GE19621-Professional Readiness for Innovation, Employability and Entrepreneurship

SERVE SURPLUS

“Fighting Hunger Together”

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Serve Surplus

PROBLEM STATEMENT:

- To innovate an idea to address urban excess food waste, hunger-related deaths, and create a logistic network with innovative technology and cost effective storage solutions.

- This aims to efficiently transfer surplus food from cities to areas in deficit.

- To create an application that facilitates the connection between surplus and deficient food resources within a community's network.

ABSTRACT:

- An estimated amount of 1.3 billion tonnes of food is wasted annually. At the same time, there are over 2 billion people around the world experiencing hunger or lack of access to nutritious or sufficient food.

- This mobile app provides a convenient and accessible platform for users to donate surplus food items anytime, anywhere, using their smartphones. This accessibility encourages increased participation and engagement in food donation efforts.

- This app streamlines the donation process, allowing users to easily upload information about available food items, including quantity, and pickup location. Automated notifications and reminders help users stay informed and organized throughout the donation journey.

- The app employs a sophisticated matching algorithm that connects food donors with nearby recipient organizations based on their specific needs and preferences. This ensures efficient and targeted distribution of food donations, minimizing wastage and maximizing impact.

EXISTING SYSTEM:

• Current platforms inadequately address the multifaceted issues of urban excess food waste and food insecurity.

Traditional food donation systems rely heavily on manual processes and lack real-time connectivity, hindering effective redistribution efforts

• Limited technological integration and coordination mechanisms result in suboptimal utilization of surplus food resources, exacerbating food waste and hunger-related challenges.

PROPOSED SYSTEM:

PURPOSE AND MISSION:

The app is aimed at the reduction of food wastage and the solution of hunger problems by connecting the food donors with the NGOs and people in need who are within a 20km radius. The main goal of this mission is to establish a sustainable way of making the society benefit from the technology.

DONOR INTERACTION AND RECEIVER OPTIONS

People who have excess food can donate through this app by providing the details of the food and quantity. This information is then transmitted to the neighboring NGOs and people in need, which results in the quick use of the surplus food. The users can look for the available food lists and request the items they need through the app.

GEOLOCATION INTEGRATION:

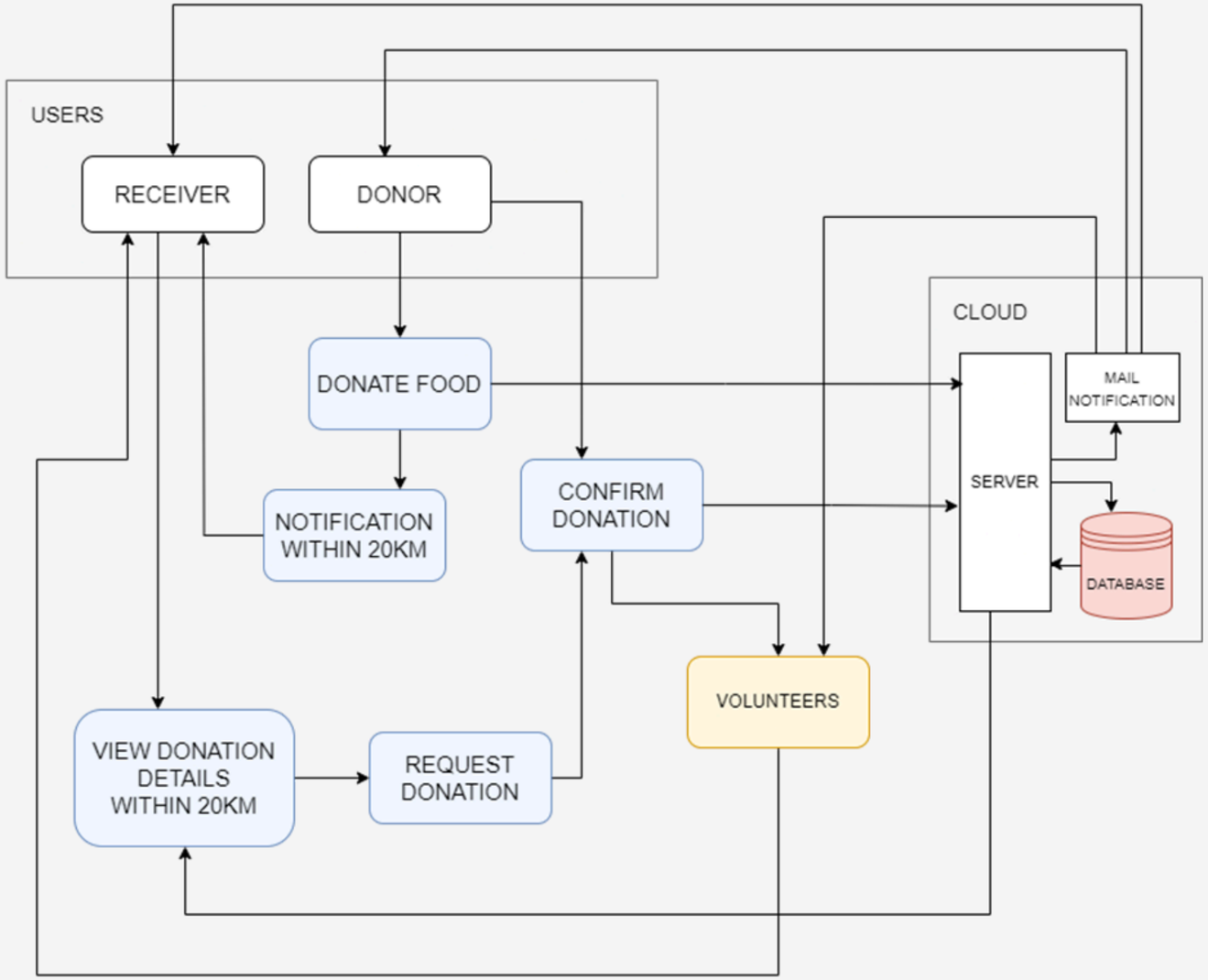
The application uses the haversine formula to calculate the distances accurately, thus, it is possible to send notifications to the recipients who are within the 20 km radius.

AWARENESS:

The app is a tool for the increase of food wastage and hunger issues awareness, educating the users on the significance of the responsible food management.

TECHNOLOGIES USED:

ARCHITECTURE DIAGRAM:



MODULES:

1) USER REGISTRATION AND LOGIN MODULE:
The donors and receivers can create account in this application by giving their email id, password and role (Donor or Receiver) . The password is encrypted uing Bcrypt. After user is registered, a Json Web token is generated and sent to the frontend. The JWT is used to authenticate users, authorize access to protected resources, it is used to safeguard sensitive information.

2) PROFILE CREATION MODULE:
The donors and receivers can create profile in this application by giving their details like name, address and mobile number. After entering, their details will be stored in the Users Collection.

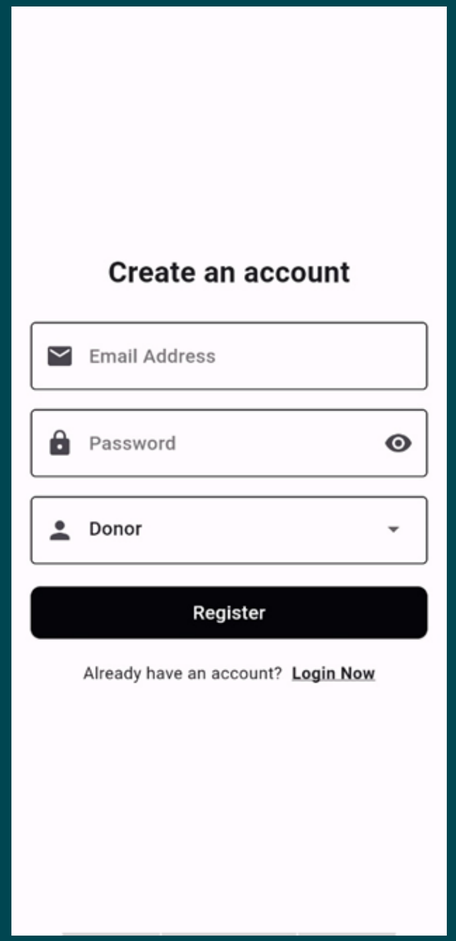
3) DONOR MODULE:
The donors can add the food items they want to donate and their quantity in this page. The donation details will be stored in the donations array. After donation is made, a notification which shows the details of the donor will be sent to the receivers who are at distance less than or equal to 20 kilometres. The donors can view their donation history. They can view their delivered, processed and pending donations.

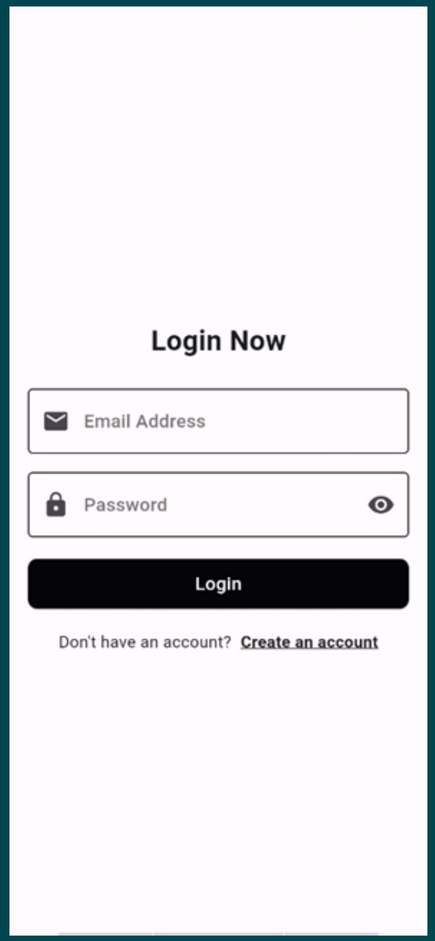
MODULES:

4) RECEIVER MODULE:
This module shows the donors who are at the distance less than or equal to 11 kilometres to the receiver. The distance is calculated based on the latitude and donations' longitude of the donor and receiver using Haversine formula. If the donor is not in this particular distance, he/she will not be visible to that receiver.

5) ORDER MODULE:
The receiver can order the food in this module. They can specify the items and quantity they need and place the order. After ordering, a mail will be sent to the receiver which contains their order details and OTP. The OTP will be stored in the database. While collecting the food, the user has to share the OTP with the donor. If the OTP matches, the food will be given to the receiver.

OUTPUT:

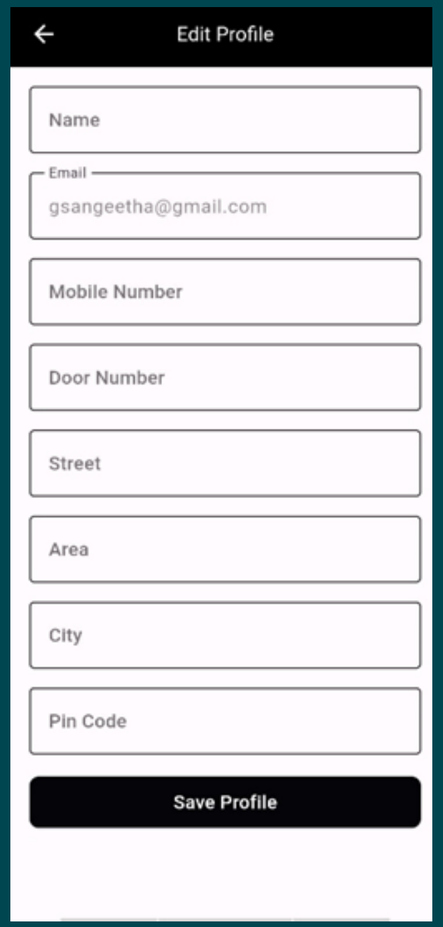


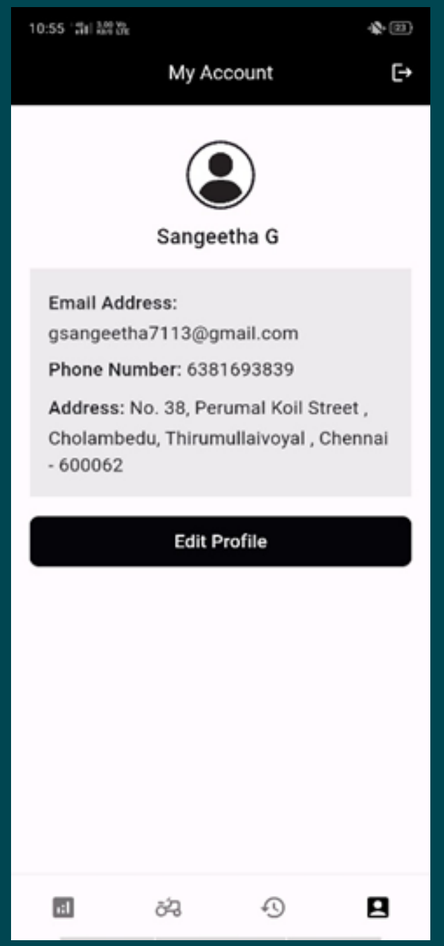


User Registration and Login Page

(The user can register in this page by entering their email id, password and role)

OUTPUT:

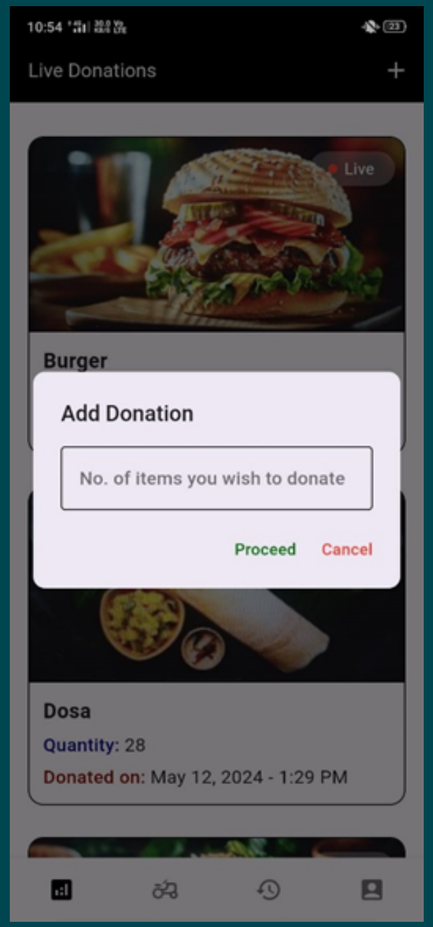


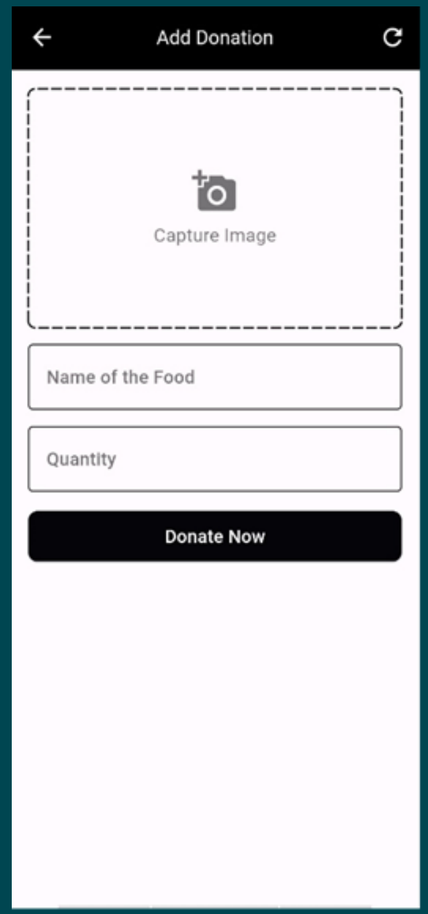


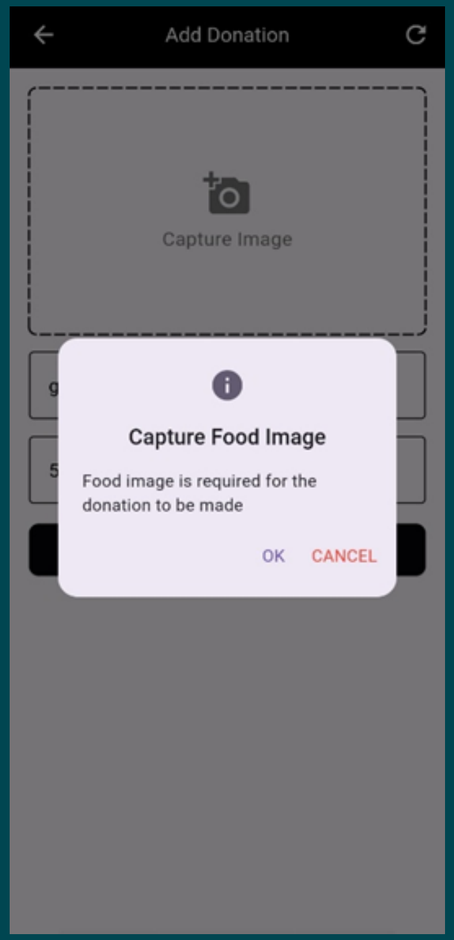
Profile Page

(Users can create profile in this page by entering their details)

OUTPUT:

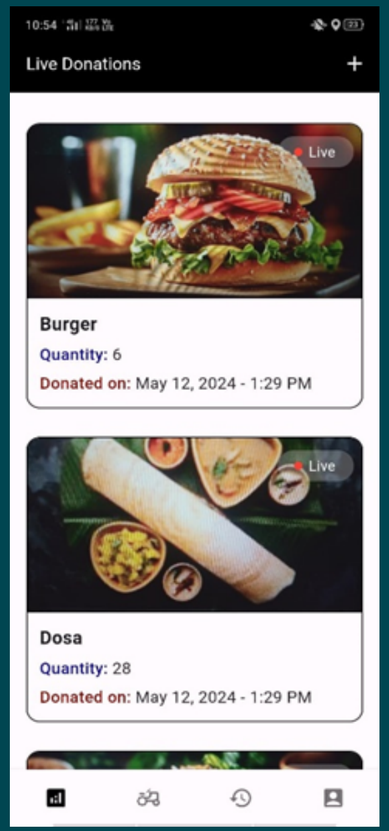




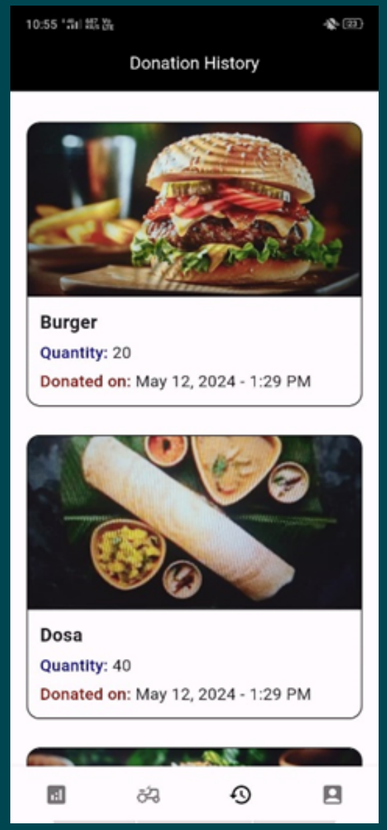


Donation Page (The donor can donate food by specifying the details of food like name, quantity and image)

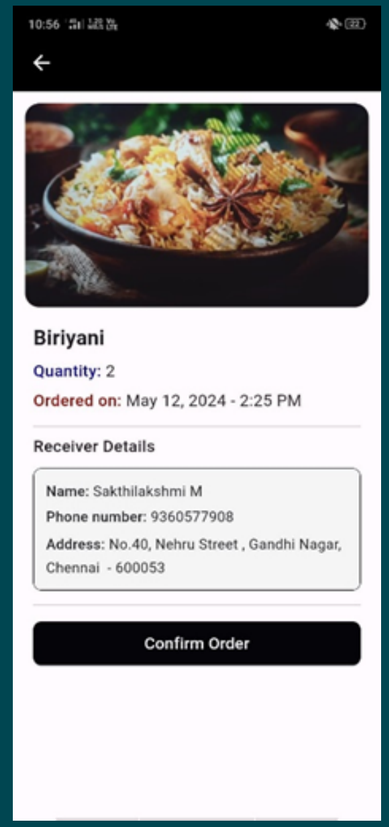
OUTPUT:



Live Donations Page (The donors can view their live donations)

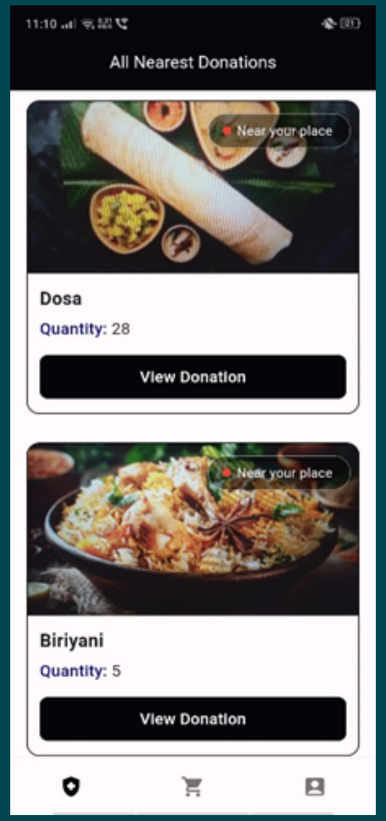


Donation History Page (The donors can view their history of donations)

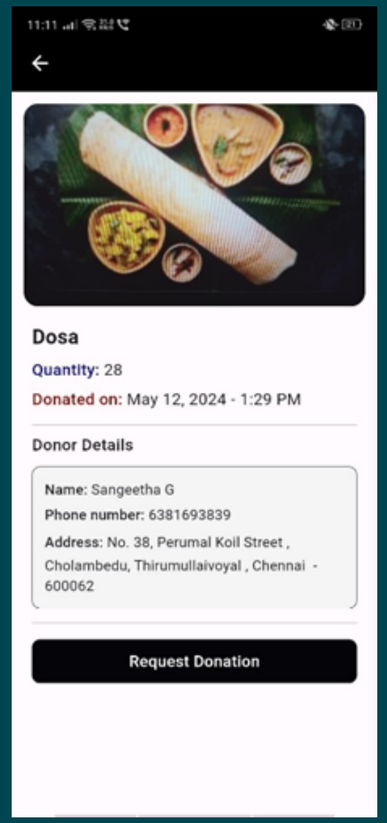


Receiver Details (The donor can view details of receiver who ordered the food

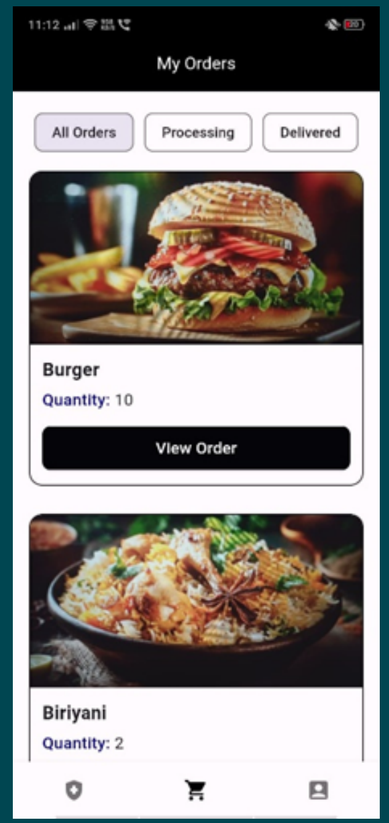
OUTPUT:



Nearest Donations Page (The receivers can view donations near the distance of 20km)

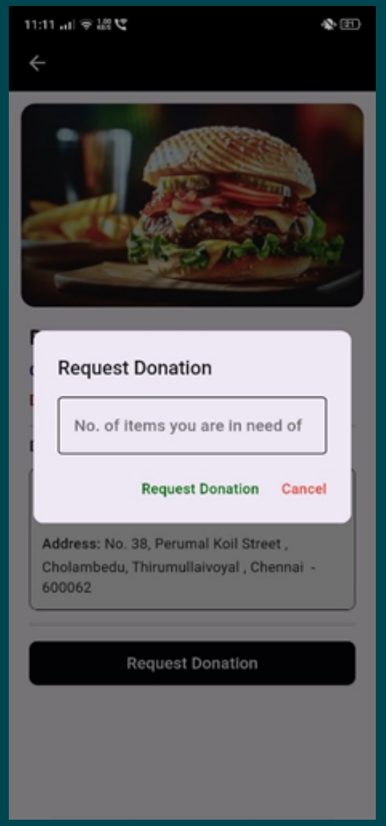


Donation Details Page(Receiver can view the details of the donor)

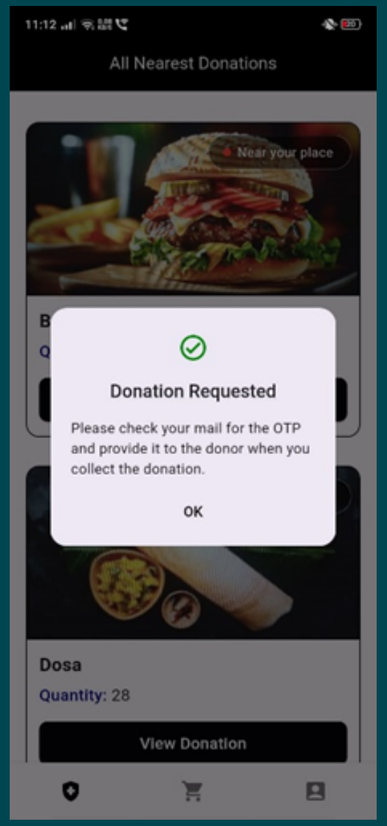


Order History (Receiver can view their order history)

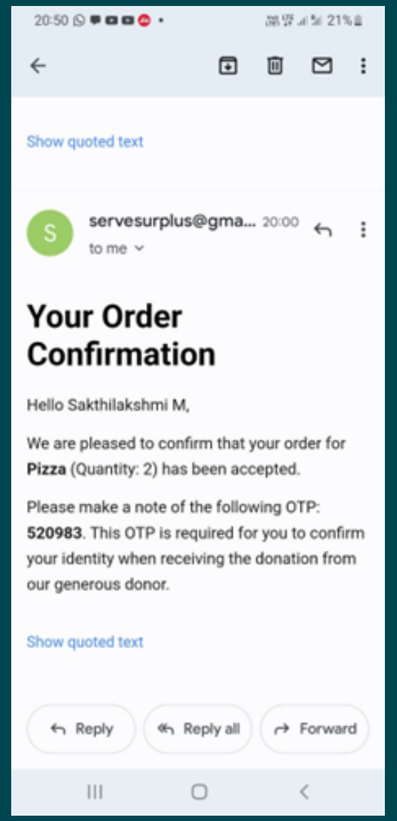
OUTPUT:



Order Page (The receiver can specify the quantity of food item they want to order)

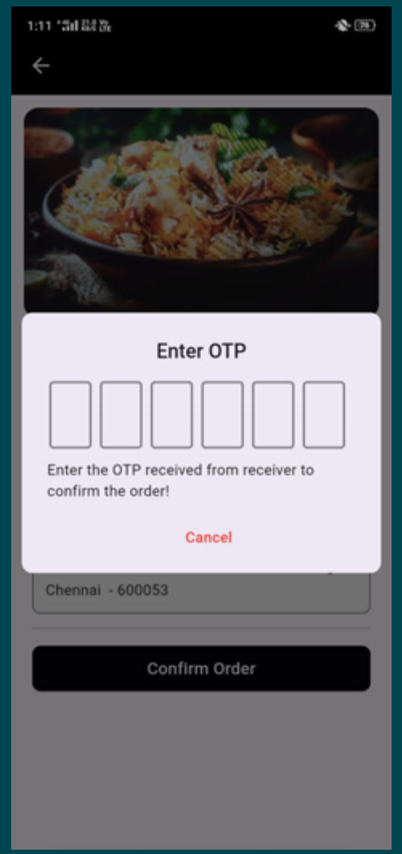


Donation Request Confirmation

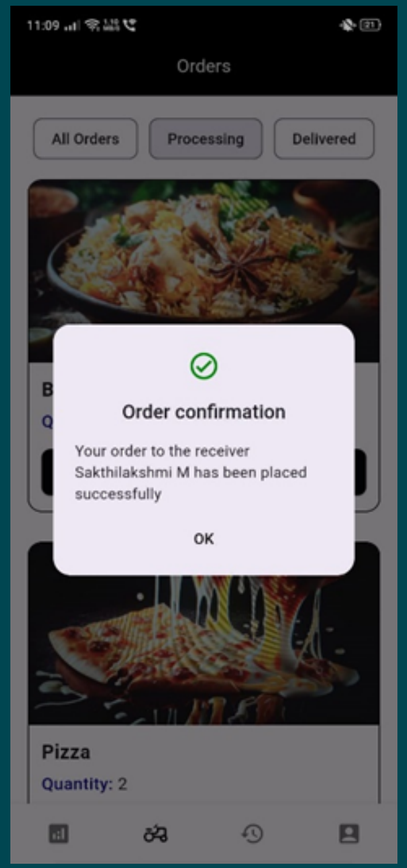


OTP sent to receiver via email.

OUTPUT:



The donor gets the OTP from the receiver and enters here



If the OTP matches, the order will be given to the receiver

CONCLUSION AND FUTURE ENHANCEMENT:

- To sum up, "Serve Surplus" is a creative answer to the problems of food wastage and hunger by means of its user-friendly interface, fast backend processing, and smooth communication features.

- In the future, the chat module could be improved by adding the AI-driven suggestions for food matches and the delivery tracking could be done with the use of the real-time GPS integration to make the user experience more suitable.

- This would not only optimise the donation process but also increase the app's impact in cutting food waste and solving hunger on a bigger scale, thereby making it a crucial instrument for social and environmental sustainability.

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