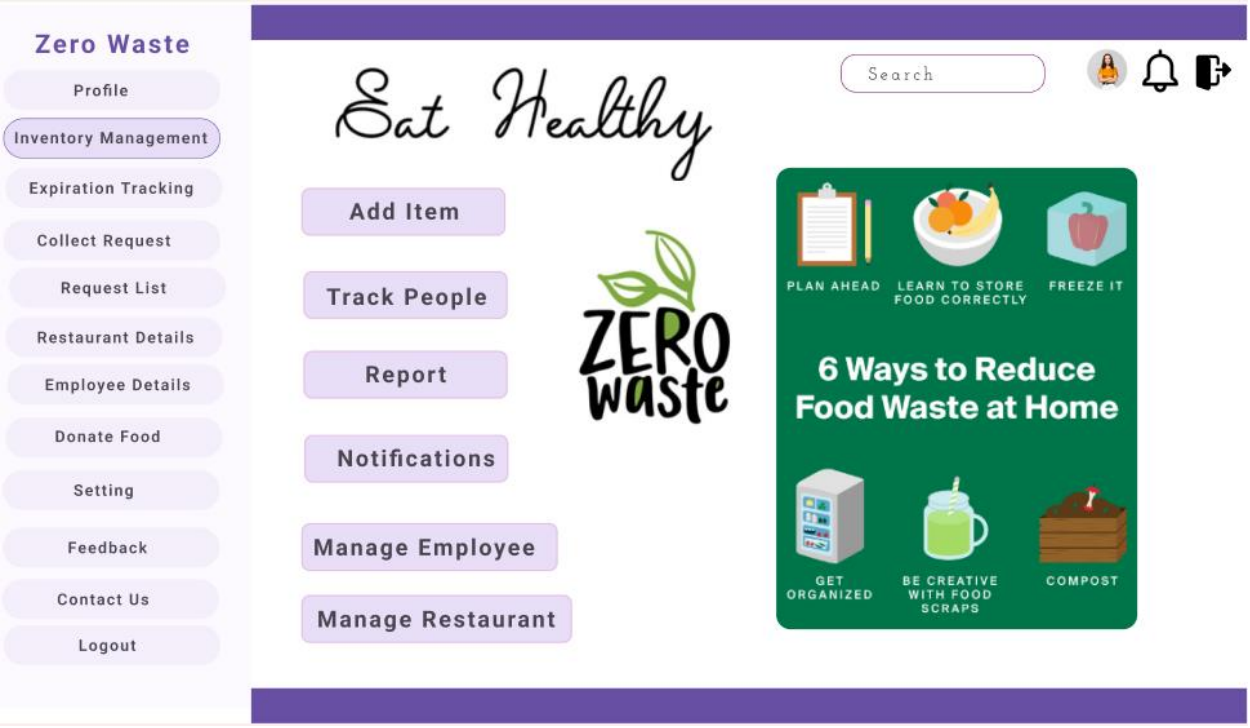


Fig 8: Inventory Management

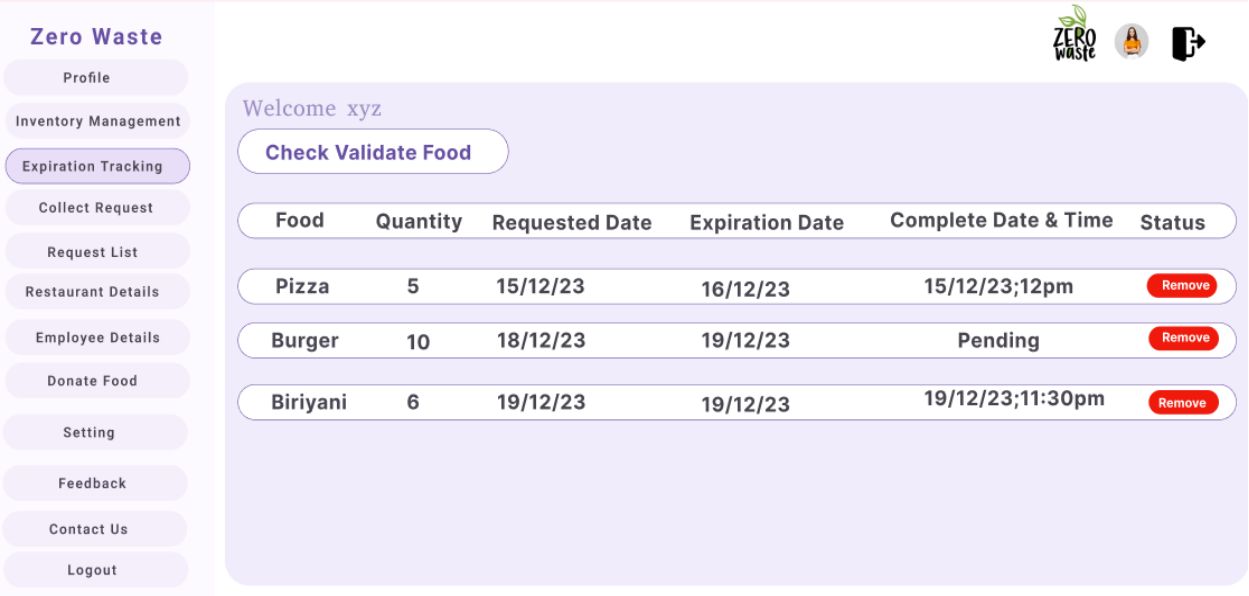


Fig 9: Expiration Tracking

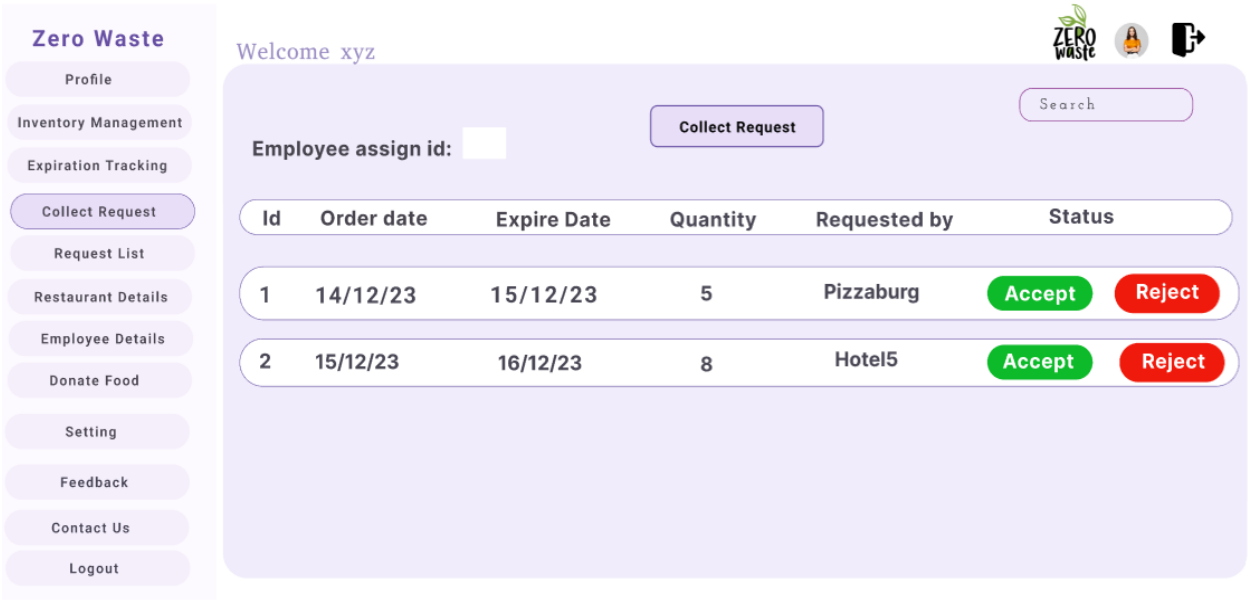


Fig 10: Collect Request

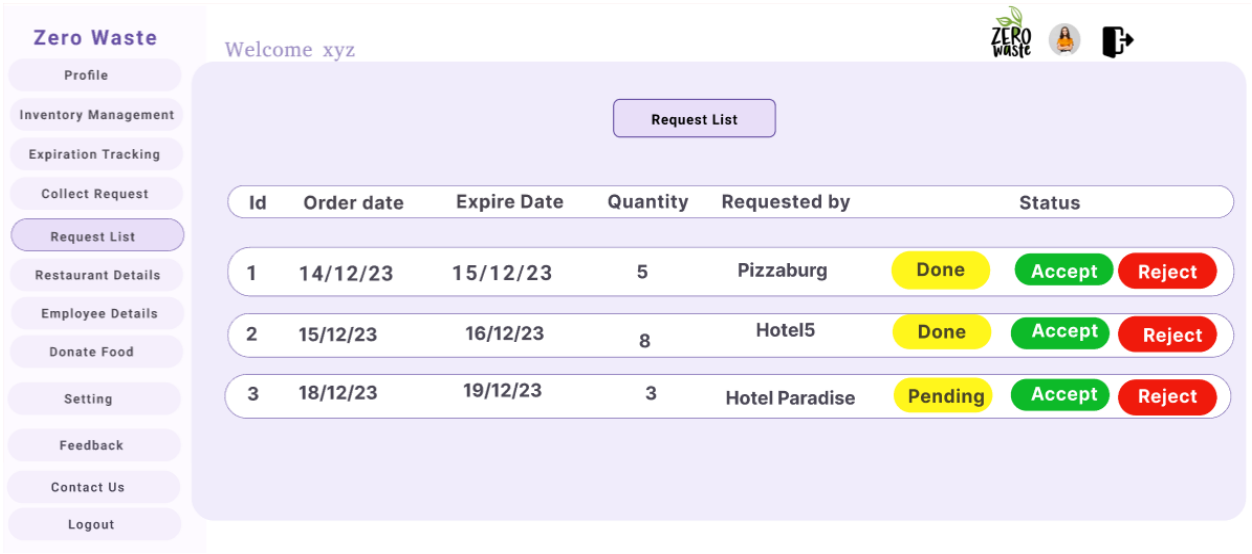


Fig 11: Request List

Fig 12: Restaurant Details

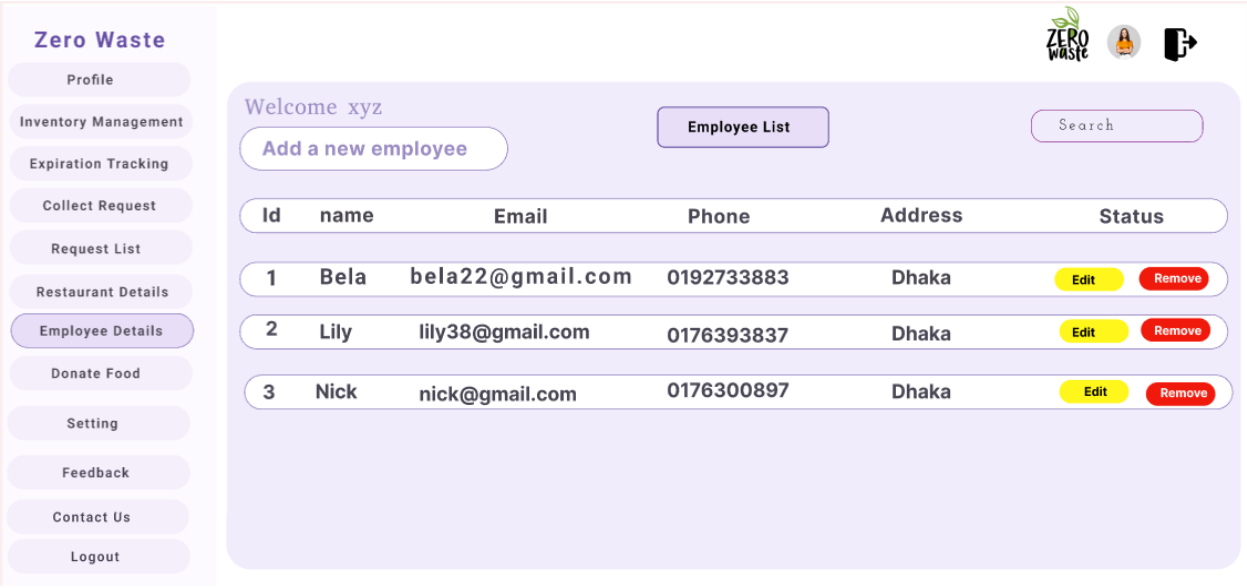


Fig 13: Employee Details

Fig 14: Donate Food

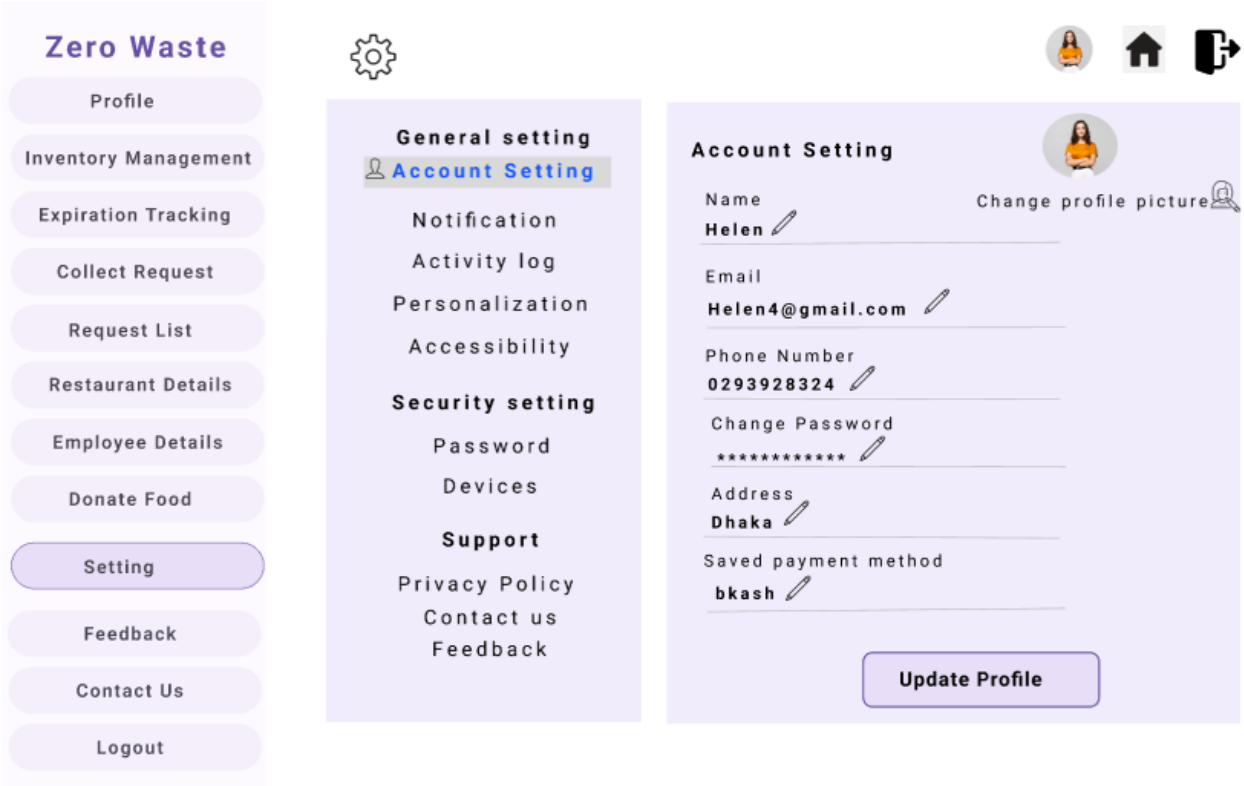


Fig 15: Setting

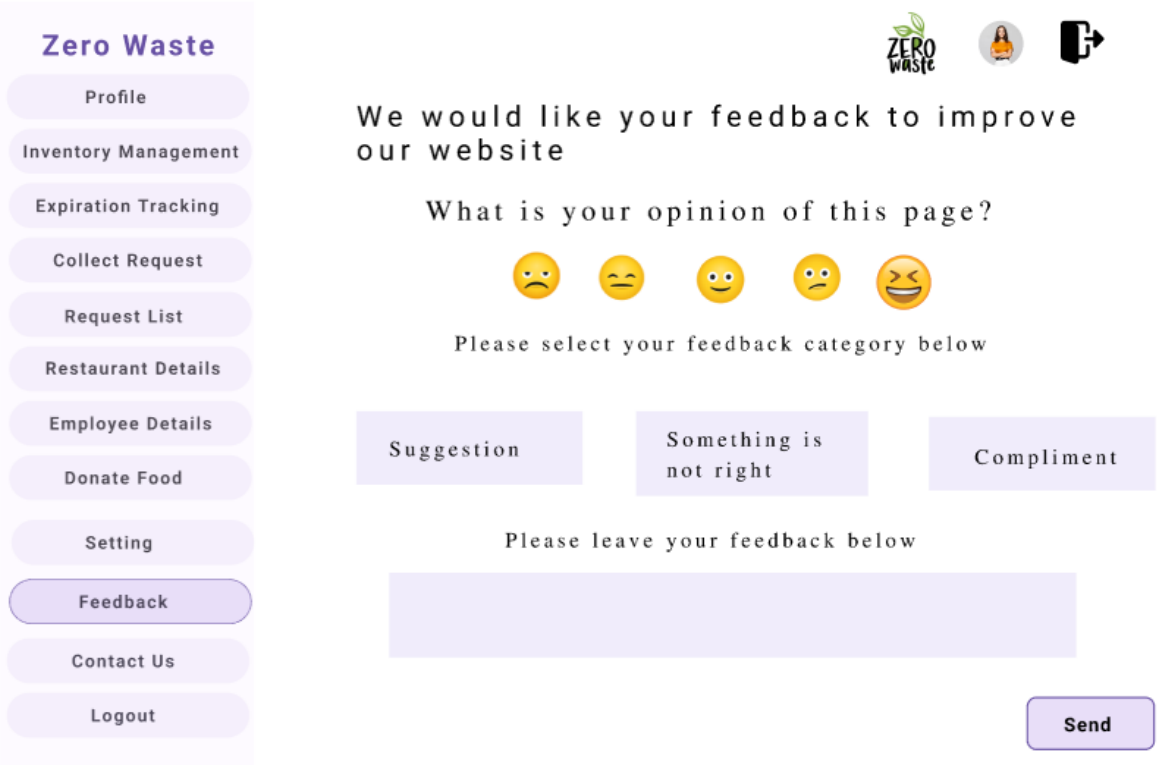


Fig 16: Feedback

Fig 17: Contact us

4.4 Project Requirements

Effort Estimation:

Our project is to develop a real-life application named “Food Waste Reduction (Zero Waste)”.

Develop time= 1month

Required number of peoples= 2

Budget Estimation:

Duration in weeks=1*4=4weeks

Office days= 5 days

Working hours = 8 hours

So, per week working hours is = (5*8) hours= 40 hours

So total working hours is- (40*4) hours = 160 hours.

Developer salary = 60000 Taka

Total developers’ salary = (60000*160) =9600000 Taka

Expanse	Amount	Total Amount
Salary for 2 developers	9600000* 2	19200000 Taka
1 month’s office rent	1*10000	10,000 Taka
Electricity and other costs		12,000 Taka
1 months Maintenance cost	1*10*1200	12,000 Taka
Travel Cost	1*3000	3,000 Taka
Total Cost		19,237,000 Taka
15% of total cost(profit)		2,885,550 Taka
Now total budget is		22,122,550 Taka

5. FEATURES NOT TO BE TESTED

The following is a list of the areas that will not be specifically addressed. All testing in these areas will be indirect because of other testing efforts. For example:

Users can contact NGO: In our web application there is a feature where a user can contact NGO. This feature is not to be tested in this release of the software.

Social Media Sharing: Features related to social media sharing, if considered secondary to the main functionality, might not be extensively tested, especially if the primary focus is on core operations.

Employee delivered food: The optimization of delivery routes by employees might be considered a routine or operational task rather than a critical feature for in-depth testing.

Non-Critical Push Notifications: Push notifications for non-urgent or non-critical events might be considered lower priority for testing.

User Ratings and Feedback for Routine Deliveries: Testing extensive user ratings and feedback collection for routine or non-critical deliveries might be deprioritized.

6. TESTING APPROACH

6.1 Testing Levels

The system must be connected once all the tiniest parts have been tested. The 100% tested unit pieces are turned into a module where another test is performed. It's known as integration testing. After combining all modules, regression testing is performed on the units, but the major goal here is to test the system interface to ensure that all connections are operating properly. It is also known as a data flow test.

Unit Testing: Unit testing is the most popular type of testing in which the developers test a tiny portion of the project. After building a small component of the project, this portion is evaluated to determine whether the system is functioning properly or not. Here, test personnel must determine the accuracy of the inaccessible code.

Usability Testing: Evaluate the user interface for intuitiveness and ease of use. Ensure that users can easily navigate the system to perform tasks related to food waste reduction.

Performance Testing: Test the system's performance under different conditions, including varying load and usage patterns. Ensure that the application can handle the expected number of users and transactions.

Security Testing: Assess the application for potential security vulnerabilities. The user data, especially sensitive information, is protected against unauthorized access.

Integration Testing: In the second phase, we will integrate everything. We will verify that all software modules are logically integrated and tested as a group during this test. Four programmers wrote many software modules for our project. The goal of this level of testing is to detect faults in how different software modules interact when integrated. We will use the "bottom-up integration" approach in this stage.

System Testing: Next, we go through system testing. We will test full featured, fully integrated systems using system testing. Then we'll check to see if it fits all the standards. This condition applies to black-box testing. As a result, at this level, we shall use the "Black Box Testing" technique.

Acceptance Testing: This is the final stage of our testing. We will use this test to determine the acceptability of our items. This test will be conducted to determine whether any errors were missed during the functional testing phase. We will use the "Black Box Testing" technique at this level. After that, we may re-run unit tests. With the assistance of the test manager and development team leader, the customer will conduct ACCEPTANCE testing. After the System/Integration test, the acceptance test will run for one month along with the existing manual ZIP/FAX process.

Compatibility Testing: Test the application on different browsers, devices, and operating systems. Also, compatibility with various configurations commonly used by the target audience.

6.1 Test Tools

The only test tools that should be used are the normal AS/400 utilities and commands. In combination with the in-house check-in/check-out control utility, the Program Development Manager (PDM) is utilized as the source version configuration management tool. Each developer's standard AS/400 access menu includes a check-in/out function. As test tools, only the regular AS/400 utilities and commands are to be utilized. As a result, other than the basic utilities and instructions given by the AS/400 platform, there is no explicit mention of a testing tool name.

6.2 Meetings

The test team will meet once every week to evaluate progress to date and to identify error trends and problems as early as possible. The test team leader will meet with development and the project manager once every two weeks as well. These two meetings will be scheduled in different weeks. Additional meetings can be called as required for emergency situations.

7. TEST CASES/TEST ITEMS

7.1. Login

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_1			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Login			Test Execution date: 23/12/2023	
Test Title: verify login with valid username and password				
Description: Test website login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website. 2. Click the "Login"button. 3. Enter username. 4. Enter password. 5. Click "Login" button	Username: helen_chora Password: 321@helo	User should login into the application	As expected,	Pass
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				

7.2. Sign Up

Project Name: Food Waste Reduction			Test Designed by: Rowjatul Jannat	
Test Case ID: TC_2			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Rowjatul Jannat	
Module Name: Sign up			Test Execution date: 22/12/2023	
Test Title: Sign up with valid username, password, email, country,gender, and phone number.				
Description: Test the website sign up page.				
Precondition (If any): User must fill up all the input field.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website. 2. Click the "Sign up" button. 3. Enter all valid information with username and password. 4. Click "Sign up" button	Username: helen_c Password: 123 Email: helen.44@gmail.com Phone Number:02987364 Gender: male Country: Bangladesh	Users should sign up to the Website.	As expected,	Pass
Post Condition: User is validated with database and successfully sign up an account. The account details are stored in the database				

7.3. Forgot Password

Project Name: Food Waste Reduction			Test Designed by: Rowjatul Jannat	
Test Case ID: TC_3			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Rowjatul Jannat	
Module Name: Forgot Password			Test Execution date: 22/12/2023	
Test Title: Successful Password Reset Request				
Description: Test the website Forgot password page.				
Precondition (If any): User must have a registered and verified email address.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the login page. 2.Click the "Forgot password" button. 3.Enter email address for verified the account. 4.Click reset button for new password. 5.After setting new password, click the sign in button for entering the website.	Email: helen.44@gmail.com Password: ******	User should verify forget password into the website and login to the website	As expected,	Pass
Post Condition: User is validated with database and successfully forget password and set a new one to account. The account session details are logged in the database.				

7.4. Change Password

Project Name: Food Waste Reduction			Test Designed by: Rowjatul jannat	
Test Case ID: TC_4			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Rowjatul jannat	
Module Name: Change Password			Test Execution date: 22/12/2023	
Test Title: Secure and User-Friendly Password Update Processes.				
Description: Updating password with two factor authentication.				
Precondition (If any): User must have a login to the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.go to the website. 2.login to the website. 3.Enter email. 4.Input old password. 5.Input new password. 6.Confirm new password. 7. click "submit" to change password	New Password=admus#11	updated password successfully.	As expected,	Pass
Post Condition: updated password successfully.				

7.5. Home Page

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_5			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Home Page			Test Execution date: 22/12/2023	
Test Title: Successful login, user are directed to the Home page				
Description: Test the website Home page.				
Precondition (If any): User must have a login to the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Home page will appear first to the user. If anyone doesn't sign up, then they can do it with the login button. 2.Then Go to the Home page. 3.Click the navigation bar "about'', "setting'' etc.	Directly enter dashboard with relevant information and option.	User should enter home page into the website.	As expected,	Pass
Post Condition: User is validated with database and successfully enter home page and view feature and use them.				

7.6. Update profile

Project Name: Food Waste Reduction			Test Designed by: Rowjatul Jannat	
Test Case ID: TC_6			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Rowjatul Jannat	
Module Name: Update Profile			Test Execution date: 22/12/2023	
Test Title: Update Profile Information Successfully				
Description: Test the update profile page.				
Precondition (If any): User must have a login to the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the update profile page and select edit option. 2.Users can update name, email, personal information. 3.Click the update button after changing the information.	Name: Helens About: Software Engineer Address: Bogura Gender: female	Successfully updated the profile	As expected,	Pass
Post Condition: The users profile information update with new data.				

7.7. Inventory Management

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_7			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Inventory Management			Test Execution date: 22/12/2023	
Test Title: Ensuring Accuracy and Efficiency in Inventory Operations.				
Description: Test the inventory management page.				
Precondition (If any): User must have a login to the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.In the navigation bar user can select inventory management. 2.There are search, notification, logout button. 3.Check add item, employee, restaurant, track people and see the reports.	Manage employee and restaurant data. Create a donor list. Generate report.	Successful	As expected,	Pass
Post Condition: Inventory records updated, system stability maintained, and data integrity ensured successfully.				

7.8. Expiration Tracking

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_8			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Expiration Tracking			Test Execution date: 22/12/2023	
Test Title: Providing Accurate Monitoring and Timely Alerts.				
Description: Test the expiration tracking page.				
Precondition (If any): User must have a login to the system and checked validated food.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Access the expiration tracking section of the application. 2. Verify the system displays current expiration data accurately. 3. Add a new item to the inventory with a future expiration date. 4. Wait for the system to generate an alert for an item nearing expiration.	Food: Pizza Quantity: 2 Requested date: 23/12/2023. Expiration date: 24/12/2023 Complete date and time: 24/12/2023; 3:30 pm. Status: if not done yet on the time it will be expired and alert notifications	Successfully test all the expiration data.	As expected,	Pass
Post Condition: Expiration tracking system updated, accurate alerts generated, historical data maintained, and system stability ensured successfully.				

7.9. Collect Request

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_9			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Collect Request			Test Execution date: 22/12/2023	
Test Title: Validating Efficient Collect Request Handling and Processing				
Description: Test the collect request page.				
Precondition (If any): Restaurant must have donated some food and employee should collect all the request.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the collection request page. 2. Check the order date and expiration date. 3. Collect requests from the restaurant from those who wanted to donate food. 4. Then accept or reject the request.	Id:1 Order date: 23/12/2023 Request from a restaurant. Assign an employee. Accepted by employee.	Successfully test all collect request data	As expected,	Pass
Post Condition: Collection request status updated, accurate metrics recorded, and system stability maintained after successful testing for food waste reduction.				

7.10. Request List

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_10			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Request List			Test Execution date: 22/12/2023	
Test Title: All restaurant request list				
Description: Test the request list page.				
Precondition (If any): Users are logged in, access the request list module, and have necessary permissions to view and manage collection requests.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the request list page. 2 Provide details such as location, date, and type of food waste for collection. 3. Verify the request list. 4. Then accept or reject the request.	Id:1 Order date: 23/12/2023 Request from a restaurant. Assign an employee. Accepted by employee.	Successfully test all collect request data	As expected,	Pass
Post Condition: Collection request status updated, accurate metrics recorded, and system stability maintained after successful testing for food waste reduction.				

7.11. Restaurant Details

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_11			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Restaurant Details			Test Execution date: 22/12/2023	
Test Title: Validating Accuracy and Functionality in Displaying Restaurant Information.				
Description: Test the restaurant details page.				
Precondition (If any): Restaurants must be registered with the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the restaurant details page. 2.Add restaurant details. 3. Provide details such as restaurant name, location, email. 4. Verify the restaurant details. 5. Admin can edit or remove the restaurants. 6.Search button for searching restaurants.	Register a new restaurant. Name: Sultans dine. Location: Gulshan, Dhaka Email: sultandine@gmail.com	Successfully enter all the data.	As expected,	Pass
Post Condition: Restaurant details are accurately displayed, any edits or updates are reflected, and the system maintains stability after successful testing of the Restaurant Details module.				

7.12. Employee Details

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_12			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Employee Details			Test Execution date: 22/12/2023	
Test Title: Validating Accuracy and Functionality in Displaying Employee's Information.				
Description: Test the employee details page.				
Precondition (If any): Employee's must be registered with the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the employee details page. 2.Add a new employee. 3. Provide details such as employee id, name, email, phone, address. 4. Verify the employee details. 5. Admin can edit or remove employees.	Register a new employee. Id: 1 Name: Bela. Email: bela22@gmail.com Phone:01933994 Address: Dhaka	Successfully enter all the data.	As expected,	Pass
Post Condition: Employee details are accurately displayed, any edits or updates are reflected, and the system maintains stability after successful testing of the Employee Details module.				

7.13. Donate Food

Project Name: Food Waste Reduction			Test Designed by: Helen Chora	
Test Case ID: TC_13			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Helen Chora	
Module Name: Donate Food			Test Execution date: 22/12/2023	
Test Title: Confirming Efficient and Accurate Execution of Donations.				
Description: Test the donation food form page.				
Precondition (If any): All donors must be registered with the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the donate food page. 2.Fill up the form. 3. Provide all the information. 4. Click the submit button.	Food donation form Donated by: Burger King Restaurant Name: Ricky Email: Ri@gmail.com Phone:0193399444 Pick-up-Address: Banani, Dhaka Food: Burger Quantity: 14	Successfully enter all the data.	As expected,	Pass
Post Condition: Donation records are accurately updated, recipients receive notifications, and system stability is maintained after successful testing of the Food Donation feature.				

7.14. Setting

Project Name: Food Waste Reduction			Test Designed by: Rowjatul Jannat	
Test Case ID: TC_14			Test Designed date: 22/12/2023	
Test Priority (Low, Medium, High): High			Test Executed by: Rowjatul Jannat	
Module Name: Setting			Test Execution date: 22/12/2023	
Test Title: Ensuring Accuracy and Effectiveness in System Configuration.				
Description: Test the website setting page.				
Precondition (If any): Must need differ from the other information.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the setting page. 2.Account setting for update profile information. 3. Security setting for password and devices. 4.Support and help.	Input valid data, use two factor authentication also update profile.	Successfully enter all the data.	As expected,	Pass
Post Condition: System settings are accurately updated, and system stability is maintained after successful testing of the Settings Configuration module.				

7.15. Feedback

Project Name: Food Waste Reduction			Test Designed by: Rowjatul Jannat	
Test Case ID: TC_15			Test Designed date: 23/12/2023	
Test Priority (Low, Medium, High): Medium			Test Executed by: Rowjatul Jannat	
Module Name: Feedback			Test Execution date: 23/12/2023	
Test Title: Feedback management.				
Description: The user will give feedback into the box.				
Precondition (If any): User must be logged in.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. login as user 3. Go to feedback page 4. Write feedback 5. Click submit	Feedback: Food review, app review	The feedback will see the admin and employee, they will help the user from replying to them.	As expected,	Pass
Post Condition: N/A				

7.16. Contact us

Project Name: Food Waste Reduction	Test Designed by: Rowjatul Jannat
Test Case ID: TC_16	Test Designed date: 23/12/2023
Test Priority (Low, Medium, High): Medium	Test Executed by: Rowjatul Jannat
Module Name: Contact us	Test Execution date: 23/12/2023

Test Title: Verifying Accuracy and Responsiveness in User Communication.

Description: The user will give feedback into the box.

Precondition (If any): The user will be contact us.

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. login as user 3.Go to contact us page 4.Contact through phone number and email	Contact us: any issue user can be contact us	Successfully contact with admin and employees	As expected,	Pass

Post Condition: N/A

7.17. Logout

<table>
<tr><td colspan="3">Project Name: Food Waste Reduction</td><td colspan="2">Test Designed by: Rowjatul Jannat</td></tr>
<tr><td colspan="3">Test Case ID: TC_17</td><td colspan="2">Test Designed date: 23/12/2023</td></tr>
<tr><td colspan="3">Test Priority (Low, Medium, High): High</td><td colspan="2">Test Executed by: Rowjatul Jannat</td></tr>
<tr><td colspan="3">Module Name: logout</td><td colspan="2">Test Execution date: 23/12/2023</td></tr>
<tr><td colspan="5">Test Title: Verifying logout option</td></tr>
<tr><td colspan="5">Description: Test the website logout option</td></tr>
<tr><td colspan="5">Precondition (If any): 1. Need account on this website
2. Need to be logged in</td></tr>
<tr><td>Test Steps</td><td>Test Data</td><td>Expected Results</td><td>Actual Results</td><td>Status (Pass/Fail)</td></tr>
<tr><td>1. go to the website.
2. log in to the website.
3. Click the “Logout” button</td><td>Username: rowja2
Password: Aejef@78</td><td>Successful logout</td><td>As expected,</td><td>Pass</td></tr>
<tr><td colspan="5">Post Condition: User goes back to the home page</td></tr>
</table>

8. ITEM PASS/FAIL CRITERIA

Here we have implemented a total of 17 test cases. At first, when applied the test case to system 80% of the test cases were passed successfully and 20% were failed. The test cases were failing due to some query related issues on the database. When the test case was applied after solving query related problem, all the test cases are successfully passed.

9. TEST DELIVERABLES

- Test plan
- Test cases
- Test result documentation
- Screen prototypes
- Test summary
- Errors
- Bug report

10. STAFFING AND TRAINING NEEDS

This section demonstrates how to staff the test jobs and get ready to go to work. Personnel are assigned for the life of the project. It's reasonable to expect that most of the workers will agree to participate in some testing. The following jobs are recognized:

Project Manager: In charge of finalizing the execution of the Web site. This includes developing requirements, overseeing the testing cycle, and managing the seller relationship.

Test Managers: Test managers oversee developing expert test strategies, analyzing test deliverables, dealing with test cycles, collecting measurements and reporting progress to the Project Manager, and advising when testing should be completed.

Test Engineer: Plans tests, develops test methods, develops test information, runs tests, prepares occurrence reports, investigates incidents, and writes mechanized test strategies. This position's responsibilities also include providing measures to the test administrator.

Feedback Mechanism: Establish a feedback mechanism to gather input from the training sessions and make necessary adjustments to the training approach.

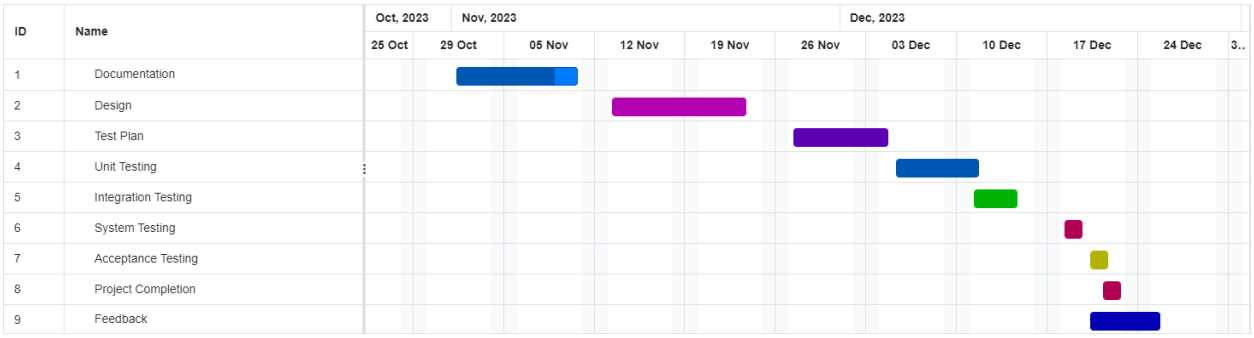
Continuous Improvement: Encourage continuous improvement by conducting periodic assessments of the training effectiveness and refining the training program accordingly.

The website development life cycle should be familiar to the test manager and test professionals. Because this project is being developed in a traditional fashion, the Staffing and Training requirements are not exhaustive. As a result, the names of aware individuals for each initiative are not provided.

11. RESPONSIBILITIES

	TM	PM	Dev Team	Test Team	Client
Acceptance Test Documentation & Execution	X	X		X	X
System Test Documentation & Execution			X	X	
Unit Test Documentation & Execution			X	X	
System Design Reviews			X	X	X
Details Design Reviews					
Test Procedures and rules	X	X	X		
Screen & Report Prototype reviews			X	X	X
Change control regression testing	X	X	X	X	

12. TESTING SCHEDULE



13. PLANNING RISKS AND CONTINGENCIES

Limited Reassigned Sales Staff:

Risk: Unfilled positions in the Reassigned Sales administration staff may lead to delays in document reviews and participation in the Acceptance test process.

Contingency: Implement a proactive recruitment strategy to fill vacant positions promptly. In the interim, consider redistributing responsibilities among existing staff to mitigate delays.

Communication and Documentation:

Risk: Incomplete or unclear communication and documentation may contribute to misunderstandings and delays.

Contingency: Enhance communication channels, provide detailed documentation, and conduct regular status meetings to ensure all stakeholders are informed and aligned with the project schedule. Address any misunderstandings promptly.

Risk Management

As part of software risk management, technical, programmatic, and procedural risks are identified and classified, which then serves as the foundation for a plan that connects each to a mitigation strategy. The project manager monitors risk throughout the project. If any do, a specific owner takes corrective action.

Inadequate encryption: Keep an eye on security and back up your data with strong encryption.

Attempt unlawful access: If the user fails three consecutive login attempts in an hour, the user will be prohibited.

Functionality errors: Test the application on a regular basis and create a daily backup.

Incorrect SQL Command for Sensitive Data: Keep security scans and backups current.

Contingency Planning: In project management, a contingency plan is a specified, actionable strategy that is to be implemented if a recognized risk becomes a reality. It is simply a "Plan B" to be implemented if things do not go as planned.

Network Failure: We will install two fiber optics connections from different ISPs so that one can serve as a backup for the other.

14. APROVALS

Project Sponsor	**Zero Waste**
Development Management	Helen Chora Chowdhury
EDI Project Manager	Rowjatul Jannat
RS Test Manager	Rowjatul Jannat
RS Development Team Manager	Helen Chora Chowdhury
Reassigned Sales	Helen Chora Chowdhury
Order Entry EDI Team Manager	Rowjatul Jannat

Visiting Card