Food Wastage Management System

A PROJECT REPORT

Submitted by,

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Thippineni Pavan kalyan -20191CSE0642
Vemala Mysura Reddy -20191CSE0677

Under the guidance of,

Ms.Monisha Gupta

in partial fulfillment for the award of the degree

of

BACHELOR OF TECHNOLOGY
IN

COMPUTER SCIENCE AND ENGINEERING

At

SCHOOL OF COMPUTER SCIENCE & ENGINEERING

PRESIDENCY UNIVERSITY

BENGALURU

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CERTIFICATE

This is to confirm that the Project report is accurate. **Food Wastage Management System** being submitted by **Thatikonda Srinadh, Thamatam Sai Koushik Reddy, Thippineni Pavan Kalyan, Vemala Mysura Reddy, Sure Jaswanth Reddy** bearing roll number(s) **20191CSE0639, 20191CSE0636, 20191CSE0642, 20191CSE0677, 20191CSE0605.** A legitimate project managed by me partially satisfies the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering**.**

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DECLARATION

By this declaration, we affirm that the work that is being described in the project reported **FOOD WASTAGE MANAGEMENT SYSTEM** This document, which serves as a record of our own research conducted with the help of, is submitted in partial fulfillment for the award of the degree of Bachelor of Technology in Computer Science and Engineering. **Ms.Monisha Gupta, Assistant Professor**, **School Of Computer Science & Engineering, Bengaluru.** We have not applied elsewhere for the award of another degree using the information in this report.

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ABSTRACT

Everyone appreciates the events that feature a lot of food and other goods, most of which are wasted or remain unused. To address this issue, we developed a Reducing Food Waste Management System that can accept requests from users who want to deal with leftover food. Users can ask our system managers to donate to needy locations where the majority of people lack access to food, and the managers will come to them at the scheduled time to pick up the order and park the food there. I had this concept in mind; users may log in and enter their location, the quantity of food they have on hand, and the kind of food they have. The admin is then sent a brief notice. After receiving the message, the administrator will send an acknowledgement to the user at that location so they may log in and collect the donor's information. The donor can create an account in this application and log in anytime there is food waste to enter the location and food specifics. The administrator has access to an account and can retrieve information. The administrator can obtain food from the donor and give it to the orphans or others after collecting the information.

ACKNOWLEDGEMENT

First and foremost, we owe thanks to the GOD ALMIGHTY for providing me the chance to succeed in our efforts to finish this project on schedule.

We greatly appreciate the Presidency University School of Computer Science & Engineering's Dean, **Dr. Md. Sameeruddin Khan**, for giving us the go-ahead to complete the project.

Our deepest appreciation goes out to Presidency University's School of Computer Science & Engineering, Associate Dean **Dr. C. Kalaiarasan, Professor Dr. T. K. Thivakaran**, and University Project-II In-charge for your rapid assistance in supporting us as we finished this project.

We sincerely thank and appreciate the work of the University Project-II Co-Ordinators, **Mr. Mrutyunjaya MS, Mr. Sanjeev P Kaulgud, Mr. Rama Krishna K, and Dr. Madhusudhan MV.**

We express our gratitude to our family and friends for their unwavering support and encouragement in launching this endeavor. We are extremely appreciative of our mentor, **Ms. Monisha Gupta,** Assistant Professor, School of Computer Science & Engineering, Presidency University, for her motivational advice, insightful suggestions, and giving us the chance to fully express our technical prowess in order to complete the project work.

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CHAPTER-1
INTRODUCTION

1.1 Analyzing Food Waste Data

The Food Waste Reduction (FWR) initiative sought assistance from BSR (Business for Social Responsibility) to analyze data on food waste collected from food producers, grocery store merchants, and wholesalers. To gather this information, the FWR collaborated with the Grocery Manufacturers Association (GMA) and the Food Marketing Institute (FMI) to distribute a survey to businesses. Appendix A provides a detailed discussion of related concepts and extrapolations.

The FWR initiative, launched in 2010, aims to reduce food waste along the entire supply chain, spanning from food producers to restaurants and grocery stores. The initiative is governed by the active leadership and engagement of the in a collaborative effort involving the Food Marketing Institute (FMI), the Grocery Manufacturers Association (GMA), and the National Restaurant Association (NRA),

1.2 Food Waste Reduction Initiative

The Alliance is in need of help in order to decrease food waste along the whole supply chain. The FWR has three objectives: 1. To reduce and eventually get rid of food waste in members' supply chains and operations. 2. To increase contributions of food that would otherwise go to waste and to send food to food banks to fight hunger. 3. Changing the inevitable food waste from being disposed of in landfills to being used for more beneficial purposes including composting, waste-to-energy, and animal feed.

1.3 Food Waste Resource Assessment

The companies and groups involved in this initiative have carefully examined the sources of food waste. On publicly accessible data, the initial evaluation was made. The second evaluation, on which this paper is focused, is based on first-hand information gathered from businesses.

CHAPTER-2

LITERATUR SURVEY

Aamir, M., Ahmad, H., Javaid, Q., & Hasan, S. M. (2018). Waste not, want not: a case study on food waste in restaurants of Lahore, Pakistan.

2.1 Journal of Food Products Marketing, 24(5), 591-611. –

The Food Waste Reduction (FWR) initiative sought the assistance of BSR (Business for Social Responsibility) to analyze data on food waste collected from food producers, grocery store merchants, and wholesalers. To gather this information, the FWR collaborated with the Grocery Manufacturers Association (GMA) and the Food Marketing Institute (FMI) to distribute a survey among businesses. A comprehensive discussion of related concepts and extrapolations can be found in Appendix A.

Launched in 2011, the FWR initiative aims to reduce food waste across the entire supply chain, spanning from food producers to restaurants and grocery stores. It is governed by the active leadership and engagement of the in a collaborative effort involving the Food Marketing Institute (FMI), the Grocery Manufacturers Association (GMA), and the National Restaurant Association (NRA),

Heikkilä, L., Reinikainen, A., Katajajuuri, J. M., Silvennoinen, K., & Hartikainen, H. (2016).

2.2 factors that have an impact on food waste in the food service industry.

Food waste in the food service industry has significant environmental and economic implications. To gain a comprehensive understanding of this complex problem, a qualitative study was conducted to explore the factors contributing to food waste generation in restaurants and catering firms. The study involved three participation workshops conducted with staff members from distinct Finnish catering enterprises, providing valuable research data. Through a synthesized qualitative content analysis, the study identified eight key factors that impact food production and waste reduction in these establishments.

Katajajuuri, J. M., Silvennoinen, K., Hartikainen, H., Heikkilä, L., & Reinikainen, A. (2014). *Journal of Cleaner Production*, *73*, 322-329. –

2.3 Food waste in the Finnish food chain.

His research mapped the amount and makeup of food waste that might have been prevented along the Finnish food production-consumption chain, showing that the home sector is responsible for over 130 million kg of the nation's annual food waste output, or 23 kg per person. The majority of the food that was wasted was fresh, perishable, or it was leftover food. The amount of food that Finnish families throw away each year when converted to greenhouse gases is about equivalent to the yearly carbon dioxide emissions of 100,000 automobiles.

Hartikainen, H., Pietiläinen, O., Strid, I., and Eriksson, M. (2019). Malefors, C., Callewaert, P., Hansson, P. A. Quantities and data processing standards in the direction of a baseline for quantifying the food waste in hospitality sector. Sustainability, 11(13),3541. –

2.4 Towards a Baseline for Food Waste

The urgent need for primary data collection on food waste arises from the importance of obtaining reliable quantification data, which can serve as a vital indicator for the goal of halving food waste by 2030. Our study focused on various sectors within the hospitality industry, including canteens, nursing homes, hotels, hospitals, preschools, primary schools, restaurants, and upper secondary schools, with the aim of assessing and enhancing food waste standards.

Matzembacher, D. E., Brancoli, P., Maia, L. M., and Eriksson.(2020) A comparison of various incentive and interaction levels and consumer food waste in various restaurant configurations. 263-273 in Waste Management, 114. 263-273.

2.5 Consumers Food Waste In Different Restaurants

Food waste must be decreased in order to support healthy diets and sustainable food systems since it has a negative impact on resource conservation, food security, and other environmental, social, and economic repercussions. This study aims to quantify the amount and types of food that diners waste in various restaurant settings. Understanding the reasons for human food waste and the resulting greenhouse gas emissions is the second objective. In order to accomplish the goals, a combination of techniques was used, including life-cycle analysis to analyse the environmental effect of the waste, interviews with customers and employees, and primary data collection in restaurants for the measurement of food waste.

McAdams, B., von Massow, M., Gallant, M., & Hayhoe, M. A. (2019). A cross industry evaluation of food waste in restaurants. ***Journal of Foodservice Business Research*****,** ***22*****(5), 449-466.** –

2.6 An Evaluation of Food Waste Across Industries

The objective of this study was to comprehensively investigate the extent of food waste across various sectors of the restaurant industry. To achieve this, a sequential explanatory approach was employed. Researchers utilized a Food Delivery System Framework, which was developed based on extensive industry experience and exploratory interviews with participating restaurants. The framework served as a tool to assess food waste generation and monitor management strategies implemented to minimize it.

The study focused on a range of restaurants located in Southwest Ontario, Canada, representing different segments within the industry. This encompassed quick-service, limited-service, casual dining, and fine dining establishments. Over a period of 28 days, researchers diligently measured and collected data on food waste. To gather further insights, they conducted interviews with management personnel and conducted observations of the food production and preparation processes during the restaurants' operating hours.

By employing this comprehensive approach, the study aimed to provide valuable insights into the current state of food waste within the restaurant industry. Ultimately, this research contributes to the broader goal of fostering sustainability and promoting efficient resource utilization within the restaurant sector.

CHAPTER-3

REQUIREMENT ANALYSIS

3.1 Demands that are both functional and non-functional:

The analysis of requirements is a fundamental and vital step in assessing the feasibility of a system or software project. This initial phase involves evaluating and understanding the necessary functionalities and characteristics of the system. Two primary types of requirements are considered: functional requirements and non-functional requirements.

Functional prerequisites : To meet the requirements of end users, a system must adhere to specific specifications as defined in the contract. These specifications encompass various attributes that are necessary for the system. These attributes are typically expressed or described in terms of inputs, actions, and desired outcomes. Unlike non-functional requirements, which focus on aspects beyond functionality, these attributes represent user-defined requirements that are directly observable in the final product. They are the tangible and visible elements of the system that directly address the needs of end users. Complying with these attributes is crucial to ensure that the system fulfills the expectations and demands of its users as outlined in the contract.

Examples of functional requirements:

1) Authentication is necessary each time a user logs into the system.
2) shutdown of the system in the event of a cyberattack
3) Each user who registers for the first time on a certain software system receives a verification email.

Non-functional requirements: In essence, these requirements for excellence represent the specific criteria that the system must meet to fulfill the obligations outlined in the project contract. Depending on the nature of the project, these criteria may have different priorities or varying levels of importance. These criteria are commonly referred to as non-functional requirements, as they encompass aspects beyond the system's behavior. Non-functional requirements include factors such as performance, reliability, security, usability, and other attributes that contribute to the overall quality of the system. It is crucial to address these non-functional requirements to ensure the delivery of a high-quality system that meets the

expectations and contractual commitments of the project.

- Security
- Scalability
- Portability
- Maintainability
- Performance
- Reusability
- Flexibility

Examples of non-functional requirements:

- Timeliness of Notification: Notifications must be sent via email no later than 12 hours after the occurrence of a relevant event.
- Response Time: Each request should be completed within a maximum time frame of 10 seconds, ensuring a prompt and efficient user experience.
- Performance under High Load: The website should maintain a load time of 3 seconds, even during periods of high traffic with more than 10,000 concurrent users.

3.2 Hardware Requirements

Processor	**- I5/Intel Processor**
Hard Disk	- 252GB
Key Board	- Standard Windows Keyboard
Mouse	- Two or Three Button Mouse
Monitor	- SVGA
RAM	- 8GB

Software Requirements:

Operating System	: Windows 7/8/10
Server Side Script	: HTML, CSS, React JS.
Programming Language	: Java
IDE/Workbench	: Intell ij Idea
Technology	: Java, Spring boot
Server Deployment	: Tomcat Server
Database	: MySQL

CHAPTER-4

OBJECTIVES

The goal of the project is to identify the primary causes of food waste generation within the system and assess the quantity of waste produced. This information will serve as a basis for improving the food waste management system. To effectively address food waste, it is essential to develop comprehensive plans and strategies for waste prevention, reduction, and recovery. Continual monitoring and evaluation of the project's effectiveness will allow for necessary adjustments and improvements to achieve the desired outcomes. Additionally, public education plays a vital role in promoting behavior change among consumers and other stakeholders, encouraging them to adopt sustainable practices that contribute to the reduction of food waste.

CHAPTER- 5

EXISTING SYSTEM

In an existing framework in the event that anybody has additional sustenance in light of any capacity or in their home, it will be turned out to be squandered on the grounds that quickly there is no real way to impart to anybody on the off chance that they are having heaps of nourishment. Regardless of whether they need to give that additional nourishment to any halfway house or needy individuals they do not have the time or do not have a thought regarding that with the goal that we have made an application for the support that additional sustenance to destitute individuals or adjacent halfway house.

Disadvantages:

- Wastage of food resources
- This is time taking process.
- It is very difficult process.

CHAPTER-6

PROPOSED METHOD

In the proposed framework, we lessen that nourishment wastage utilizing that application. This initiative to redistribute food is a colossally beneficial social development that addresses food waste and hunger. The administrator collects food from donors through their neighboring operator and then distributes it to nearby halfway houses or needy people. In the wake of getting the nourishment from the operator by the administrator and give the ready message to the donator through along these lines, we can diminish sustenance wastage issue

Advantages

- Easy process.
- Managing the food waste
- Time reducing process

FLOW DIAGRAM

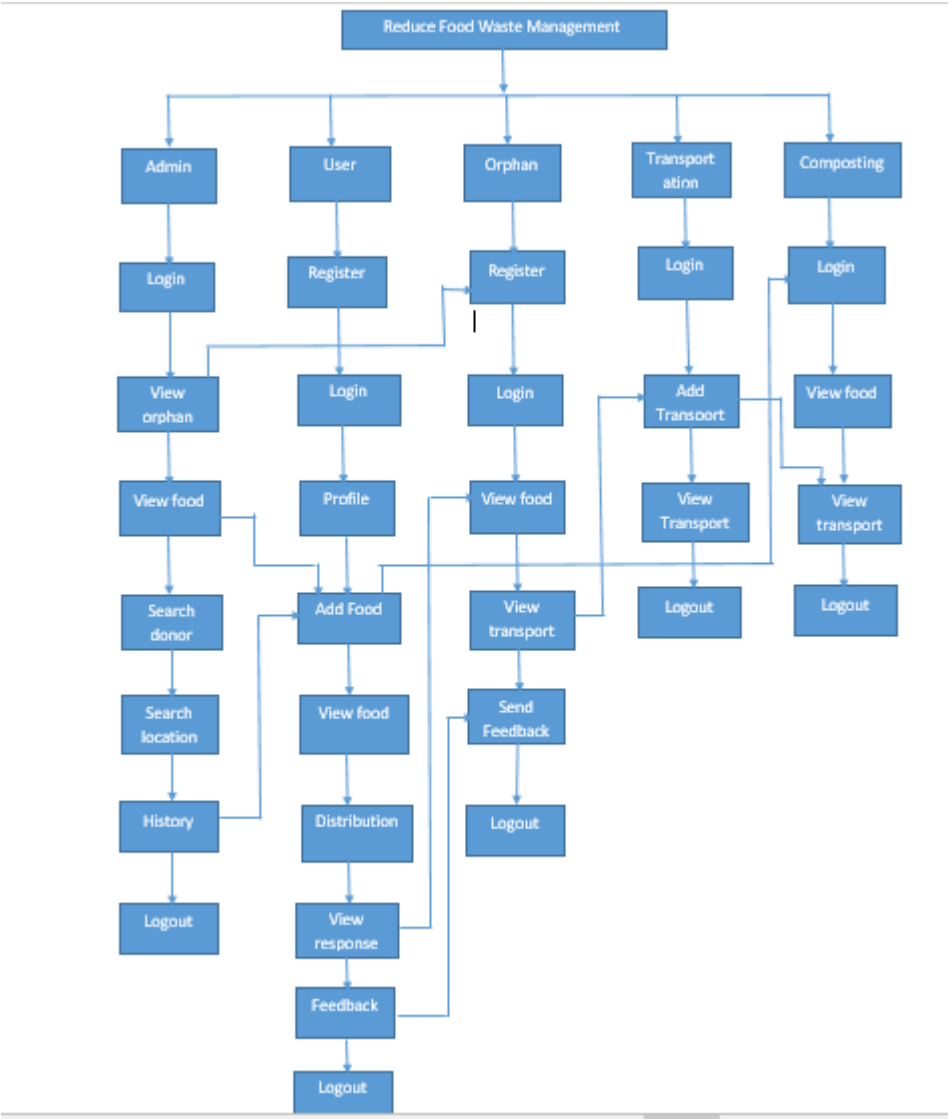

Fig : 6.1 Flow diagram

- **The above Flow diagram indicates the flow of the project refer figure 6.1**

CHAPTER-7

SYSTEM DESIGN

7.1 Introduction of Input Design:

Input design refers to the process of determining the specific inputs that are required for an information system to function effectively. When designing input areas, several factors need to be considered to ensure optimal system performance. These considerations include the various input formats such as PC (Personal Computer), MICR (Magnetic Ink Character Recognition), OMR (Optical Mark Recognition), and others. Additionally, well-designed displays and input areas possess the following characteristics.

Objectives for Input Design:

The Input Design's Objectives−

- to design data entry and input processes.
- diminution of the input volume
- Invent novel methods for data acquisition or provide sources for data capture
- to design data entry panels, user interface displays, input data records, etc.
- to create input controls that are effective and to offer input validation controls. The output design is the most important

Output Design:

Output design holds significant importance in every system. It involves the crucial task of selecting the necessary output types, considering output controls, and creating prototypes for report layouts.

Objectives of Output Design:

The objectives of input design are:

- To develop outputs that perform the specified purpose and prevent the production of unwanted output.
- To develop an output that meets the requirements of the intended user.
- To provide the proper amount of production.
- To deliver the results in time for decision-makers to use.

7.2.1 Use Case Diagram:

A use case diagram is a behavioral diagram that falls under the Unified Modeling Language (UML). It is used to visually represent the functionality of a system by illustrating the relationships between actors, their goals (represented as use cases), and the connections among those use cases. The primary purpose of a use case diagram is to demonstrate which system operations are performed by each actor. Actors in the system can be portrayed as roles, representing different types of users or external entities.

7.2 UML Diagrams:

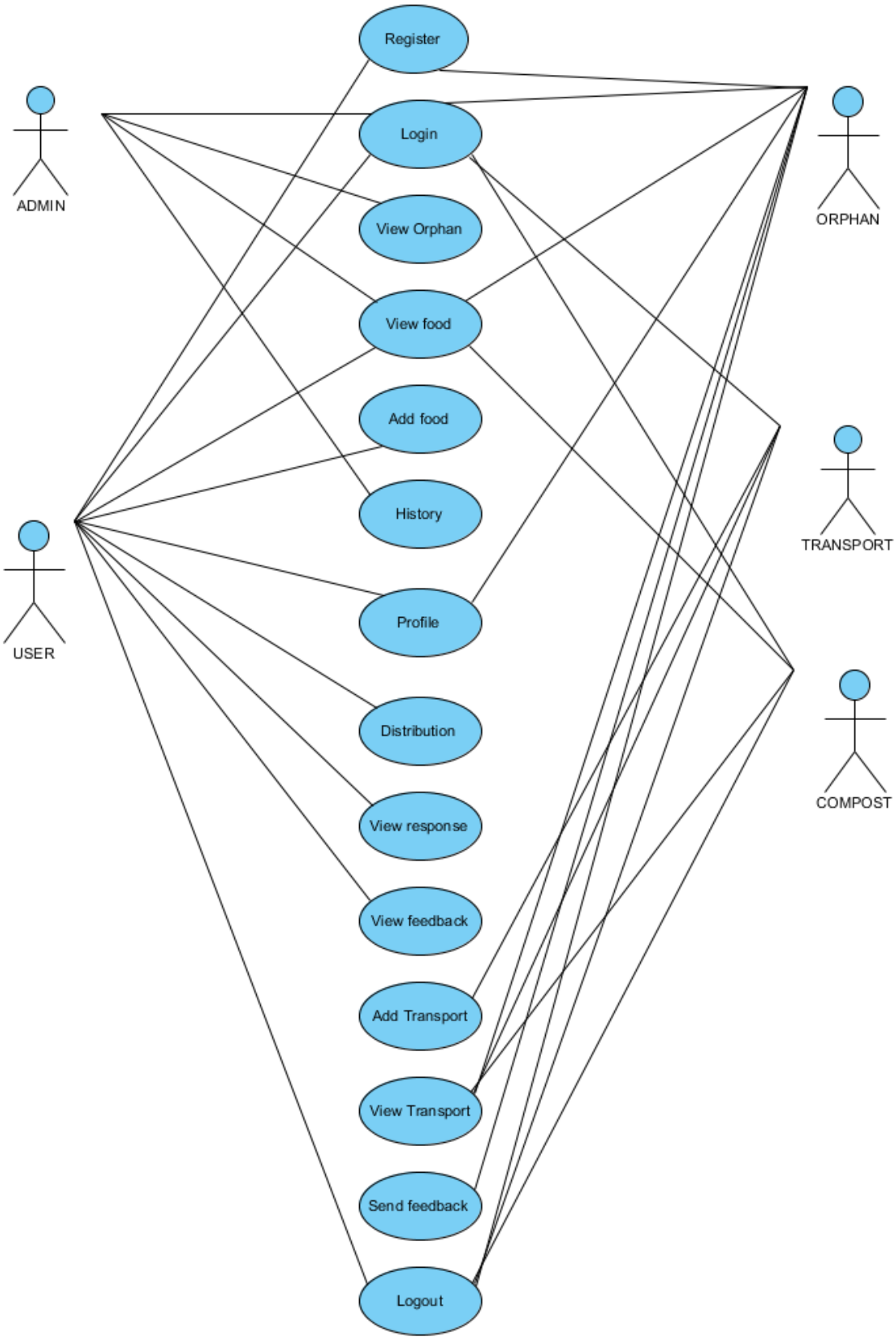

Fig:7.1 UML diagram

- **The above UML(Unified Modeling Language) diagram helps in finding the structure, behavior, and relationships of different components within a system refer Fig:7.1**

7.2.2 Class Diagram:

The phrase "class diagram" in software engineering refers to a particular static structural diagram that displays a system's classes, attributes, actions (or methods), and links between the classes. The sort of information that is present is described...

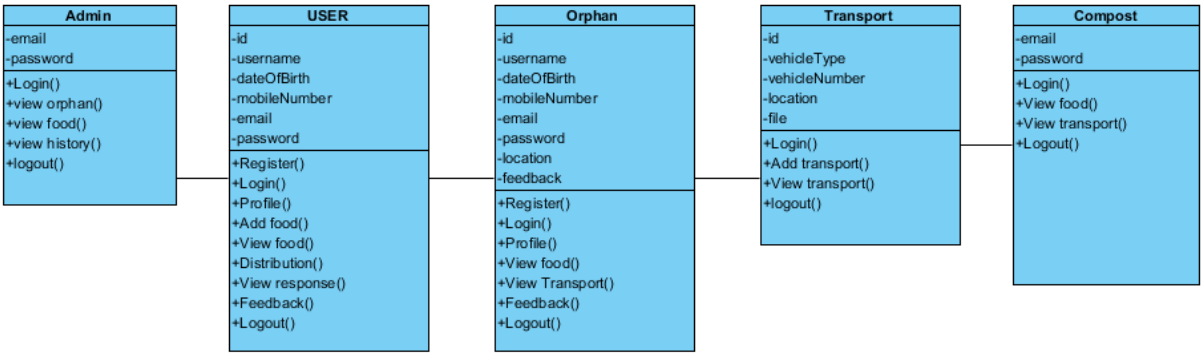

Fig:7.2 Class Diagram

- **The above class diagram is also a type of UML diagram that represents the static structure and relationships of a system or software applications refer Fig:7.2.**

7.2.3 Sequence Diagram:

A sequence diagram in the Unified Modelling Language (UML) is an interaction diagram that depicts how and when processes interact with one another. It is a message sequence chart that has been constructed. Event diagrams, event scenarios, and timing diagrams are all words used to describe sequence diagrams.

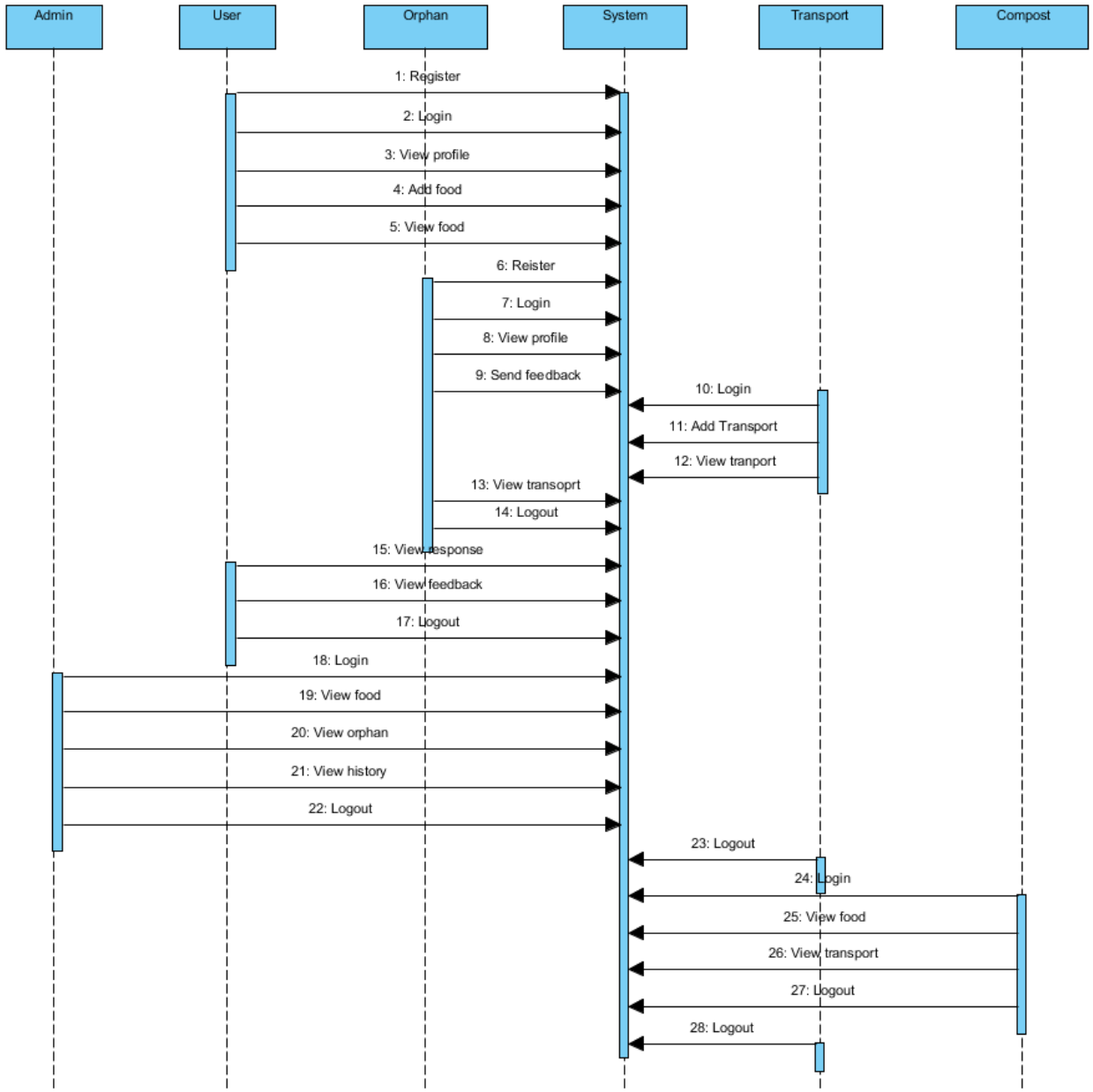

Fig:7.3 Sequence Diagram

- **The above Sequence Diagram is also a type of UML diagram that represents the interactions and order of message exchanged between objects or components in a system**.

7.2.4 Collaboration Diagram:

The order in which the procedures are invoked is depicted by numbers in the cooperation diagram that follows. The sequence in which the methods are called is indicated by the number. The same order management system is used to explain the collaboration diagram.

The calls to the methods are akin to a sequence diagram. However, whereas the sequence diagram simply defines the object organisation, the cooperation diagram really shows it.

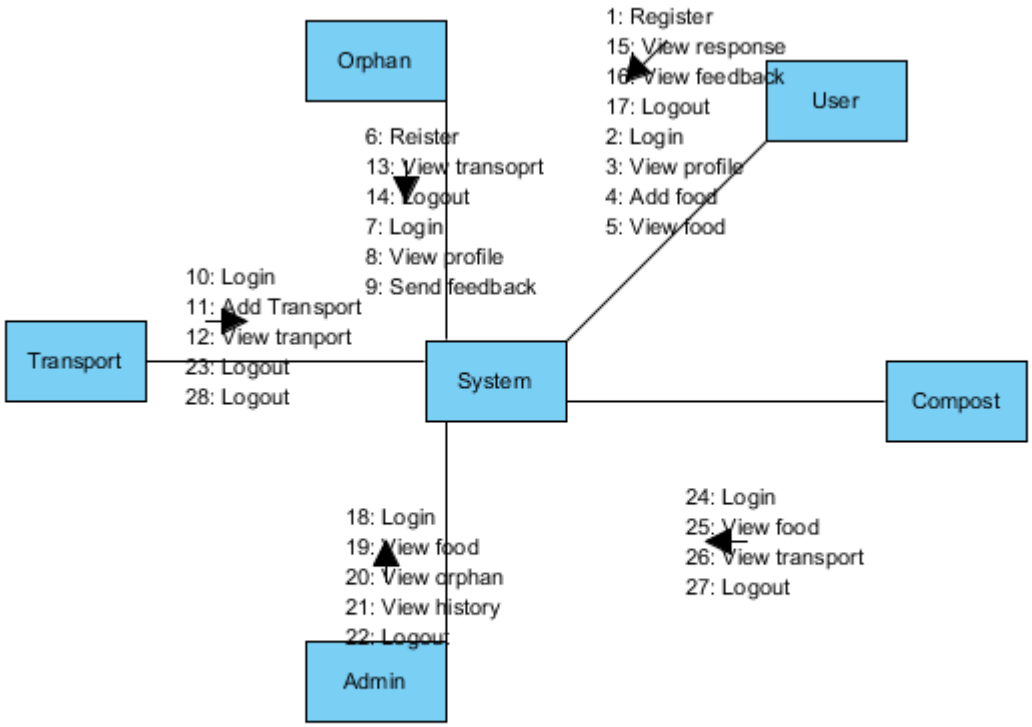

Fig:7.4 Collaboration Diagram

- **The above Collaboration diagram is also a type of UML diagram that depicts the interactions and relationships between objects in a system.**

7.2.5 Deployment Diagram

Illustration of deployment the deployment view of a system is represented by a deployment diagram. The component diagram is connected to this. because the components are deployed using deployment diagrams. In a deployment diagram, nodes exist. Nodes are nothing more than the hardware tools needed to deliver code.

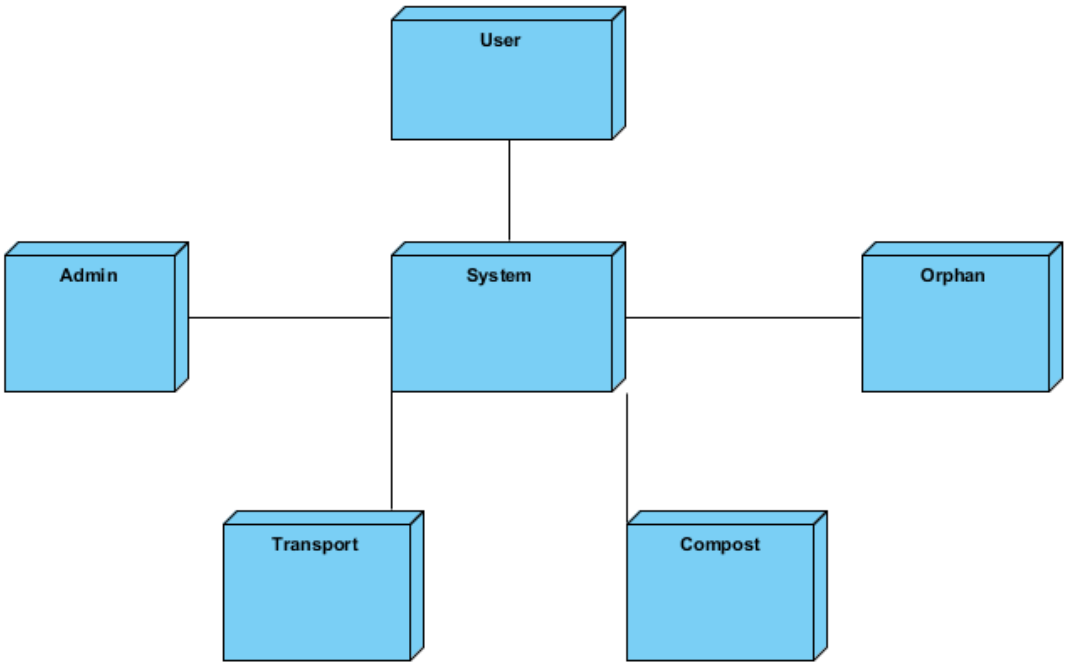

Fig:7.5 Deployment Diagram

- **The above Deployment Diagram is also a type of UML diagram that represents the physical deployment of software components and hardware nodes.**

7.2.6 Activity Diagram:

Activity diagrams are graphical depictions of processes with choice, iteration, and concurrency supported by activities and actions. Activity diagrams in the Unified Modelling Language can be used to depict the operational and commercial operations of system components. An activity diagram depicts the whole control flow.

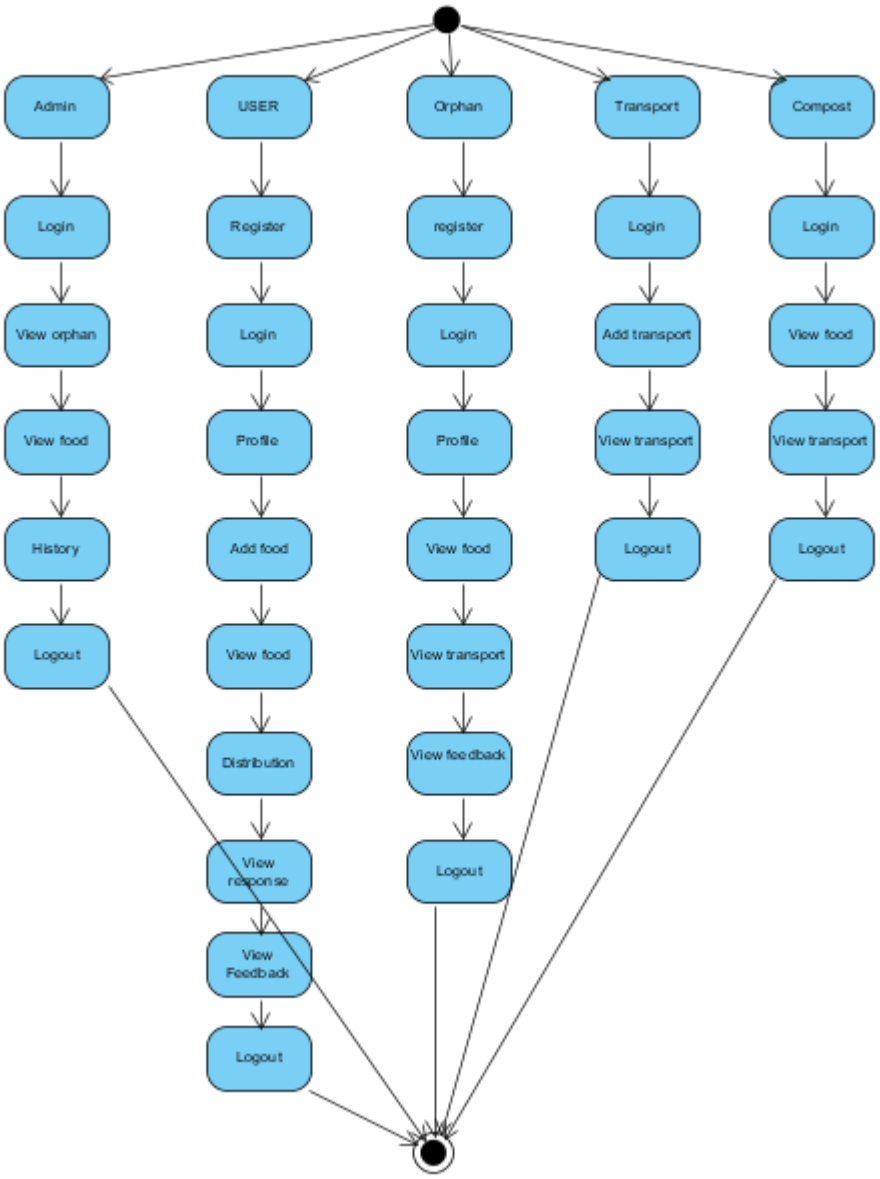

Fig:7.6 Activity Diagram

- **The above activity diagram is also a type of UML diagram that visually represents the flow of activities or actions within a system or process.**

7.2.7 Component Diagram:

A component diagram, also known as a UML component diagram, is used to depict the arrangement and organization of the actual components within a system. It provides a visual representation of how these components are interconnected and wired together. Component

diagrams are commonly used to specify implementation details and ensure that all essential system features are adequately addressed in the planned development process.

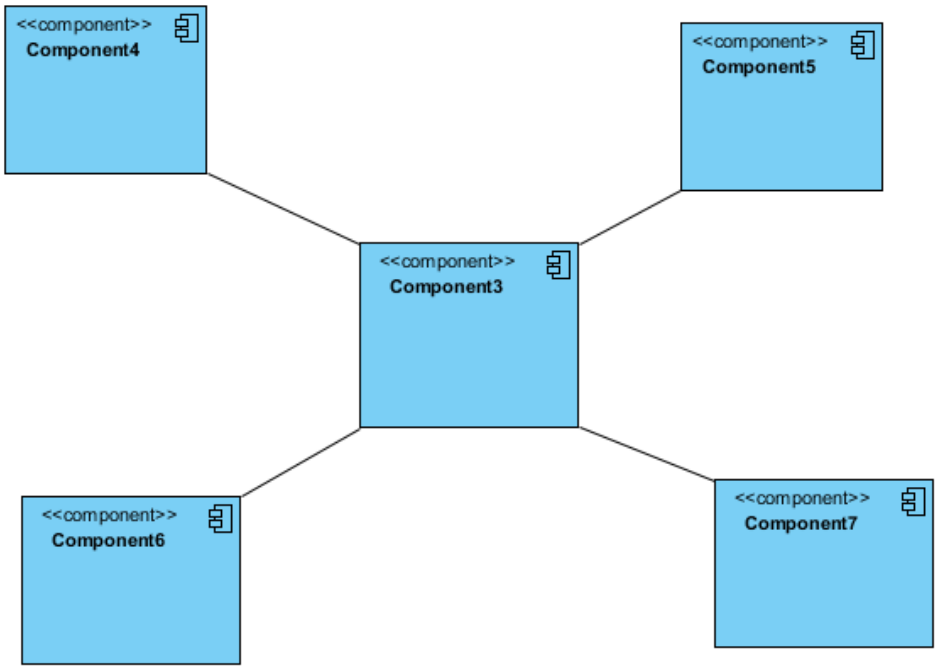

Fig:7.7 Component Diagram

- **The above the Component Diagram is also a type of UML diagram that represents the organization and dependencies between software components within a system.**

7.2.8 ER Diagram:

An entity-relationship model (ER model) is used to describe the organization of a database graphically. It utilizes an entity-relationship diagram (ER Diagram) as a database design or blueprint. The ER model encompases two fundamental components: the entity set and the relationship set. An ER diagram visually represents the relationships between different entity sets. An entity set refers to a collection of related entities, each with potential properties. In a database management system (DBMS), an entity is typically represented by a table or one of its features. Therefore, an ER diagram illustrates the connections between tables and their attributes, providing an overview of the logical organization of the database.

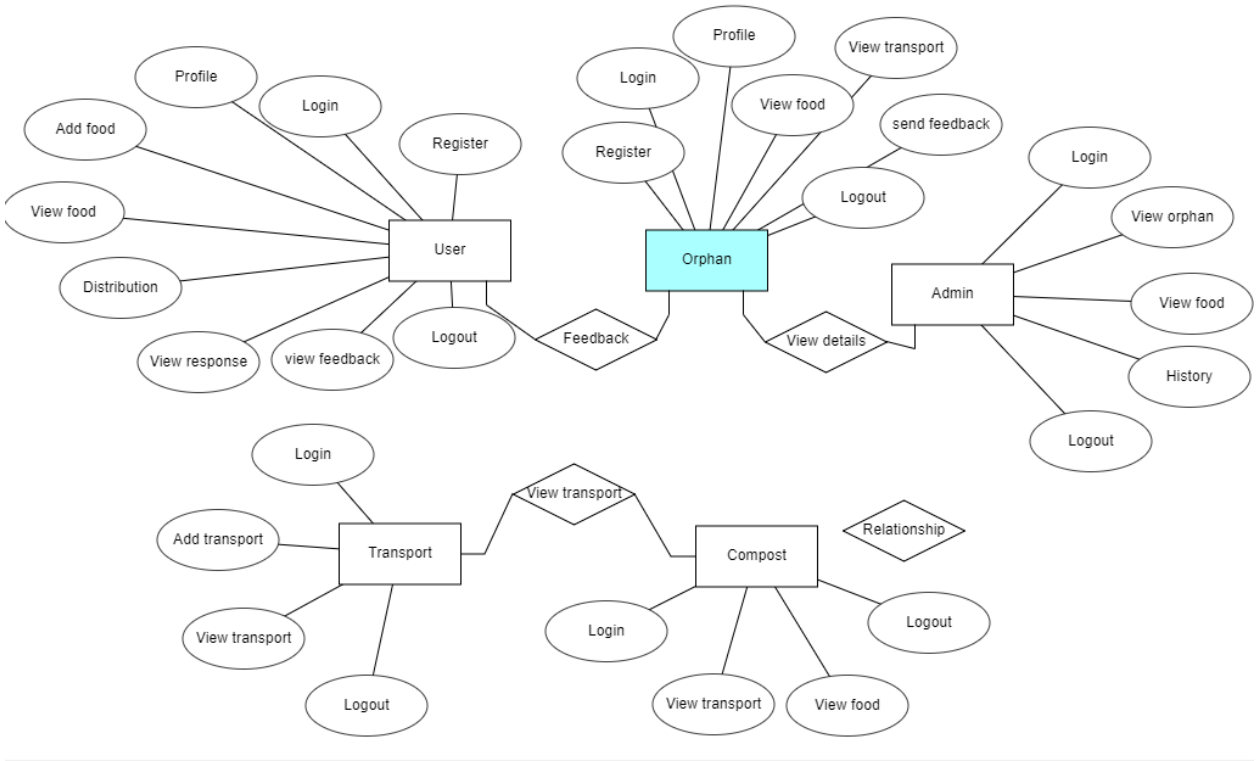

Fig:7.8 ER Diagram

- **The above ER (Entity-Relationship) diagram is a type of visual representation used to model the structure and relationships within a database system**.

7.3 DFD Diagram:

A data flow diagram (DFD) is the typical tool used to visualize information flows within a system. It provides a clear and concise representation of the system requirements. Creating a DFD can be done through automated or manual methods, or a combination of both. The primary purpose of a DFD is to illustrate how data enters and exits the system, how it is modified, and where it is stored. It is utilized to depict the overall scope and boundaries of a system. Additionally, a DFD serves as a communication channel between a systems analyst and any stakeholders involved in the system, acting as the foundation for system redesign.

Level 1 Diagram:

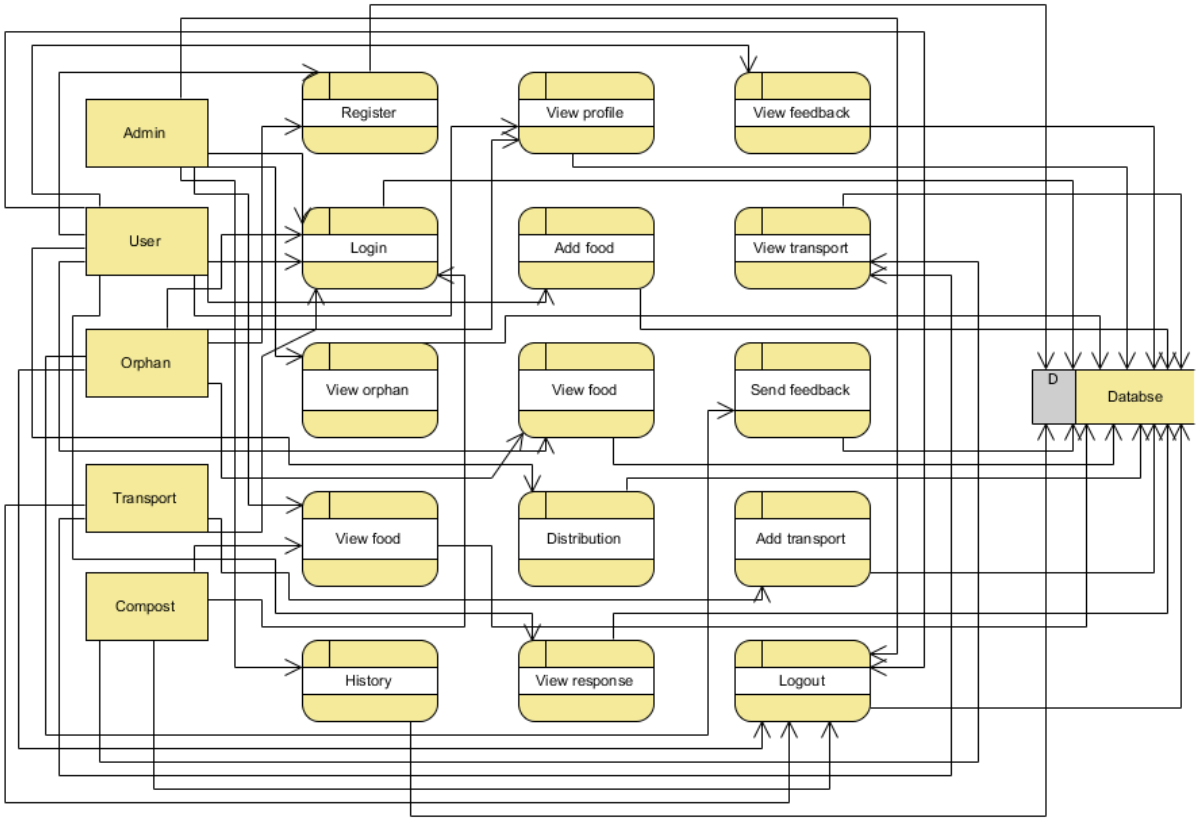

Fig:7.9.1 DFD Diagram

Level 2 Diagram:

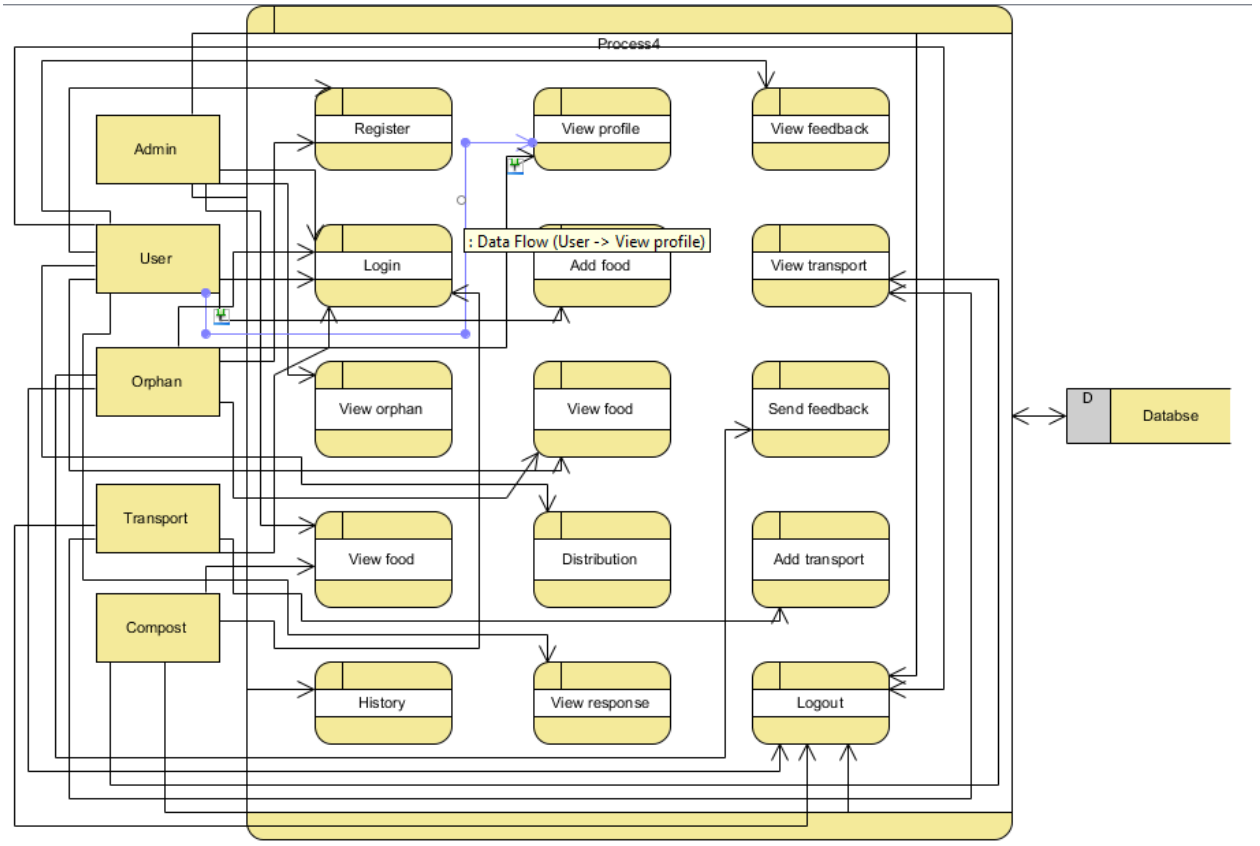

Fig:7.9.2 Level 2 Diagram

- **The above Figures 7.9.1 and 7.9.2 DFD(DATA FLOW DIAGRAM) is used to graphical representation that illustrates the flow of data within a system or processes.**

CHAPTER-8
IMPLEMENTATION

In this student record application, we have five characters to implement such as admin, user, Orphan, transport, and compost.

Admin – Admin is the person who maintains the whole process in the application.

Operations – operations of the admin includes login, view orphan agent, view food, view history.

Login – Admin can login to the application with default credentials provided to the admin.

View orphan – Admin can able to view all the registered orphans. The orphan details such as username, date of birth, mobile number, email, password, location, and feedback.

View food– Admin can able to all the food items added by the user. The food details such as food type, food amount, location, file, orphan, time and donor name.

View history – Admin can able to view the history of food details. The food details such as food type, food amount, location, file, orphan, time and donor name.

Logout – Admin can able to logout from the application after they completed all the processes.

User – User is the main person in the project who add the food items.

Operations of the user includes the following registration, login, view profile, add food, view food, distribution details, view response, view feedback.

Register – User can able to register in to the application with required details such as username, dateofbirth, mobile number, email, password.

Login – User can able to login to the application with registered email and password.

View profile – User can able to view the profile detail of his own.

Add food – User can able to add the food details such as food type, food amount, location, file, orphan, time, and donor name.

View food – User can able to view all the added food details such as food type, food amount, location, file, orphan, time and donor name.

Dustribution details – User can able to view all the distribution details orphan name, orphan location and mobile number.

View response – User can able to view the response given by the orphan.

View feedback – User can able to view the feedback given by the orphan. The feedback details such as orphan name, feedback given.

Logout –User can able to logout from the application after they completed all the processes.

Orphan – orphan is the one of the person involved in the application

Operations of the orphans involves the following registration, login, view profile, view food, view transport, send feedback and logout.

Register – Orphan can able to register in to the application with required details such as username, dateofbirth, mobile number, email, password, and location.

Login –Orphan can able to login to the application with registered email and password.

View profile – User can able to view the profile detail of his own.

View food – User can able to view all the added food details such as food type, food amount, location, file, orphan, time, and donor name.

View transport – Orphan can able to view all the added transportation details such as vehicle type, vehicle number, location, and file.

Send feedback – Orphan can able to send the feedback to the food received to the user. The feedback details consists of orphan name and the feedback.

Logout –Orphan can able to logout from the application after they completed all the processes.

Transportation - Transportation module is one of the main modules in the application. The transportation module provides the vehicle for composting the food.

Operations of the transportation modules involves the following add transport and view transport.

Login – Transportation can login to the application with default credentials provided to him.

Add transport – Transportation can able to add the vehicles to the application. Vehicle details such as vehicle type, vehicle number, location, and file.

View transport- Transportation can able to view all the transportation details added. Vehicle details such as vehicle type, vehicle number, location, and file.

Logout –Transportation can able to logout from the application after they completed all the processes.

Compost- Compost module is one of the main modules in the application.

Operations of the Compost module involves the following Login, view food and view transport, and logout.

Login – Compost can login to the application with default credentials provided to him.

View food –Compost can able to view all the added food details such as food type, food amount, location, file, orphan, time and donor name.

View transport- Transportation can able to view all the transportation details added. Vehicle details such as vehicle type, vehicle number, location, and file.

Logout –Compost can able to logout from the application after they completed all the processes.

CHAPTER-9

OUTCOMES

SPRING FRAMEWORK:

The Spring Framework (commonly referred to as Spring) is an open-source application framework that provides extensive support for building Java applications. It has gained popularity among developers for its robust features and seamless integration with other Java Enterprise Edition (Java EE) frameworks. One of the key strengths of Spring is its ability to utilize Plain Old Java Objects (POJOs), simplifying application development.
In software development, a framework is a pre-existing set of code that offers solutions to common problems, enabling developers to focus on specific functionalities. Within the Java ecosystem, there are several widely-used frameworks, including Maven, Hibernate, Struts, Spring, JavaServer Faces (JSF), and more.

Java programmes are complex and made up of several strong components. The operating system (OS) behind heavyweight components serves as a sign of their reliance. both in terms of their characteristics and appearance.

Spring is recognised as a reliable, cost-effective, and flexible framework. Spring improves coding productivity and cuts down on the time needed to build an application overall since it is lightweight, efficient at using system resources, and has a wide community of support.

Spring frees developers from time-consuming configuration processes so they can focus on writing business logic. Because spring handles the infrastructure, developers can concentrate on the application.

WHAT IS RESTFUL WEB SERVICES?

Restful Web Services is a service that is scalable, light-weight, and simple to operate. It is built on the REST architecture. To expose API from your application to the calling client, use a stateless, consistent, and secure Restful Web Service. The calling client can perform specified activities using the Restful service. HTTP is the underlying protocol of REST. REST stands for Representational State Transfer.

Restful Methods

POST - In the context of a RESTful web service, the POST method is utilized to create a new employee. It enables the client to send data to the server, which will process the information and generate a new employee record.
GET - When working with a RESTful web service, the GET method is employed to retrieve a list of all employees. This method allows the client to request and receive data from the server without making any modifications to the server-side resources.
PUT - The PUT method is used in RESTful web APIs to update employee information. By using this method, the client can send updated data to the server, which will then replace the existing employee information with the new data provided.
DELETE - RESTful services employ the DELETE method to remove or delete all employees. Through this method, the client can send a request to the server specifying the employee(s) to be deleted, and the server will proceed to remove the corresponding employee records from the system..

REACT JS:

- API : Application Programming Interface
- That reacts with the data externally as well as software components.
- There are many types of API
- such as REST API, JSON,SOAP API etc..
- Today we will deal with the REST API.

ReactJS, an open-source JavaScript tool, is used to quickly and declaratively build user interfaces. It is a front-end library with an MVC (Model View Controller) architecture that is

only in charge of the view layer. React is a technology for creating modular user interfaces that promotes the development of reusable UI components that display dynamic data. The declarative nature of ReactJS enables effective and adaptable applications. When your data changes, it immediately updates and renders the relevant component for each state in your application. When you use the declarative view, your code becomes more reliable and troubleshootable. Each component in a React application renders a unique, reusable piece of HTML code. The ability to stack components inside of other components enables the construction of complex applications from simple building blocks. A component may also keep track of the object's internal state. A TabList component, for instance, may save a variable in memory that represents the open tab.

MYSQL DATABASE:

- API : Application Programming Interface
- That reacts with the data externally as well as software components.
- There are many types of API
- such as REST API, JSON,SOAP API etc..
- Today we will deal with the REST API.
- SQL is the engine that drives MySQL, Oracle's relational database management system (RDBMS).

A database refers to an organized collection of data. It can range from a simple shopping list or a photo gallery to a repository for storing vast amounts of data within a corporate network. One common type of database is a relational database, which follows the relational paradigm to organize and manage data. In this paradigm, data objects are interconnected based on well-defined relationships, and tables are used to represent data with rows and columns.

A relational database management system (RDBMS) is a set of software tools designed to create, operate, and query such databases. RDBMSs are integral components of popular software stacks used for developing and maintaining a variety of systems, ranging from customer-facing web applications to robust B2B systems. MySQL is a widely used RDBMS that powers significant websites like Facebook, Flickr, Twitter, Wikipedia, and YouTube. Its open-source nature, reliability, extensive feature set, and ongoing development and support by Oracle contribute to its popularity.

CHAPTER-10

RESULTS AND DISCUSSIONS

Screenshots:

Homepage: This is the Homepage of the application. Refer Fig:10.1 Home Page

Fig:10.1 Home Page

Register: This is the registration page. Refer Fig:10.2 Registration Page

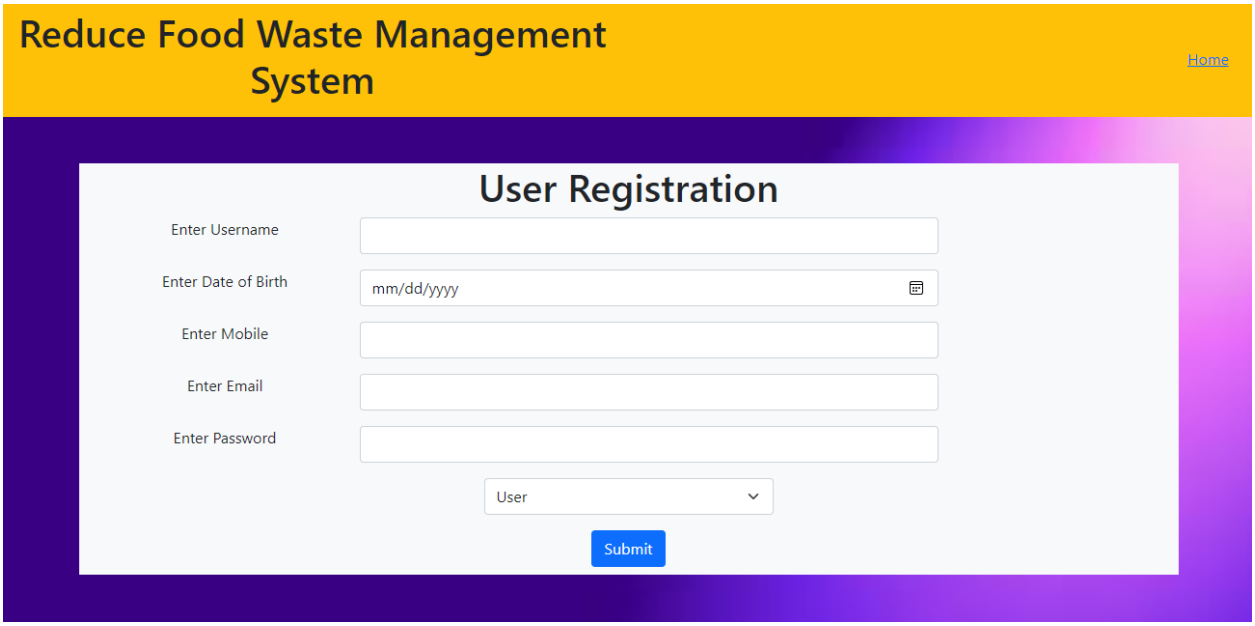

Fig: 10.2 registration page

Login Page: This is the Login Page of the application. Refer Fig:10.3 Login Page of the application

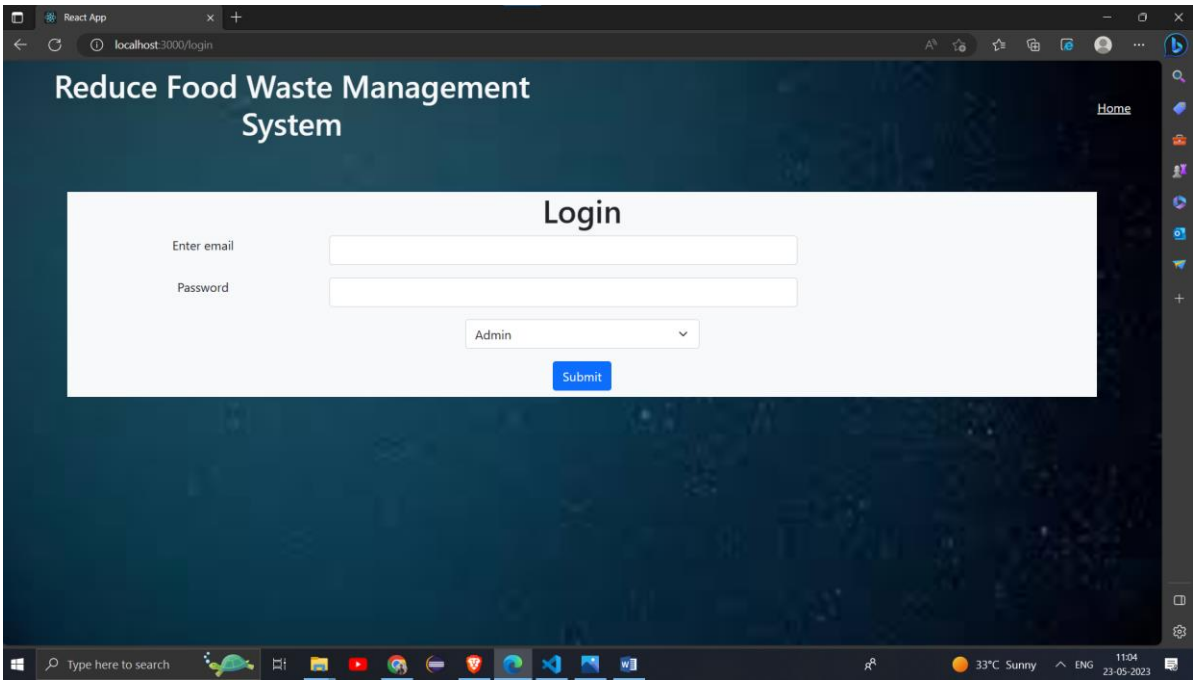

Fig:10.3 Login Page of the application

Admin HomePage: refer 10.3

View Orphan: Admin can able to view the orphan details.Refer Fig:10.4 Admin Page

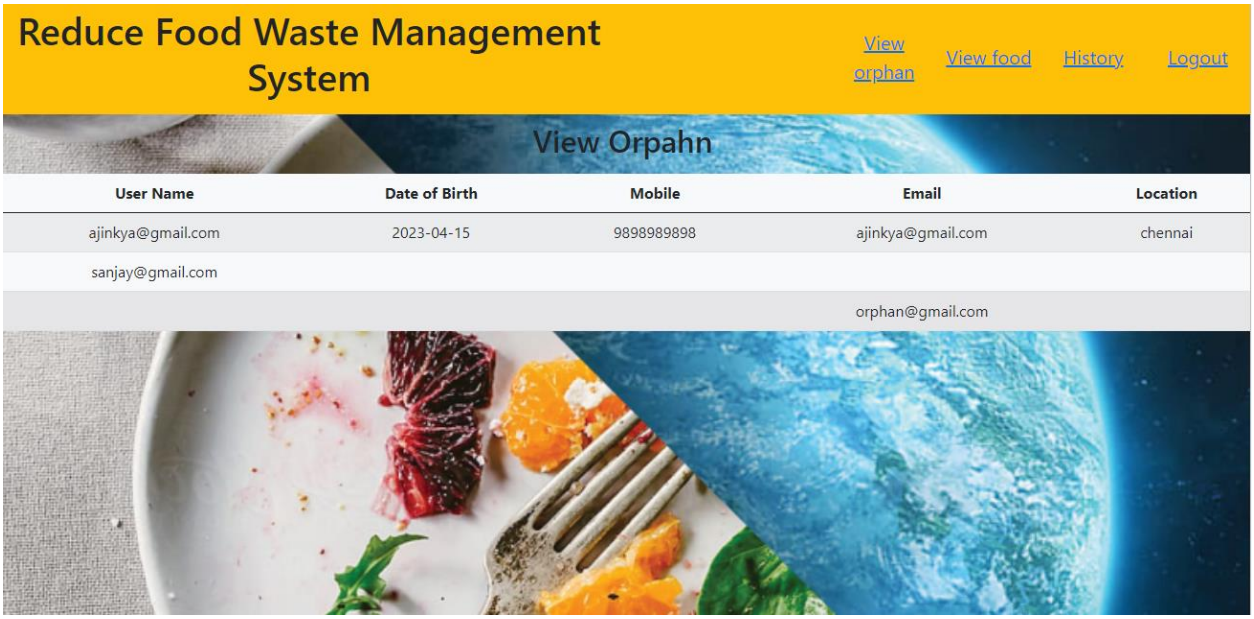

Fig :10.4 Admin HomePage

View food: Admin can able to view the food details .Refer Fig:10.5 View food

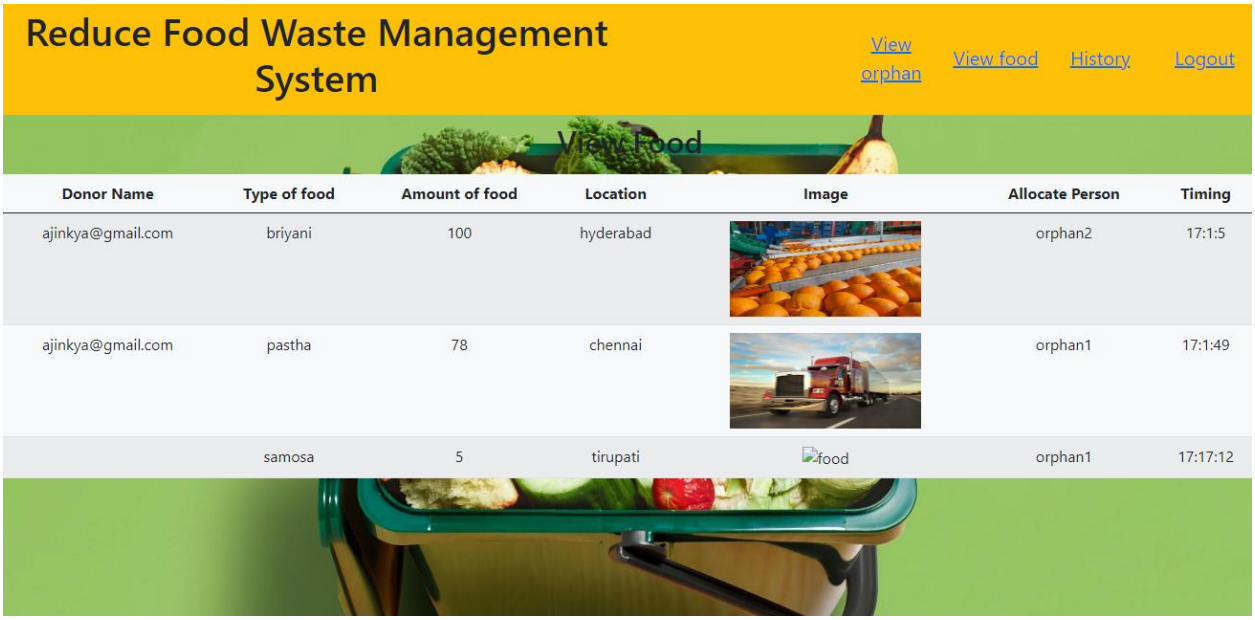

Fig :10.5 View food

History: Admin can able to see the history details. Refer Fig:10.6 history details

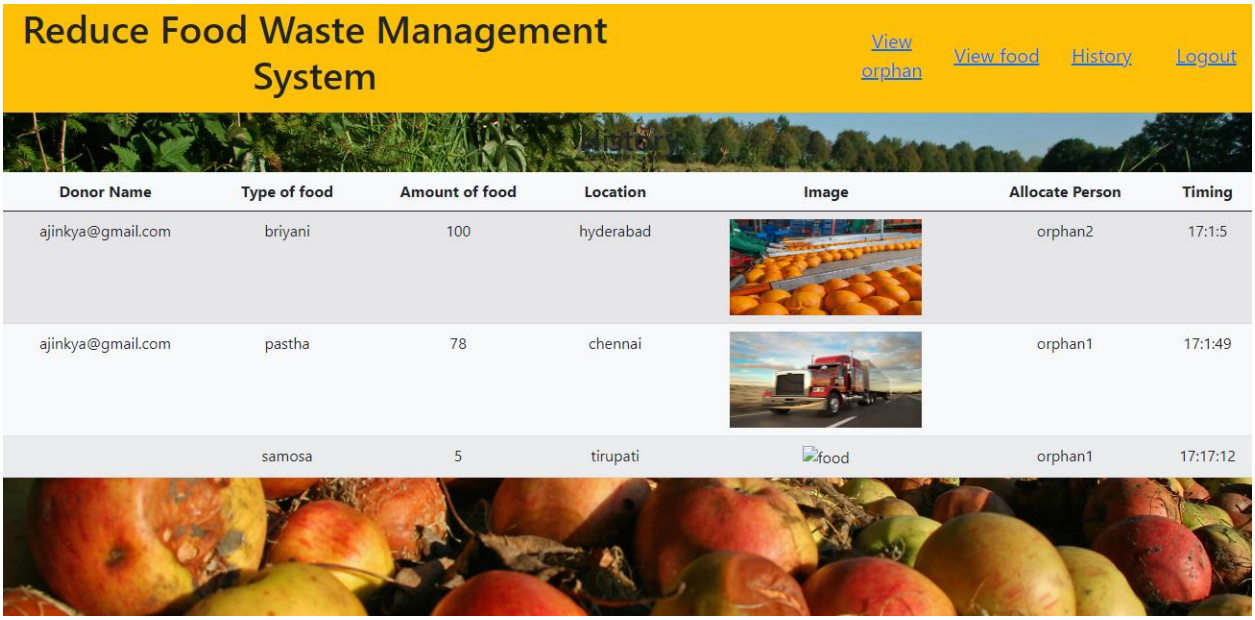

Fig :10.6 history details.

User Homepage:

View Profile: User can able to view his own profile details. Refer Fig:10.7 User homepage

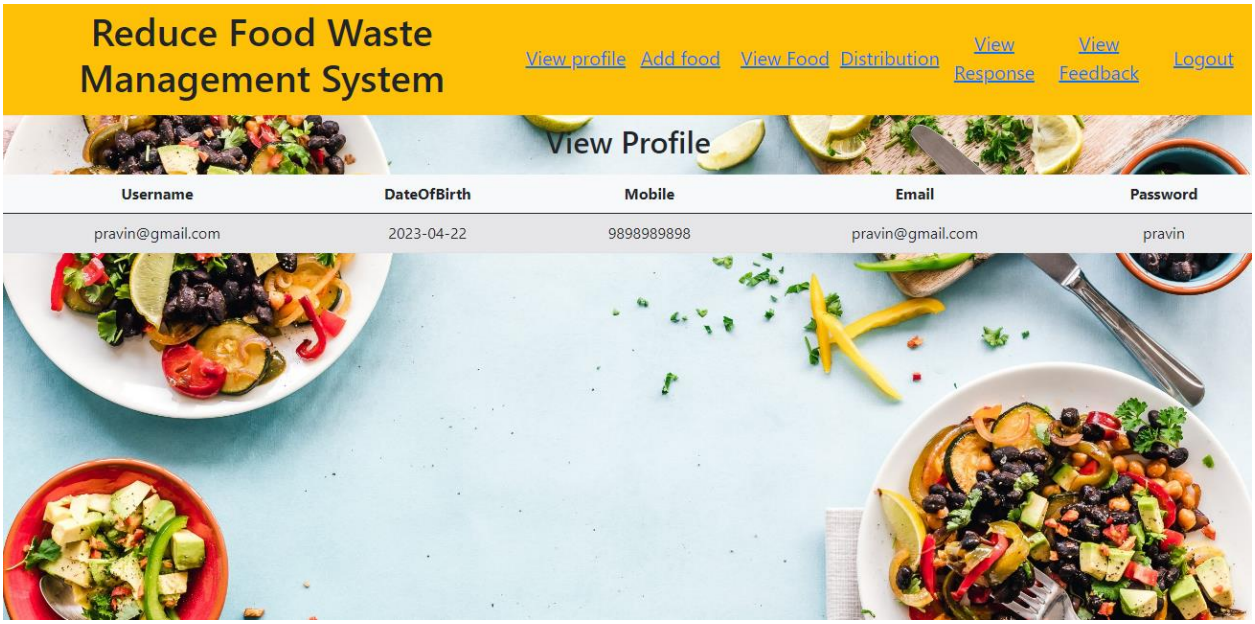

Fig :10.7 User Homepage

Add Food: User can able to add the food details . Refer fig 10.8 Add food.

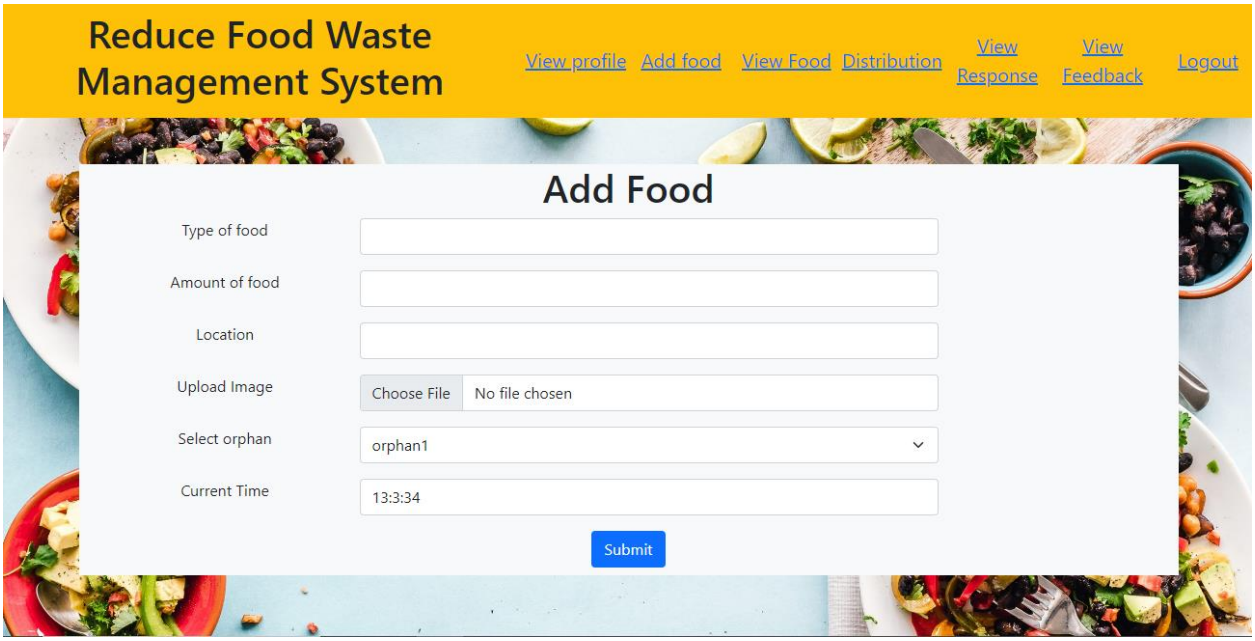

Fig :10.8 Add food

View Food: User can able to view the food details. Refer Fig: 10.9 view food

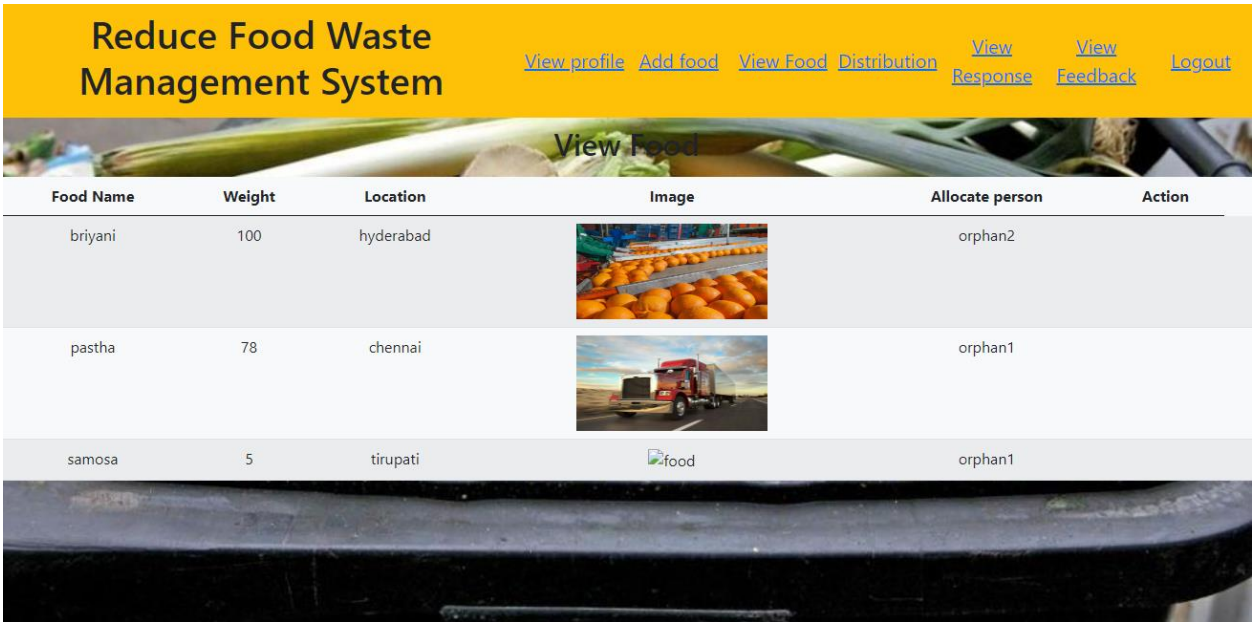

Fig :10.9 view the food

Distribution: User can able to view the distribution details. Refer 10.10 distribution details

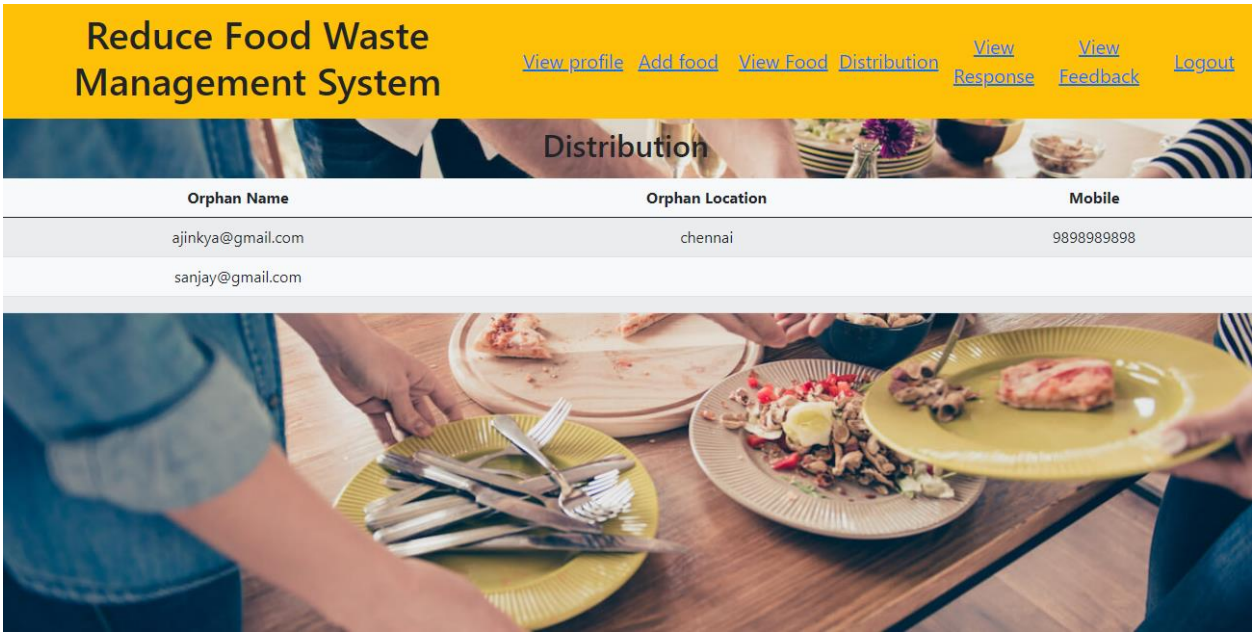

Fig :10.10 distribution details

View Response: User can able to view the response. Refer Fig:10.11 View Response

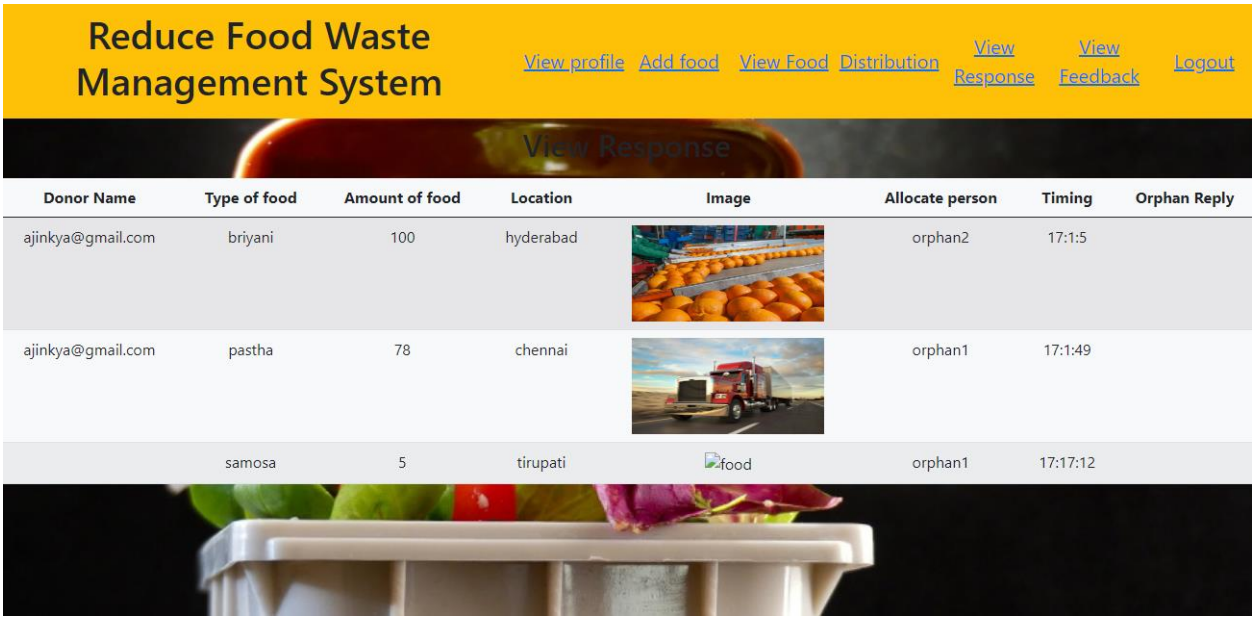

Fig :10.11 view response

View Feedback: user can able to view the feedback details.

Fig :10.12 view the feedback

Orphan Homepage:

View Profile: Orphan can able to see his own profile. Refer Fig:10.13 Orphan Homepage

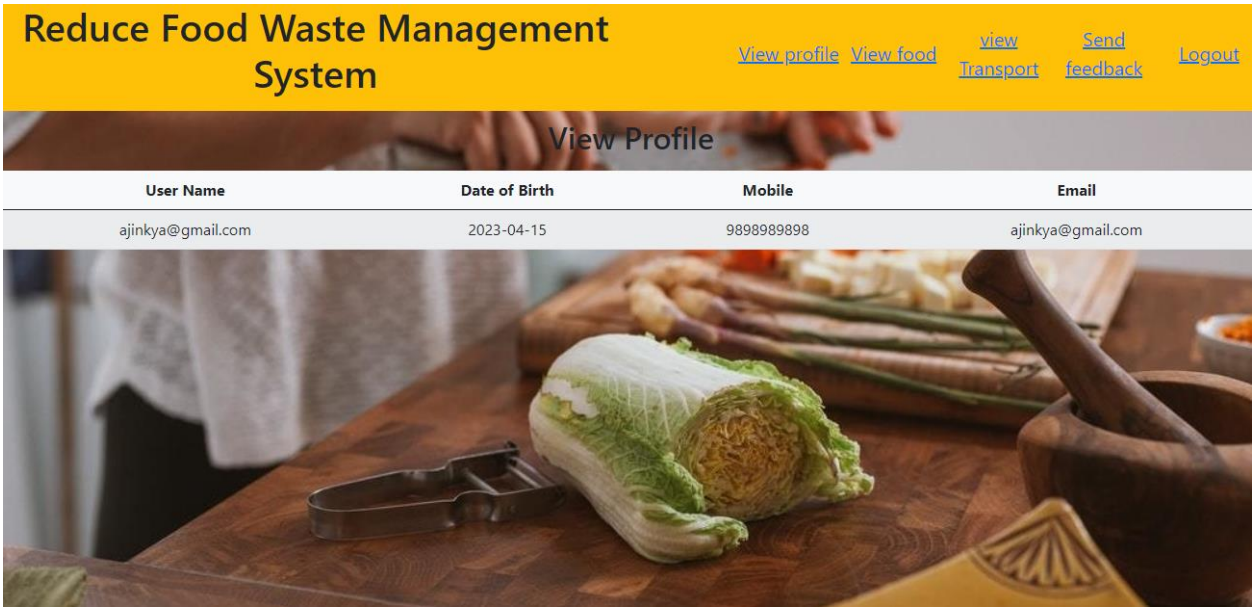

Fig :10.13 Orphan Homepage

View Food: Orphan can able to see the food details. Refer Fig:10.14 Orphan food details

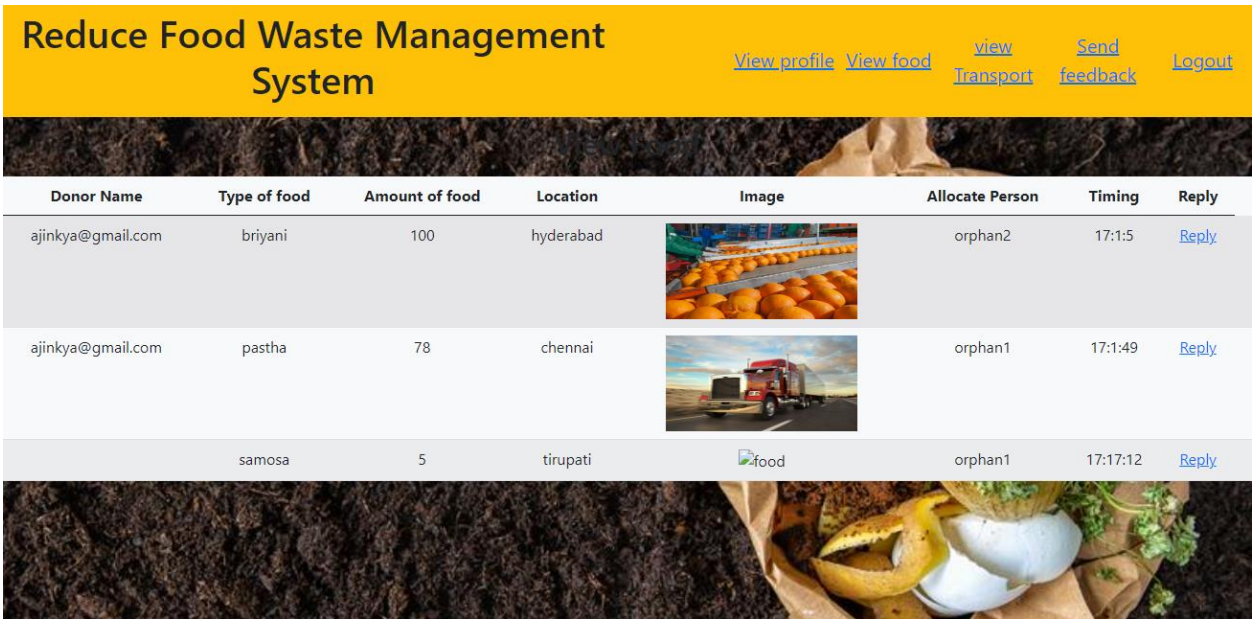

Fig :10.14 Orphan food details

View Transport: Orphan can able to view the transport details. Refer Fig: 10.15 transport details

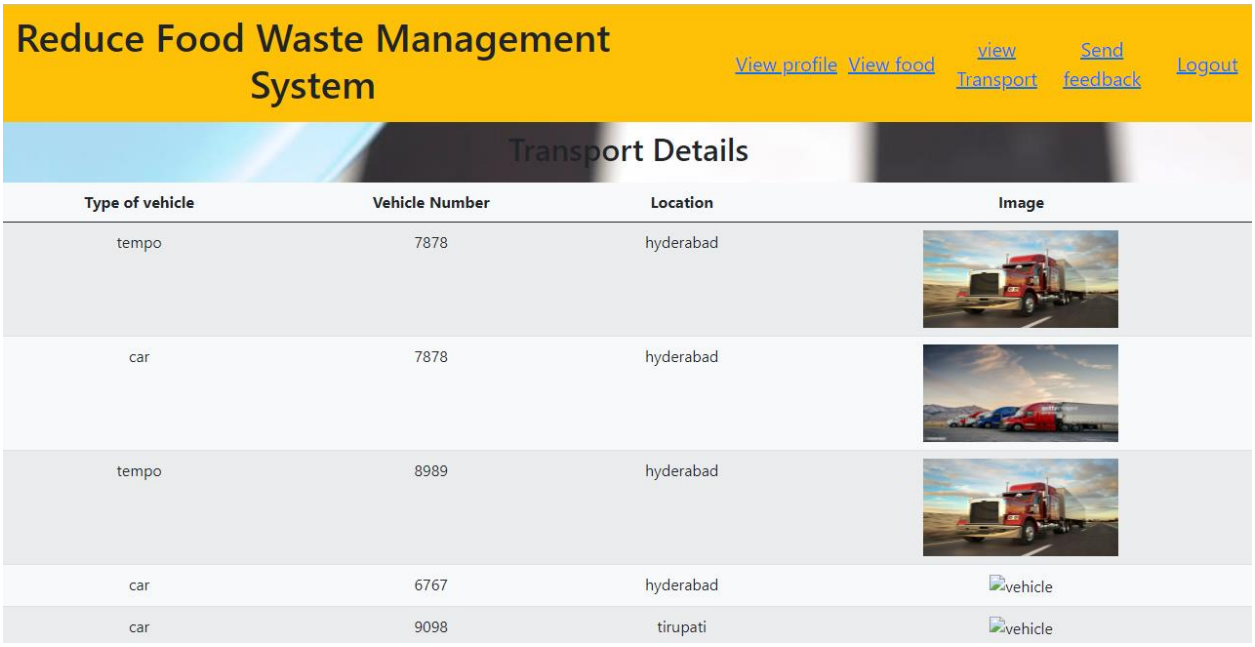

Fig :10.15 transport details

Send Feedback: Orphan can able to send the feedback. Refer Fig:10.16 send the feedback

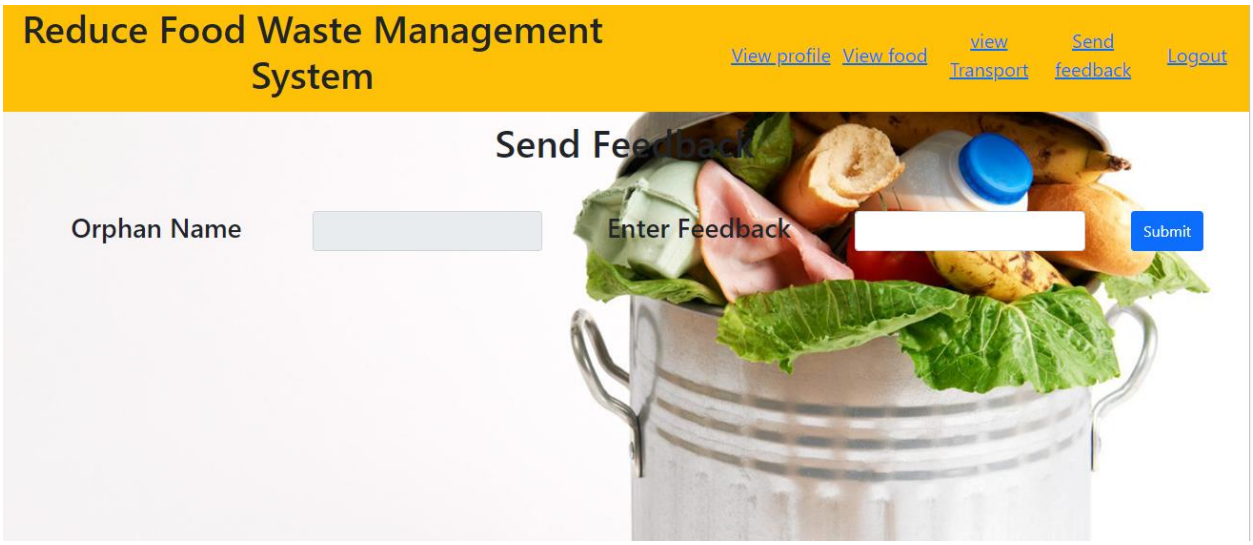

Fig :10.16 send the feedback

Transport Homepage:

Add Transport: Transportation can able to add the transport details**.** Refer Fig:10.17 Add transport details

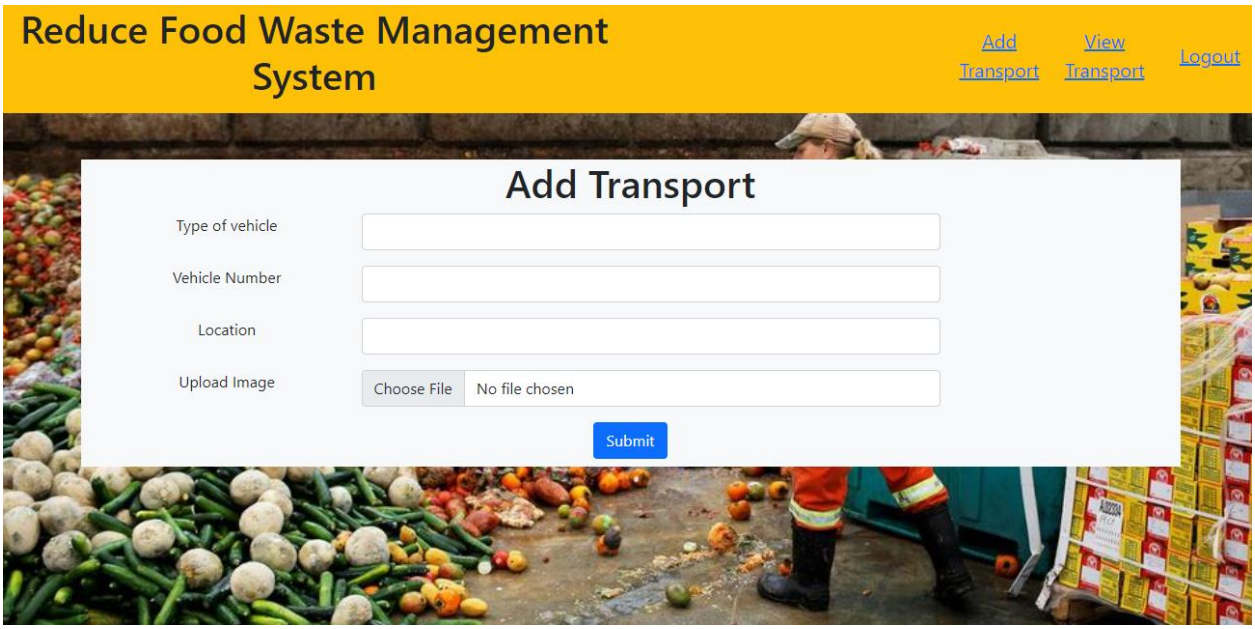

Fig :10.17 Add transport details

View Transport: Transportation can able to view the transportation details. Refer Fig: 10.18 view the transportation details

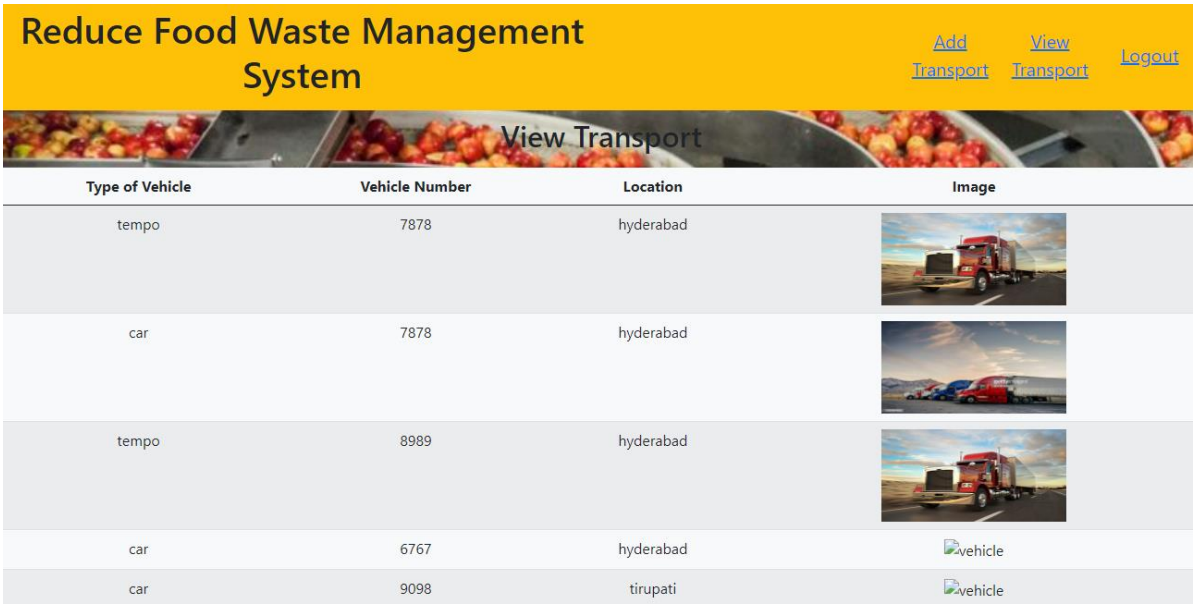

Fig :10.18 view the transportation details

Compost Login: Refer 10.19 Compost Login to update

Fig :10.19 Compost Login

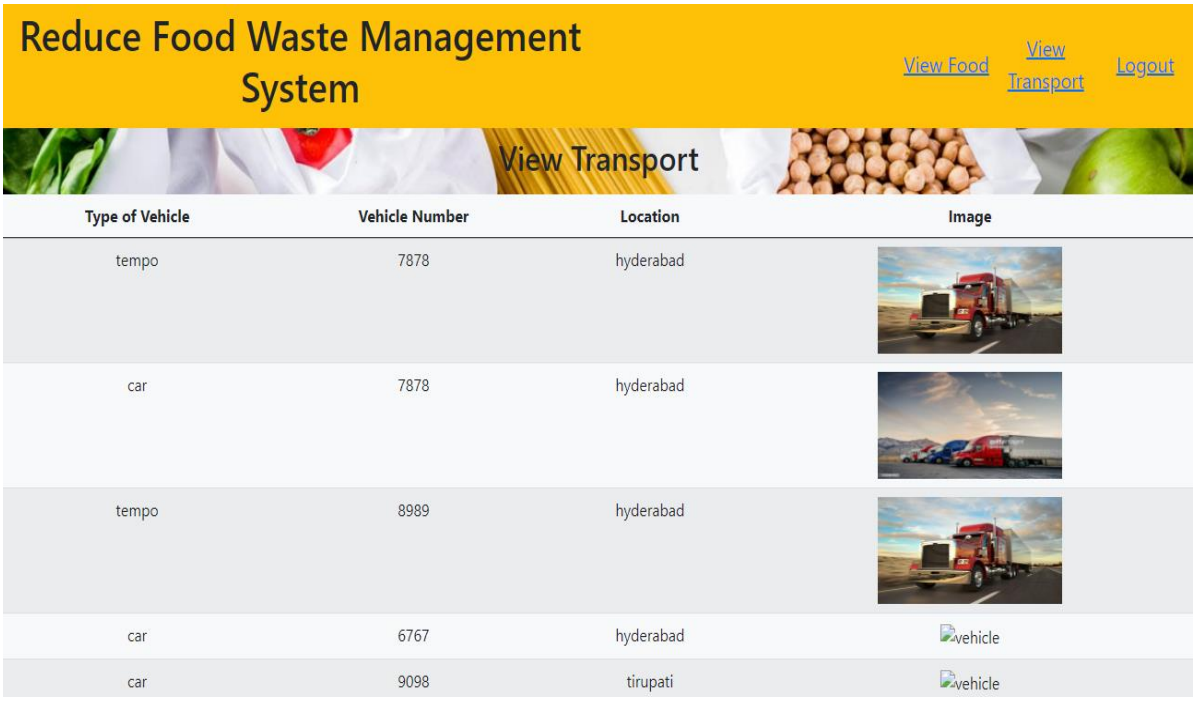

Fig :10.20 Compost Login

CHAPTER-11
CONCLUSION

Despite the stark differences between the three composting sites, several themes emerged in their reactions. An in-vessel composting technology, according to EOR and Normal, enables a higher processing capacity and diversion rate. Each time a new collection or composting programme began, all facilities undertook an FWG staff training. Everyone agreed that food waste contamination was a problem that persisted and needed constant attention. If contamination rates were significant, staff training was repeated every time. Additionally, each of the three sites made an effort to ensure that the expenses associated with disposing of the material that was diverted were reduced by at least 25%, notwithstanding the size variations. Every single bit of compost created each year was also used or sold by each.

Finally, everyone agreed that as waste handling prices rise, more food waste would be composted across the country.

CHAPTER-12
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ANNEXTURE I

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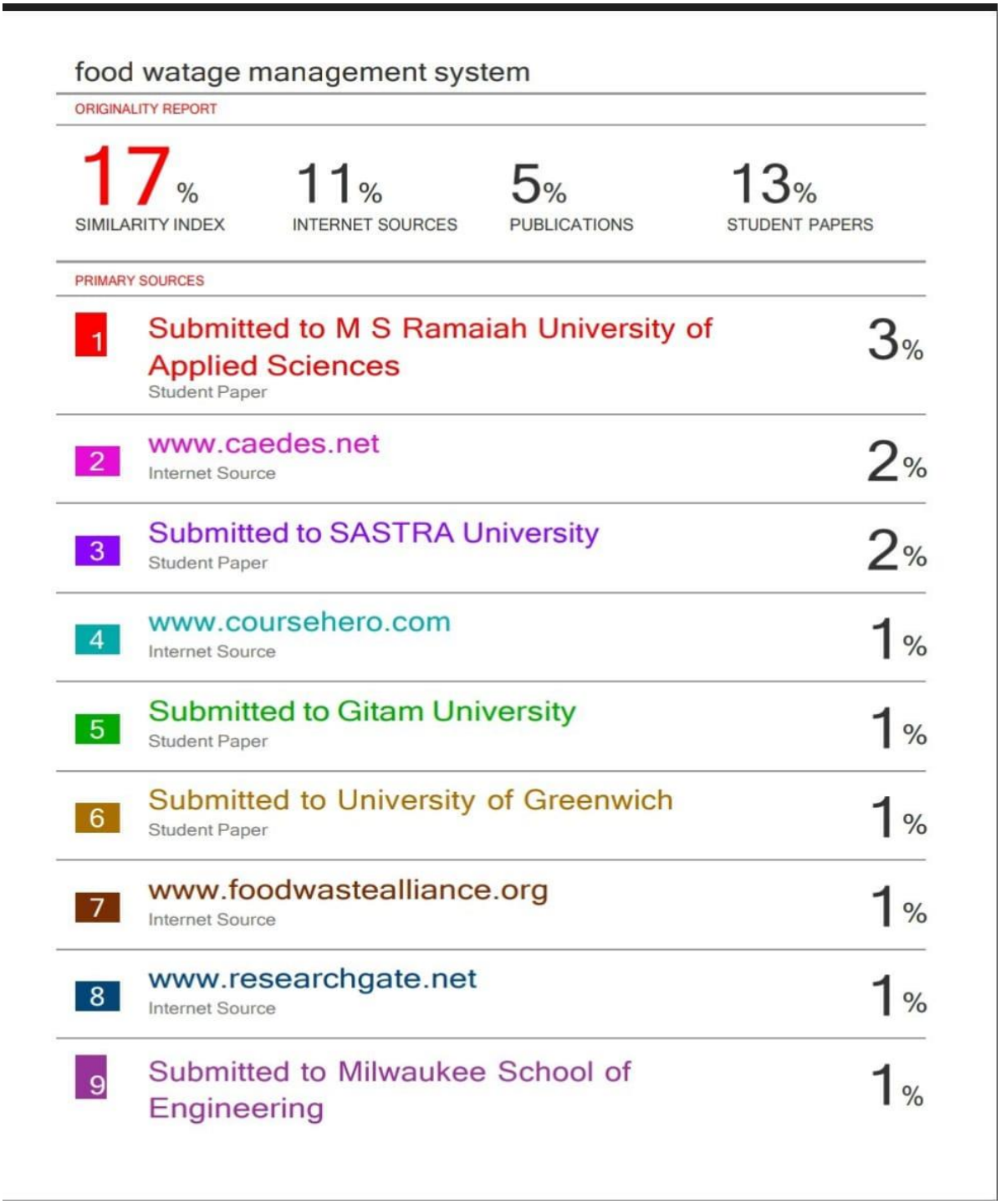
ANNEXTURE II

PLAGARISM REPORT



food watage management system

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17%	11%	5%	13%
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