



System Design of A Food Donation Platform

DESIGN AND IMPLEMENTATION OF A FOOD DONATION PLATFORM

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INTRODUCTION

Software design is a creative activity in which you identify software components and their relationships, based on a customer's requirements. Implementation is the process of realising the design as a program.

1.1 Overview

Let's start with an overview of what is software design in software engineering. The process of creating software methods, functions, objects, and the general structure and interaction of your code such that the resulting functionality meets the needs of your users is known as software design.

1.2 Project Scope

The project scope for addressing the food donation problem includes the following:

- Identifying food donors: The project will identify individuals or organisations that have excess food and are willing to donate it.
- Partnering with food banks or organisations: The project will partner with food banks or organisations that address hunger and food insecurity, to facilitate the distribution of donated food to those in need.
- Ensuring food safety: The project will ensure that all donated food is safe and of good quality by adhering to safety regulations and guidelines.
- Developing a communication plan: The project will develop a communication plan to effectively communicate the benefits of food donation, how the system works, and how to get involved.

- Setting up an escrow payment system: The project will set up a reliable and efficient payment system to deliver the money to the donor when the food is gotten.
- Monitoring and evaluation: To ensure the project's success, there will be continuous monitoring and evaluation to track progress towards project goals, and identify areas that may need improvement.
- Raising awareness: The project will raise public awareness about the issue, to encourage more people to donate food and reduce food waste.



Designs

1. Registration.

This is the first interphase through which a user will be registered in the system. It contains the information required to be registered such as the username, password and email. If a user is already registered then he/she simply logs in.

registration page

Register

Username

Email

Password

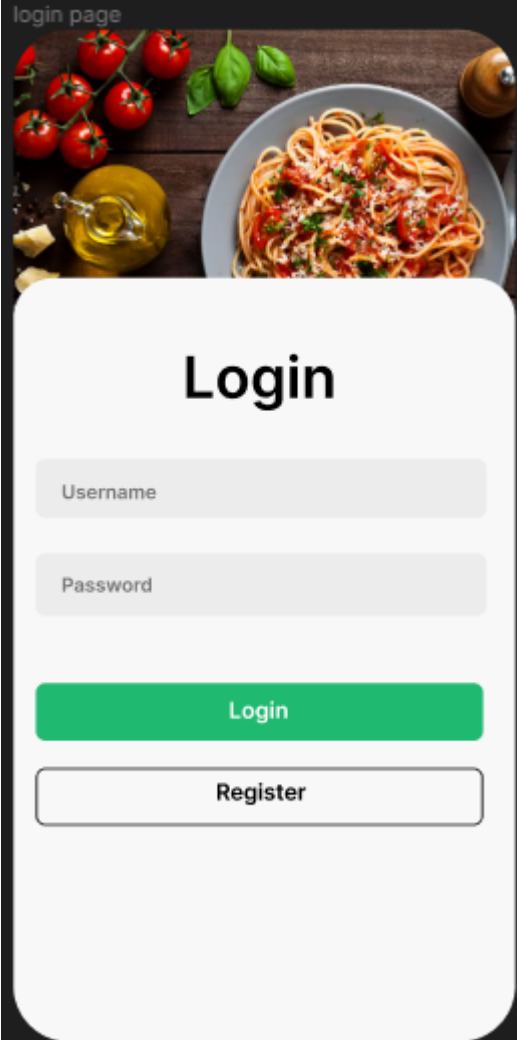
Confirm Password

Register

Login

2. Login page.

This page is for those who are already registered in the system. They are required to put their password and username to log into the system.

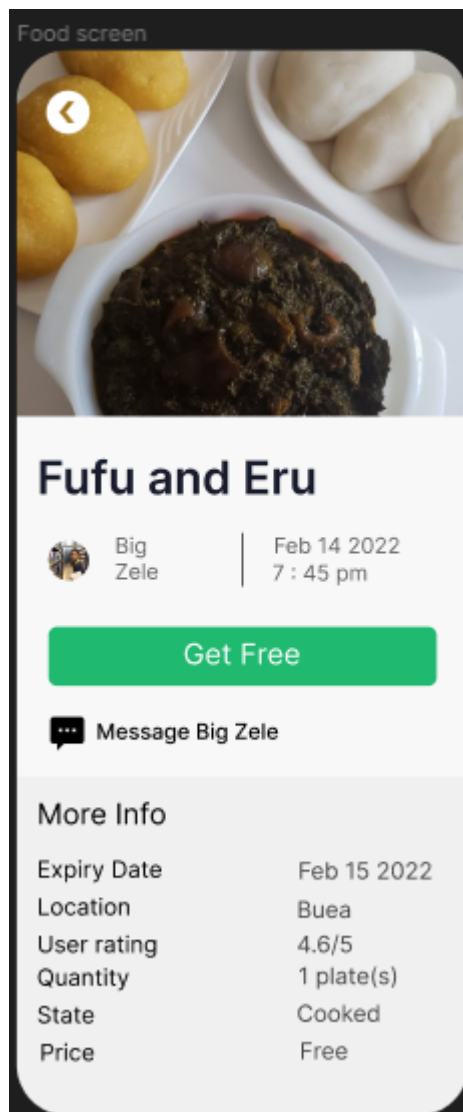
The image shows a login page overlay on a background of a wooden table with a plate of spaghetti, cherry tomatoes, basil, and a bottle of olive oil. The login form is a white rounded rectangle with the title "Login" in bold black text. Below the title are two input fields: "Username" and "Password", both with light gray borders. Below these fields is a green "Login" button and a white "Register" button with a black border. The text "login page" is visible in the top left corner of the background image.

login page

Login

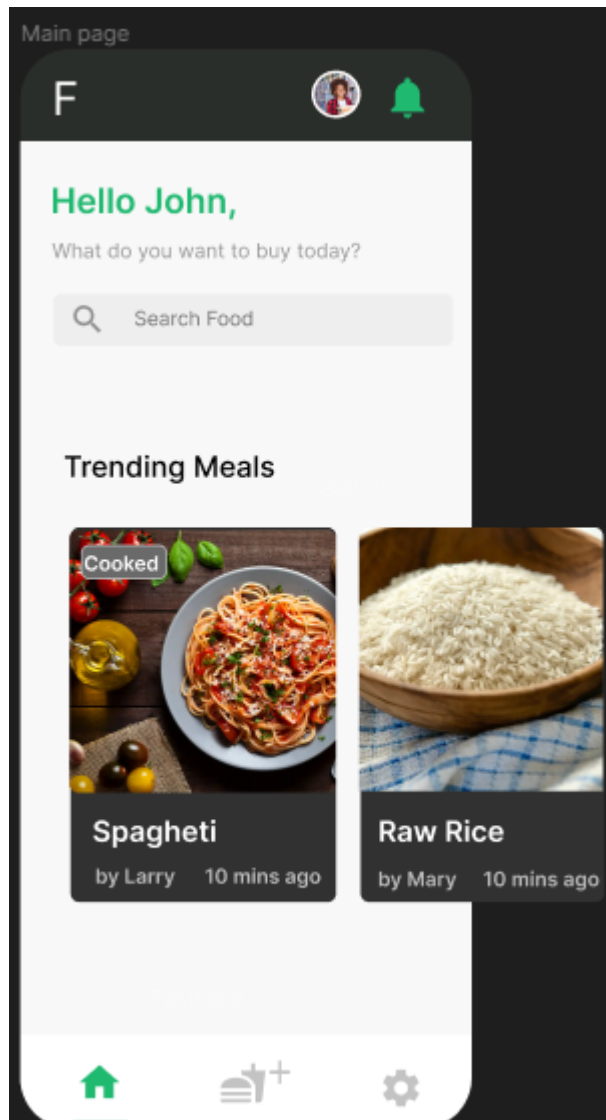
3. Food page.

This page gives information about a certain food type and says if the food is free or at a discounted price. It displays the donor's name, time and date the food was uploaded. It also gives information like the expiry date, quantity, state of food and price. It also permits you to message the donor in case of need.



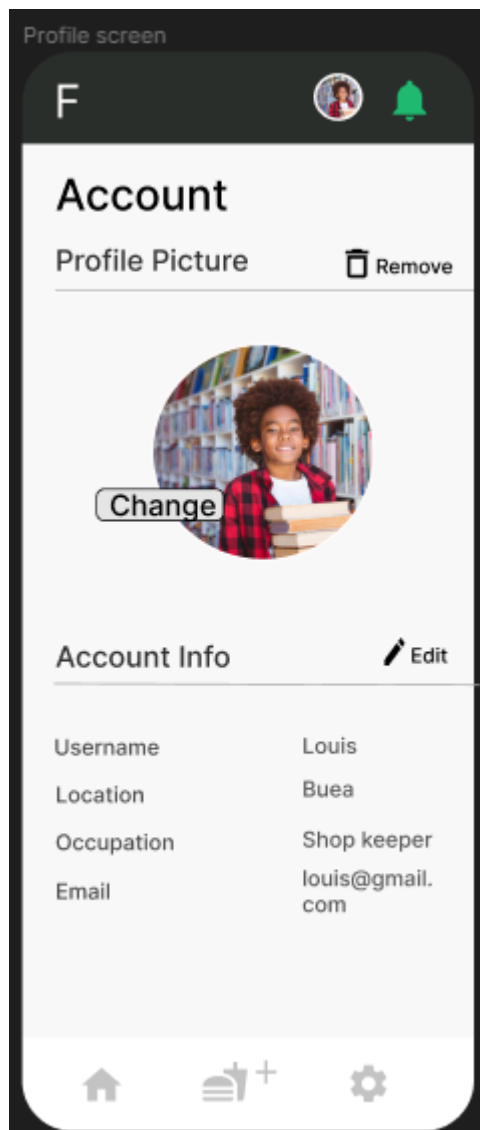
4. Main Page.

This is the welcome page just after a user successfully logs into the application. It shows the user's logo, a notification bell, trending meals available on the system and a search bar to search for a particular meal. These trending meals display some key information about the meal in question.



5. Profile Page.

This page gives information about the user. It permits the user to change his/her profile picture and edit account info such as the username, location, occupation and email. It also gives the user the possibility to even delete his or her account



6. Upload Food Page.

This page permits a user to upload a certain food item thereby giving information about the food. Information such as the food name, state of food (raw or cooked), the quantity and expiry date of the food item.

Upload food screen

F

Upload Food Info

Enter the information of the food you want to donate

Name of food e.g fufu and eru

Upload picture of food

State of food e.g raw or cooked ▼

Quantity of Food

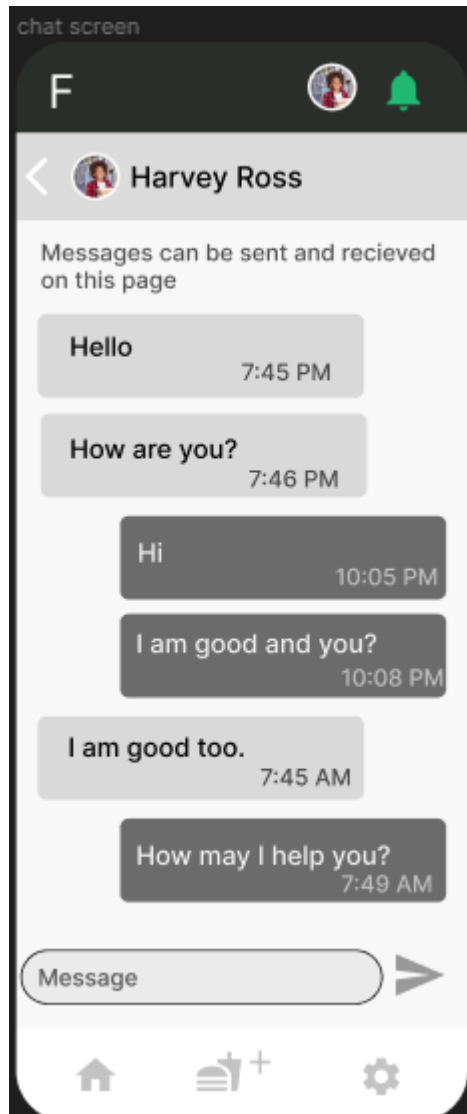
— 0 + Quantity ▼

Expiry date e.g 14/07/2019

Submit

7. Chat Page

This page shows a typical conversation between a user and a donor. It also displays the time a message was sent or received





Implementation

1. Starting with the project we created the Android project targeting API 30 phones.
2. For signup, login and user/donor authentication 2-3 pages activity is created with phone no, mail access.
3. For users and donors, based on their mail provided will be categories and login to the user and donor pages.
4. A donor can create a donation card view so that the user can access it and get connected to the donor.
5. In user, can view all the card view donations available and can finalise the one.
6. Both user and donor can create, and edit profiles by changing dp, name, email, phone no., etc.
7. On accepting donation card requests, users can see the contact and location details.
8. Finally, users can give feedback/reviews to the NGO/donor.