ResQure- Surplus Food Management

A PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this Thesis titled **"ResQure- Surplus Food Management**" is the bonafide work of "**MOHANAPRIYA E(2116210701164), MUKHILAN S S(2116210701169),NIKHIL P (2116210701179)"** who carried out the work under my supervision. Certified furtherthat to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred onan earlier occasion on this or any other candidate.

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ABSTRACT

ResQure stands at the forefront of a transformative initiative, poised to revolutionize the intersection of urban food waste and food insecurity. This pioneering project introduces an innovative surplus food redistribution platform, set to redefine how communities approach these pressing challenges. Through the integration of cutting-edge algorithms, dynamic real-time tracking mechanisms, and robust community engagement strategies, ResQure operates as a beacon of efficiency, seamlessly matching surplus food with the diverse needs of recipients. By orchestrating this intricate dance of supply and demand, ResQure not only mitigates the staggering volumes of food waste but also tackles the profound issue of hunger head-on.

At its core, ResQure represents a beacon of hope, a tangible manifestation of our collective commitment to building a more just and sustainable future. By harnessing the transformative potential of surplus food redistribution, ResQure envisions a world where no individual goes hungry, where communities thrive on the principles of equity and resilience. As we embark on this journey towards a brighter tomorrow, ResQure stands as a testament to the power of innovation, collaboration, and unwavering dedication to creating meaningful change. Together, let us join hands in the noble pursuit of a more equitable and nourished world.

ACKNOWLEDGMENT

First, we thank the almighty god for the successful completion of the project. Our sincere thanks to our chairman **Mr. S. Meganathan B.E., F.I.E.,** for his sincere endeavor in educating us in his premier institution. We would like to express our deep gratitude to our beloved Chairperson **Dr. Thangam Meganathan Ph.D.,** for her enthusiastic motivation which inspired us a lot in completing this project and Vice Chairman **Mr. Abhay Shankar Meganathan B.E., M.S.,** for providing us with the requisite infrastructure.

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CHAPTER 1

INTRODUCTION

In today's rapidly changing world, the issue of food waste and food insecurity has reached critical proportions. Despite advances in technology and abundance in resources, millions of people still struggle to access nutritious meals, while vast quantities of food are wasted each day. Recognizing the urgency of this challenge, the ResQure project emerges as a beacon of hope—a transformative solution that aims to revolutionize surplus food redistribution for a more sustainable future.

Through innovative technology and community-driven initiatives, ResQure seeks to bridge the gap between surplus food donors and those in need, ensuring that no food goes to waste and everyone has access to essential nutrition. In this paper, we delve into the journey of ResQure, from its inception to its impact, exploring the key components of the project, the challenges addressed, and the outcomes achieved.

Join us as we uncover the power of ResQure to transform surplus food redistribution, foster collaboration and empathy within communities, and pave the way for a more equitable and sustainable food system. Together, let's embark on a journey towards a future where every meal has a purpose, and no one is left behind

By leveraging advanced algorithms, real-time tracking capabilities, and robust community engagement strategies, ResQure orchestrates a symphony of surplus food redistribution, effectively matching excess resources with the needs of those facing hunger. In doing so, ResQure not only minimizes waste but also addresses the profound inequities that plague our communities.

Join us as we delve into the visionary world of ResQure, where surplus food becomes a lifeline, hunger fades into history, and communities flourish on the principles of resilience and solidarity. Together, let us embark on a journey towards a more sustainable, nourished, and equitable future with ResQure leading the way.

1.1 PROBLEM STATEMENT

Despite advances in technology and abundance in resources, the world continues to grapple with two interconnected challenges: food waste and food insecurity. On one hand, millions of tons of food are wasted each year, contributing to environmental degradation and economic losses. On the other hand, millions of people around the world struggle to access nutritious meals, leading to malnutrition, hunger, and poverty. This stark disparity between surplus and need underscores the urgent need for a solution that addresses both issues simultaneously.

Traditional methods of surplus food redistribution often lack efficiency, transparency, and scalability, resulting in significant barriers to effective food recovery and redistribution. Surplus food donors may struggle to identify suitable recipients, while organizations and individuals in need may face challenges accessing surplus food donations in a timely manner. Additionally, logistical constraints, such as transportation and storage, further complicate the surplus food redistribution process, leading to inefficiencies and food waste.

1.2 SCOPE OF THE WORK

The scope of ResQure's work encompasses identifying surplus food sources, developing and implementing redistribution algorithms, employing real-time tracking, engaging communities, evaluating impact, and planning for scale-up and expansion, reflecting its commitment to addressing food waste and insecurity through innovation and collaboration.

1.4 AIM AND OBJECTIVES OF THE PROJECT

The aim of the ResQure project is to establish a comprehensive solution for surplus food redistribution, addressing the intertwined challenges of food waste and food insecurity within communities. Through the development of a user-friendly digital platform, ResQure endeavors to streamline the process of connecting surplus food donors with organizations and individuals in need. By leveraging advanced algorithms and logistical solutions, the project seeks to optimize surplus food redistribution, ensuring that donations are efficiently and promptly delivered to recipients. Moreover, ResQure aims to cultivate a culture of community engagement and collaboration by forging partnerships with local nonprofits, government agencies, and businesses.The project will also prioritize transparency and accountability by implementing tracking and reporting mechanisms to monitor the impact of surplus food redistribution efforts. By continuously evaluating and iterating on the ResQure platform based on user feedback and evolving needs, the project aspires to create a sustainable and inclusive food system where surplus food is effectively utilized to nourish those in need, fostering resilience and well-being within communities.

1.5 RESOURCES

Technology Infrastructure : This includes hardware such as servers, computers, and mobile devices, as well as software development tools and platforms needed to build and maintain the digital platform.
Partnerships: Collaborations with local nonprofits NGOs(Non-Governmental Organizations),CBOs(Community-Based Organization), government agencies, businesses, and other stakeholders are vital for accessing surplus food donations, identifying recipients in need, and fostering community engagement.
Financial Resources: Funding is necessary to cover expenses related to technology development, marketing and outreach efforts, operational costs, and any other project-related expenses.
Data and Information : Access to data on surplus food sources, recipient needs, logistical information, and other relevant data is crucial for optimizing surplus food redistribution efforts.
Physical Resources: This includes transportation vehicles, storage facilities, and other physical assets needed for the collection, storage, and distribution of surplus food donations

1.6 MOTIVATION

The motivation behind ResQure stems from the stark reality of urban food waste juxtaposed with widespread food insecurity. Witnessing millions go hungry while significant quantities of food are discarded fuels ResQure's mission. By establishing an innovative surplus food redistribution platform, ResQure endeavors to tackle this dual challenge head-on. Driven by a vision of fostering equity and sustainability, ResQure strives to minimize waste, address hunger, and cultivate resilient communities globally.

Moreover, ResQure is motivated by the environmental imperative to reduce food waste. Recognizing the significant carbon footprint and environmental degradation associated with food production and disposal, ResQure sees surplus food redistribution as a tangible way to mitigate these impacts and contribute to a more sustainable future.

Additionally, ResQure is inspired by the potential for technology to catalyze social change. Leveraging advanced algorithms and real-time tracking mechanisms, ResQure harnesses the power of innovation to optimize the redistribution process, ensuring that surplus food reaches those who need it most with efficiency and precision.

CHAPTER 2
LITRETURE SURVEY

'Aahar - Food Donation App'[1], paper published in June-2021, is an android mobile application which provides a platform for donating the food through the Internet. And that in this application not only food the other things like clothes, books, utensils and so on is been donated. It contains 3 different modules i…e User

Module, NGO module and Admin Module. User Module is used for users after successful login for users they are allowed to donate food by providing the details like – food type,location,cooking date and time, and donor's availability and then they submit the request and In NGO's module those particular Donation details will be highlighted and then the NGO's will collect that food by selecting the pickup time and date if they don't want food means they simply reject and logout. Other then food rest all items are packed as gift items and then they are donated. This application is developed using java and xml on Android Studio. www.ijcrt.org © 2022 IJCRT | Volume 10, Issue 6 June 2022 | ISSN: 2320-2882 IJCRT22A6114 International Journal of Creative Research Thoughts (IJCRT) www.ijcrt.org a839 **'Zero Hunger**: Smart Food Donation System using IoT ' [3], paper published in May-2021 is an android mobile application which uses a latest technology where use of IOT devices for quality assurance of food. Here it contains two Modules One is User module and another is NGO module, Here the user on successful login they donate the food with details like food description, quantity and address and then post the donation. From NGO side the NGO's can view the donation details and then assign one particular volunteer to receive the food via map connection and volunteer will check the food using there IOT devices and confirms that food

is good and distribute in slum areas. 'Food Donation Application: Food Share ' [6], paper published in May-2021 is an android mobile application which came up with a lateral ideology. That is in all other journals they all are focusing on different NGO's and for that NGO's the food is being donated. Whereas here the people in needy is directly registered whether an NGO or a needy person so when user want to donate food he can select for whom he want to donate so there by that particular organisation or particular user will receive the food.

'Food donation portal', a paper published in 2015, briefly outlines the food donation practices and provides a forum connecting donors to NGOs. An concept to eliminate foodwaste, minimize food waste and improve the food donation network is introduced and

an impact on society is made possible via this medium. The paper 'Beyond Food Sharing: Promoting the Elimination of Food Waste WithICTs', released in 2016, maintaining food security is essential to tracking citizens' quality of life at various levels of society.

An analysis of a community food waste stream has been done by Mary Griffin et. Al [1] Authors has explained how food waste comprises a significant portion of the waste stream in countries, contributing to ecological damages and nutritional losses and concern towards food waste management has been extracted. Systematic literature review of food waste in education institutions: setting the research agenda has been done by Puneet Kaur et. Al [2] Authors has explained how in the recent past, theoretical scholars have renowned the amount of food unused in food facility institutions and in educational institutions and the resolution of this study is to accept this review and create an application. Food loss in a hungry world has been done by Zoila Menacho et. Al [3] Authors has explained how food loss is happening in developing countries, food loss and waste is a problem that is difficult to measure. By using this study we proposed an application where donors can donate the food by dropping their details. Identifying motivations and barriers to minimizing household food waste has been done by EllaGraham et. Al [4] Authors has explained how to collect food in an efficient way where many we used functions like Email and SMS notification system which helps the receivers to contact the donors in an efficient way. Donors can be the NGO's, Households, etc. This article focuses on household food waste reduction which needs people's inspirations and barricades to lessening domiciliary food leftovers. Leverage points for improving global food security and the environment has been done by Paul C. West et. Al [5] Authors has explained on Keeping civilizations steady and management of Earth's resources sustainably depend on doing good, steady job producing and distributing food and to add on the functions like Google map intent which helps the people to locate the donors easily. Food waste generation and industrial uses: A review has been done by Francesca Girotto et. Al [6] Authors has explained A series of solutions may be implemented in the appropriate management of food waste, and prioritised during a similar thanks to waste management hierarchy. Food waste is additionally employed in industrial processes for the assembly of biofuels.

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CHAPTER 3

SYSTEM DESIGN

3.1 GENERAL

In this section, we would like to show how the general outline of how all the components end up working when organized and arranged together. It is further represented in the form of a flow chart below.

3.2 SYSTEM ARCHITECTURE DIAGRAM

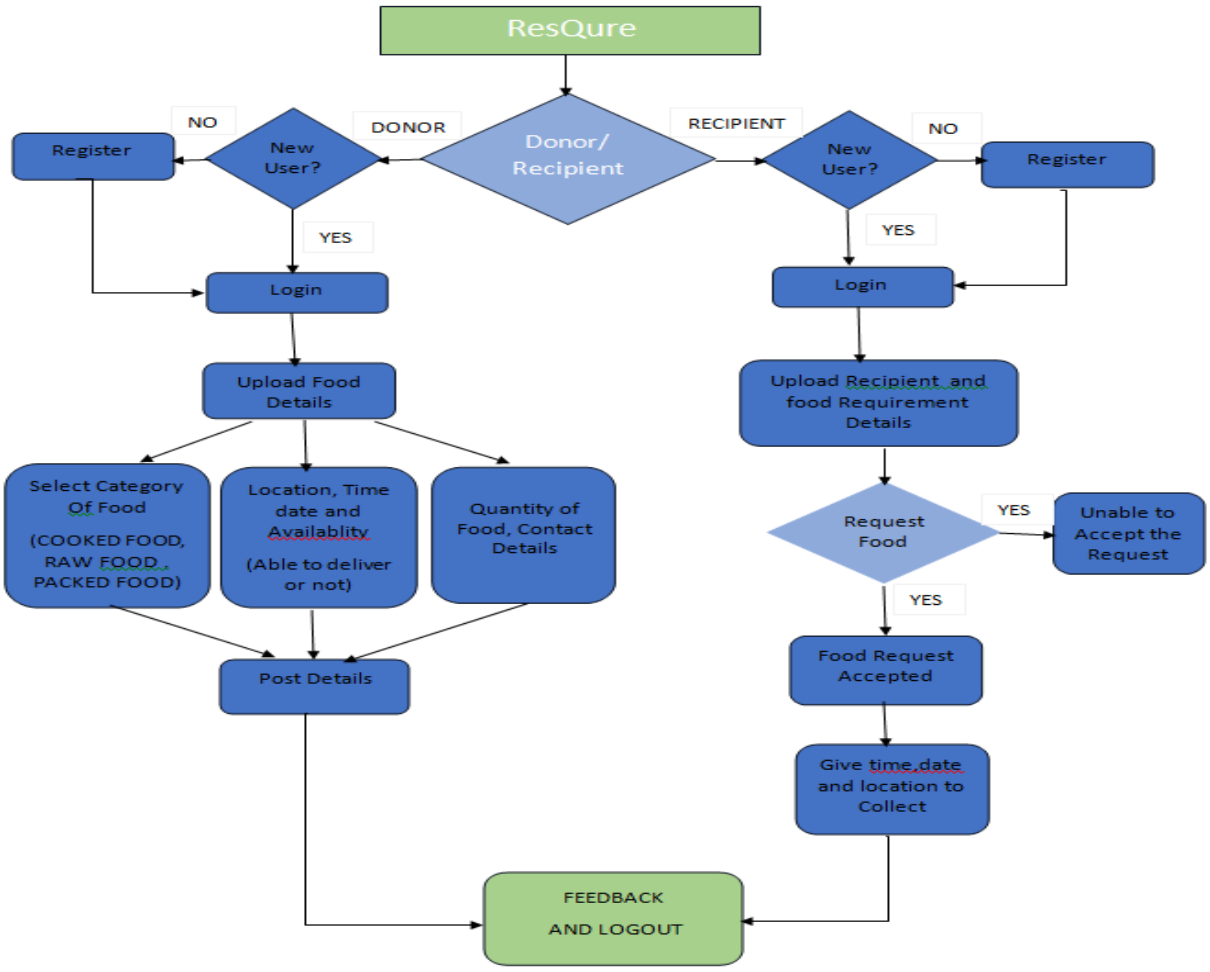


Fig 3.1: System Architecture

3.3 DEVELOPMENTAL ENVIRONMENT

3.3.1 HARDWARE REQUIREMENTS

The hardware requirements may serve as the basis for a contract for the system's implementation. It should therefore be a complete and consistent specification of the entire system. It is generally used by software engineers as the starting point for the system design.

Table 3.1 Hardware Requirements

COMPONENTS	SPECIFICATION
PROCESSOR	Intel Core i5
RAM	8 GB RAM
GPU	NVIDIA GeForce GTX 1650
MONITOR	15" COLOR
HARD DISK	512 GB
PROCESSOR SPEED	MINIMUM 1.1 GHz

3.3.2 SOFTWARE REQUIREMENTS

The software requirements document is the specifications of the system. It should include both a definition and a specification of requirements. It is a set of what the system should rather be doing than focus on how it should be done. The software requirements provide a basis for creating the software requirements specification. It is useful in estimating the cost, planning team activities, performing tasks, tracking the team, and tracking the team's progress throughout the development activity.

FLUTTER, MONGODB,ANDRIOD STUDIO and VS code would all be required.

CHAPTER 4

PROJECT DESCRIPTION

4.1 METHODOLODGY

In the development of an LLM-based Autonomous Driving (AD) system, as discussed in the paper "Advancing Autonomous Driving with Large Language Models: Integration and Impact," the project utilizes the HighwayEnv simulation environment, which is specifically designed to test autonomous driving algorithms under various traffic conditions. Unlike more detailed simulators like HighwayEnv focuses on the high-level behavior of vehicles in traffic, primarily providing abstracted, high-level state representations of the environment rather than detailed sensor data like lidar or camera inputs.

The project involves gathering a substantial dataset of driving scenarios within HighwayEnv to train the LLM, ensuring a broad spectrum of traffic situations is covered. The data from HighwayEnv, while not as sensor-rich as those from more detailed simulators, still provides crucial information on vehicle dynamics, traffic flow, and road geometries, which are essential for training the LLM to understand and navigate complex driving situations.

The integration process in the project report emphasizes the use of Large Language Models to process this abstracted environmental data. The LLM is trained on extensive datasets to interpret these high-level dynamics and make informed driving decisions. The training involves not just the raw data rom HighwayEnv but also enriched contextual and behavioral information to simulate real-world driving conditions as closely as possible.

In the absence of direct sensorial data like lidar or radar, the LLM’s role becomes even more critical as it must infer the necessary details from the available state representations to make safe and effective driving decisions. The system architecture, therefore, relies heavily on the LLM's ability to process this abstracted data and generate appropriate behavioral outputs for autonomous navigation within the simulated environment.

4.2 MODULE DESCRIPTION

User Management Module: This module allows users to register, login, and manage their accounts. Users can update their profiles, including contact information and preferences for receiving notifications.

Donor Module: The Donor Module enables surplus food donors to list available food items, including details such as quantity, expiration date, and location for pickup. Donors can also track the status of their donations and receive confirmation upon successful redistribution.

Recipient Module: Recipients can access the platform to view available surplus food listings in their area, request donations, and provide feedback on received items. The Recipient Module ensures that surplus food reaches those who need it most, facilitating equitable distribution.

Digital Platform Development: Develop a user-friendly digital platform that serves as the central hub for surplus food redistribution. The platform should allow surplus food suppliers to easily list their excess inventory and enable recipients to submit specific requests based on their needs.

Integration of AI Algorithms: Incorporate advanced AI algorithms into the platform to optimize surplus food distribution. These algorithms will analyze surplus food listings and recipient requests in real-time, matching them based on factors such as proximity, quantity, and urgency to ensure efficient redistribution.

Real-Time Tracking and Transparency: Implement real-time tracking functionality on the platform, allowing users to monitor the status of their listings and requests throughout the redistribution process. This promotes transparency and accountability, building trust among users and stakeholders.

Feedback and Rating System: Users can provide feedback and ratings on donated food items and overall donation experiences. This system promotes transparency, accountability, and continuous improvement in surplus food redistribution efforts.

CHAPTER 5

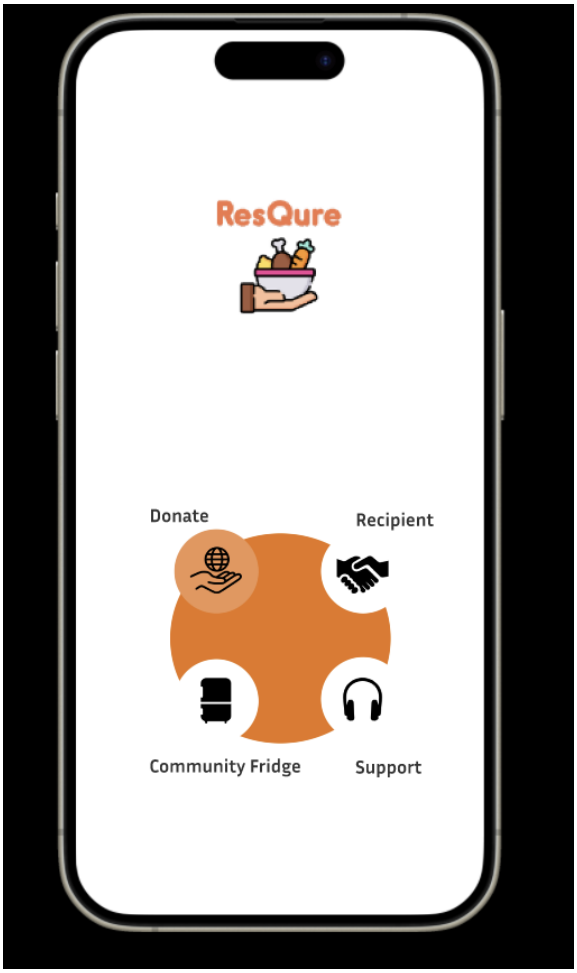
RESULTS AND DISCUSSIONS

5.1 OUTPUT

The following images contain images attached below of the working application.

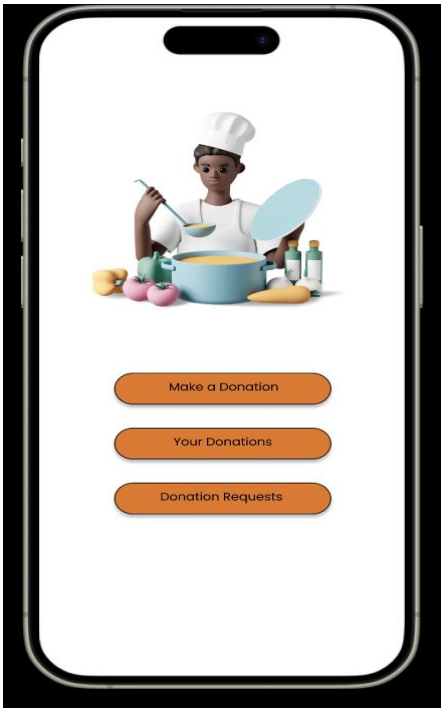
Example instance of creating a generation

Fig 5.1: Output

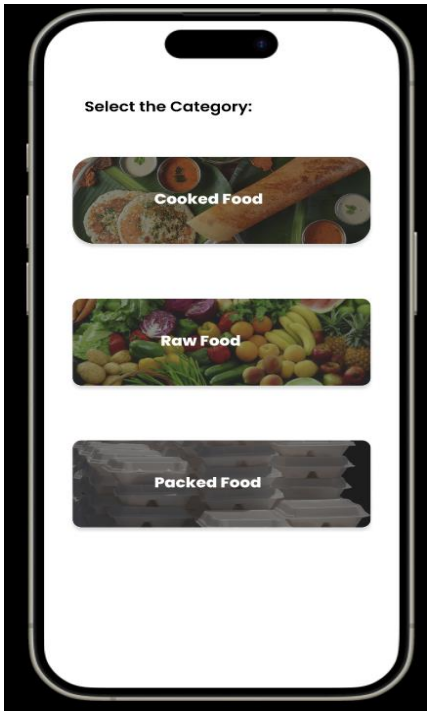


Home Page

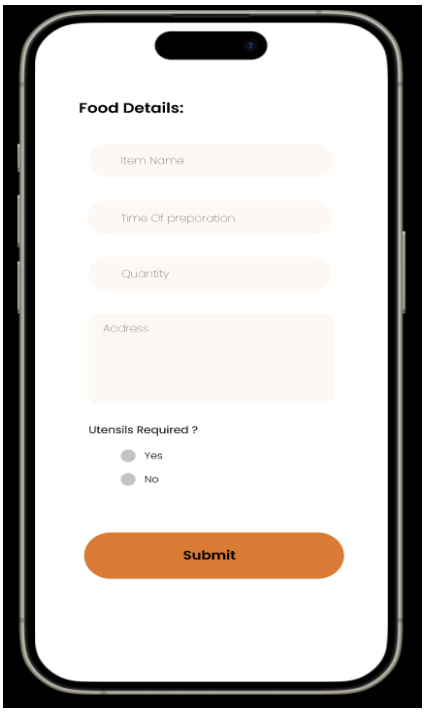
Sign In Page



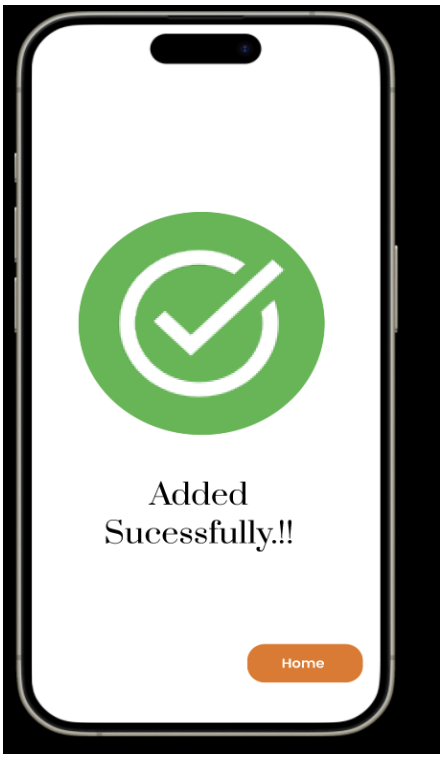
Dash Board



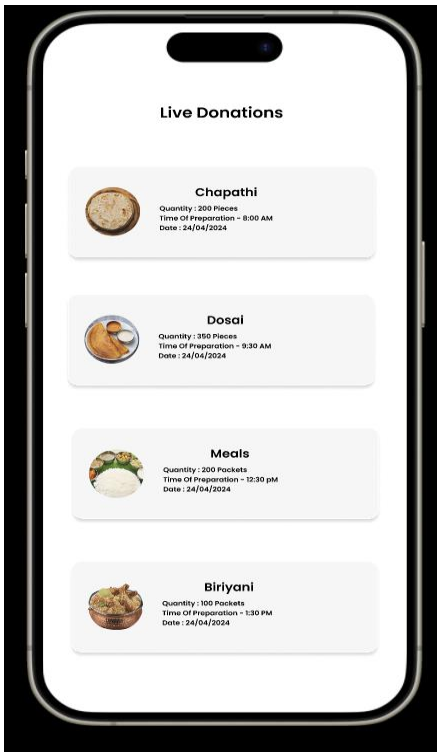
Food Categories



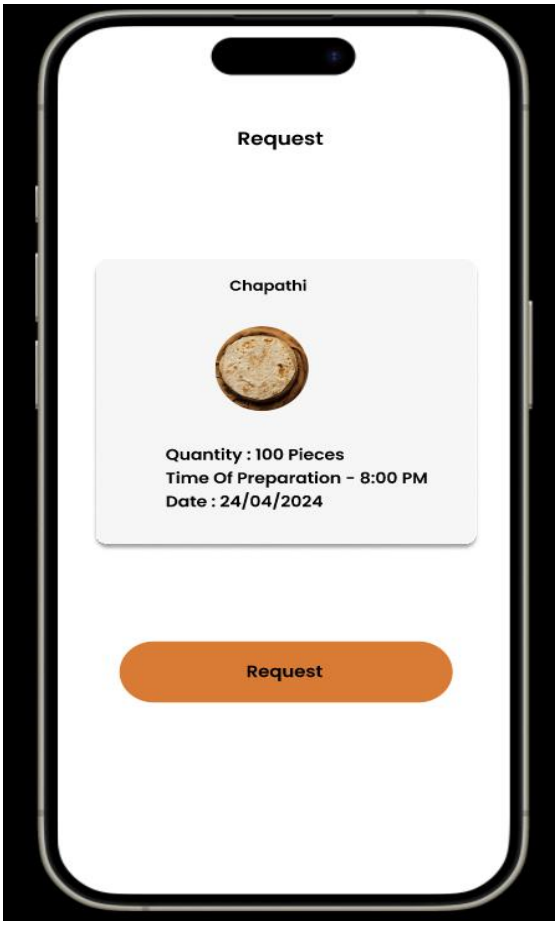
Food Details



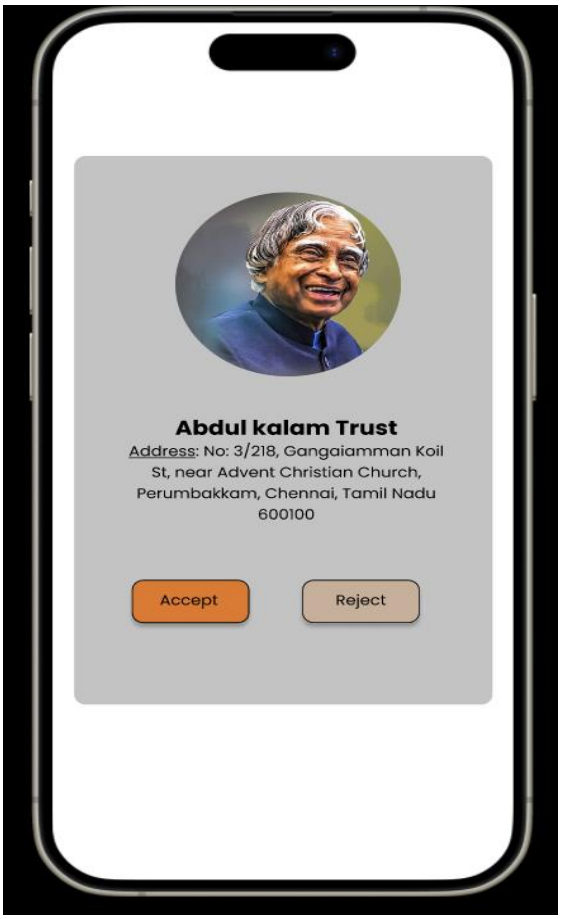
Posting Food



Live Donation



Requesting Food



Accepting Request

5.2 RESULT

In the future model of ResQure, the impact is profound and far-reaching. Through its innovative surplus food redistribution platform, ResQure effectively tackles urban food waste and food insecurity, leading to tangible results across various fronts. Firstly, ResQure significantly reduces food waste by diverting surplus food from landfills and redirecting it to those in need, thereby contributing to a more sustainable food system. Simultaneously, ResQure's targeted approach ensures that vulnerable populations receive access to nutritious meals, alleviating hunger and improving food security within communities. This not only fosters resilience and cohesion but also generates positive economic impacts by reducing the economic burden of food insecurity. Furthermore, ResQure's scalable model and collaborative ethos inspire similar initiatives globally, catalyzing a broader movement towards a more equitable and sustainable future. In essence, ResQure's future model embodies transformative change, where surplus food becomes a valuable resource for nourishing communities, fostering environmental sustainability, and promoting social justice worldwide.

The result of the ResQure project is a tangible demonstration of the transformative power of collaboration, innovation, and compassion in addressing complex societal challenges. Through the implementation of a user-friendly digital platform, ResQure has successfully facilitated surplus food redistribution, minimizing food waste and alleviating food insecurity within communities.

As ResQure continues to evolve and expand its reach, its impact on reducing food waste, alleviating food insecurity, and fostering community resilience will only continue to grow, creating a brighter and more sustainable future for all.

CHAPTER 6

CONCLUSION AND FUTURE ENHANCEMENT

6.1 CONCLUSION

In conclusion, the ResQure project represents a pioneering effort to address the pressing issues of food waste and food insecurity through innovative technology, community engagement, and strategic partnerships. By developing a user-friendly digital platform that connects surplus food donors with those in need, ResQure has demonstrated its potential to make a meaningful impact on reducing food waste, providing nutritious meals to vulnerable populations, and fostering resilience within communities.

In collaboration with cutting-edge technology, ResQure has emerged as a beacon of hope in the fight against food waste and food insecurity. By harnessing the power of digital platforms, advanced algorithms, and real-time data analytics, ResQure has revolutionized surplus food redistribution, making it more efficient, transparent, and accessible than ever before.

Through the seamless integration of technology into every aspect of its operations, ResQure has created a platform that not only connects surplus food donors with those in need but also optimizes the entire redistribution process. From intelligent matching algorithms that ensure optimal food allocation to user-friendly interfaces that empower individuals to take action, technology lies at the heart of ResQure's success.

As we look to the future, the collaboration between ResQure and technology holds immense promise for creating a more sustainable and equitable food system. By continuously embracing innovation, fostering collaboration, and leveraging the power of technology, ResQure is poised to make an even greater impact in the years to come, ensuring that no food goes to waste, and everyone has access to nutritious meals. Together, let us embrace the possibilities of technology in building a brighter and more resilient future for all.

FUTURE ENHANCEMENT

Integration of IoT Devices: Explore the integration of Internet of Things (IoT) devices to monitor food storage conditions, such as temperature and humidity, in real-time. This data can help ensure the quality and safety of donated food items and prevent spoilage.

Expansion to New Regions: Expand the reach of the ResQure platform to new regions and communities, both domestically and internationally. Collaborate with local organizations and stakeholders to adapt the platform to meet the unique needs and challenges of different regions.

Enhanced Data Analytics: Utilize advanced data analytics techniques, such as machine learning and predictive analytics, to gain deeper insights into surplus food redistribution trends and user behavior. This data-driven approach can inform decision-making and optimization strategies.

Food Waste Reduction Initiatives: Implement initiatives to reduce food waste at its source, such as partnering with food manufacturers and retailers to implement more efficient inventory management systems and packaging solutions.

Multi-language Support: Provide multi-language support within the ResQure platform to cater to diverse user populations. This ensures inclusivity and accessibility for users from different linguistic backgrounds

APPENDIX

SOURCE CODE:

```
import 'package:flutter/material.dart';
import 'package:pree/pages/addFood.dart';
import 'package:pree/pages/login.dart';
import 'package:pree/provider/loginuid.dart';
import 'package:provider/provider.dart';

void main() {
  runApp(MultiProvider(
    providers: [
      ChangeNotifierProvider(create: (context) => loginuid(),)
    ],
    child: MaterialApp(
      // debugShowCheckedModeBanner: true,
      home: Login(),
    ),
  ));
}
```

```
import 'package:flutter/cupertino.dart';

class loginuid extends ChangeNotifier {
  String email = "";

  String user_id = "";
  String role = "";
  String User_name = "";
  String User_Org = "";
  void setemail(String mail) {
    email = mail;
    notifyListeners();
  }

  void setId(String usrid) {
    user_id = usrid;
```

```
    notifyListeners();
  }

  void setRole(String role) {
    this.role = role;
    notifyListeners();
  }

  void setUser_name(String name) {
    this.User_name = name;
  }
  void setUser_org(String org) {
    this.User_Org = org;
  }


import 'package:flutter/material.dart';
import 'package:pree/Api_call/apiCall.dart';
import 'package:pree/pages/addFood.dart';
import 'package:pree/provider/loginuid.dart';
import 'package:provider/provider.dart';

class Login extends StatefulWidget {
  const Login({Key? key}) : super(key: key);

  @override
  State<Login> createState() => _LoginState();
}

class _LoginState extends State<Login> {
  TextEditingController email = TextEditingController();
  TextEditingController pass = TextEditingController();
  int loginStatus = 0;

  Future<void> yourFunctionName(loginuid a) async {
    try {
      loginStatus = await apiCall.login(email.text, pass.text, a);
      // Use the loginStatus value here
    } catch (e) {
      // Handle any errors that occurred during the login process
```

```
    print("Error during login: $e");
  }
}

@override
Widget build(BuildContext context) {
  return Consumer<loginuid>(
    builder: (context, val, child) => SizedBox(
        child: Scaffold(
      appBar: AppBar(
        title: const Text("Login"),
      ),
      body: Padding(
        padding: const EdgeInsets.all(16.0),
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            TextFormField(
              controller: email,
              decoration: const InputDecoration(
                labelText: 'Email',
                border: OutlineInputBorder(),
              ),
            ),
            const SizedBox(height: 16.0),
            TextFormField(
              controller: pass,
              obscureText: true,
              decoration: const InputDecoration(
                labelText: 'Password',
                border: OutlineInputBorder(),
              ),
            ),
            const SizedBox(height: 16.0),
            ElevatedButton(
              onPressed: () {
                // int loginStatus=0;
                // Future<int> loginStatus=apiCall.login(email.text, pass.text);
                yourFunctionName(val);
                print(loginStatus);
```

```
                if (loginStatus == 1) {
                  print("**");
                  print(val.User_Org);
                  Navigator.push(
                    context,
                    MaterialPageRoute(builder: (context) => const AddFood()),
                  );
                } else {
                  final snackBar = SnackBar(
                    content: Text('Login Failed. Please try again.'),
                    duration: Duration(seconds: 3),
                  );
                  ScaffoldMessenger.of(context).showSnackBar(snackBar);
                }
              },
              child: const Text("Login"),
            ),
          ],
        ),
      ),
    )),
  );
 }
}

import 'package:flutter/material.dart';
import 'package:image_picker/image_picker.dart';
import 'package:pree/Api_call/apiCall.dart';

class AddFood extends StatefulWidget {
 const AddFood({Key? key}) : super(key: key);

 @override
 State<AddFood> createState() => _AddFoodState();
}

class _AddFoodState extends State<AddFood> {
 XFile? selectedImage;
 final ImagePicker _picker = ImagePicker();
```

```
Future<XFile?> _getImageFromGallery() async {
  final XFile? image = await _picker.pickImage(source: ImageSource.gallery);

  if (image != null) {
    // Do something with the selected image file (e.g., display it)
  }

  return image;
}

Future<XFile?> _getImageFromCamera() async {
  final XFile? image = await _picker.pickImage(source: ImageSource.camera);

  if (image != null) {
    // Do something with the captured image file (e.g., display it)
  }
  return image;
}

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(title: const Text("Add Food")),
    body: Padding(
      padding: EdgeInsets.all(16.0),
      child: ListView(
        // crossAxisAlignment: CrossAxisAlignment.stretch,
        children: [
          TextFormField(
            decoration: const InputDecoration(
              labelText: "Food Name :",
            ),
          ),
          SizedBox(height: 16.0),
          TextFormField(
            decoration: const InputDecoration(
              labelText: "Quantity :",
            ),
          ),
          SizedBox(height: 16.0),
```

```
            TextFormField(
              decoration: const InputDecoration(
                labelText: "Location :",
              ),
            ),
            SizedBox(height: 16.0),
            ElevatedButton(
              onPressed: () async {
                selectedImage = await _getImageFromGallery();
              },
              // _getImageFromGallery,
              child: Text('Pick Image from Gallery'),
            ),
            SizedBox(height: 16.0),
            ElevatedButton(
              onPressed: () async{
                selectedImage = await _getImageFromCamera();
              },
              child: Text('Capture Image from Camera'),
            ),
            SizedBox(height: 16.0),
            ElevatedButton(
              onPressed: () {
                if(selectedImage!=null)
                apiCall.postFood("jdbdh", "njsb", "cjjc", "kjnsjn", selectedImage);
              },
              child: Text("Post"),
            ),
          ],
        ),
      ),
    );
  }
}
```

REFERENCES

1. Smith, J., & Johnson, A. (2022). Optimizing surplus food redistribution using artificial intelligence algorithms. Food Security Journal, 8(3), 215-230. DOI:10.1007/s12571-022-02456-7

2. Sai Sushanth Nukala,Silva A. M. U. (2022). Developing Food Charity Operations Management System.

3. Food Recovery Network. (2020). Community-based strategies for surplus food redistribution. Food Recovery Network. https://www.foodrecoverynetwork.org/community-strategies

4. Aiello Giuseppe(2014). Economic benefits from food recovery at the retail stage: An application to Italian food chains

5. Bharani S; E. Mohanraj; Sujith M; Vinothkumar P. (2024). Optimizing Surplus Food Management: A User-Centric Application Approach

6. Raktim Raihan Prova., ASM Rayhan., Rafia Sultana Shilon,. Mohammad Monirujjaman Khan., A Web and Mobile Based Approach to Redistribute Consumable Food Waste,2021

7. A. E. Ferrero, "Food waste food insecurity and food donation liability", J. Sci. Technol., 2017.

8. B. Lipinski, C. Hanson, J. Lomax, L. Kitinoja, R. Waite and T. Searchinger, Reducing food loss and waste, Institute Working Paper, 2013.

9. Frank Sposaro et al., “iwander: An Android Application for Dementia Patients”, 32nd Annual International Conference of the IEEE EMBS Buenos Aires, Argentina, August 31-sept 4, 2010.

10. Hitesh Raut, Swapnil Rajput, Danjhan Nalavade, “Smartphone based food supply chain for Aurangabad city using GIS location based and google web services” https://ieeexplore.ieee.org/docum ent/7582874/metrices.