PES UNIVERSITY RR CAMPUS

OBJECT ORIENTED ANALYSIS AND DESIGN

PROJECT - REPORT

UE20CS352

SECTION : 'F'

TOPIC : AN ONLINE FOOD DELIVERY SYSTEM

PROJECT : 9

TEAM DETAILS :

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PROBLEM STATEMENT & SYNOPSIS:

This is the project on “An Online Food Delivery System” , where it includes the same features of Swiggy / Zomato client app. This app is built using Java Swing , a popular Java GUI framework in collaboration with “Apache Netbeans” to provide the suitable environment to work with Java files, GUI and XML files. In this project XML files are used as the database for the project, where all the food , restaurant and customer details are stored and retrieved. Also, takes into consideration of insertion of customer details too.

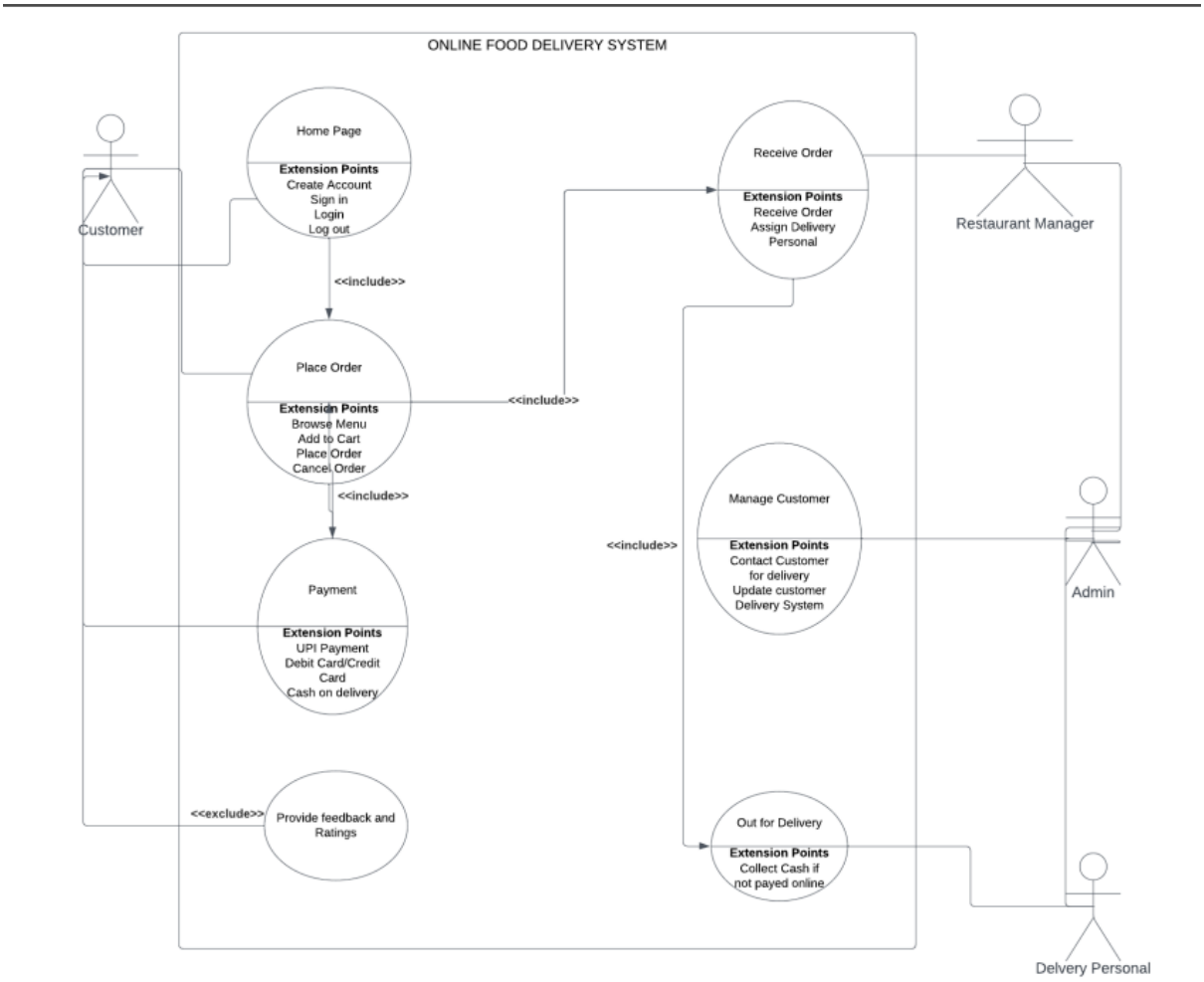
The xml file can either be stored along with the project in its project directory, or anywhere else in the local machine. The path to the xml file is noted down and stored as an environment variable so that the path to the xml file is exposed to the client user. The app would check if the valid path exists and update the corresponding xml files there. If the path is invalid or the path in env variable does not exist, the application would ask to user to set a valid path and terminate the application.

This project includes features of browsing through food, selecting the quantities of food required, cart option, viewing of orders , generation of bills, different categories of food, descriptions, delivery mode, etc…… We have much more to display and we have put down the same in the screenshots provided below.

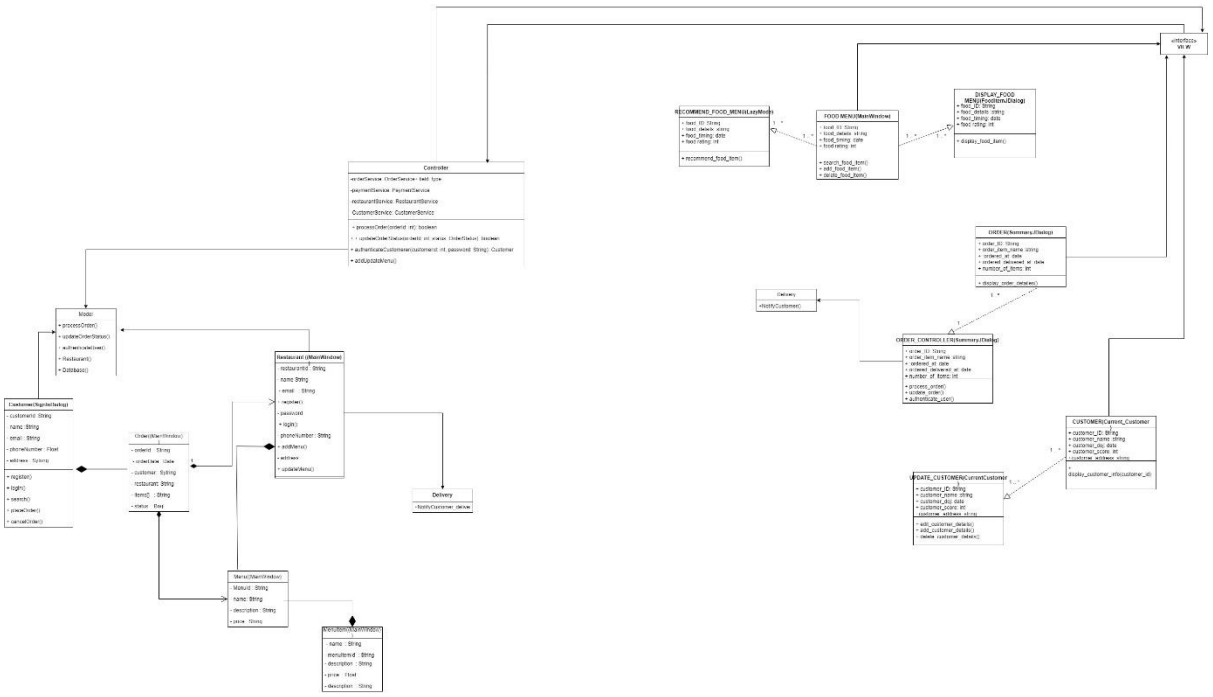
We have followed the MVC architectural pattern and followed suitable design principles and patterns wherever applicable as described below in the further lines.

MODELS (USE CASE AND CLASS MODELS) :

USE CASE DIAGRAM :-



CLASS DIAGRAM :-



This link gives the detailed view (Click below) : [CLICK_HERE](https://drive.google.com/file/d/1ccoJ0QdaKPlUJGWpivWPMhubvjEs-ouR/view?usp=share_link)

https://drive.google.com/file/d/1ccoJ0QdaKPlUJGWpivWPMhubvjEs-ouR/view?usp=share_link

ARCHITECTURE PATTERNS, DESIGN PRINCIPLES AND DESIGN PATTERNS :

USE CASE : 1 : DISPLAY FOOD ITEMS

CONTRIBUTOR : RAHUL ROSHAN G

The code displays three food items with their names and prices in a JPanel. The images and data of food items are read from an XML database. The images are loaded as ImageIcons and stored in an Image array. A Timer object is used to create a fading effect between the food items.

Architecture Patterns:

Model-View-Controller (MVC) pattern: The code follows the MVC pattern by separating the UI (View) from the business logic (Controller) and data (Model) of the application. The code defines the UI components (JPanel, JButton, JLabel) in a separate method, initComponents(), and encapsulates the business logic of reading data from the XML database and updating the UI in the constructor of the class.

Design Principles:

- Single Responsibility Principle (SRP): The class follows SRP by having only one reason to change - updating the UI of the Lazy Mode feature.
- Separation of Concerns (SoC): The code separates the UI and business logic, making it easy to maintain and extend.

Design Patterns:

- Observer Pattern: The class implements the ActionListener interface, which is used to receive events from the Timer object.
- Composite Pattern: The AlphaComposite class is used to set the alpha value for the images, creating a fading effect between the food items. Overall, the code follows good design principles and patterns, making it easy to maintain and extend in the future.

USE CASE : 2 : CUSTOMER ORDERING FOOD AND RELATED TRIGGERS

CONTRIBUTOR : ROHIT ROSHAN

Architecture Patterns:

Model-View-Controller (MVC) Pattern: The code follows the MVC pattern where MainWindow class acts as a view that displays the user interface and also updates the model, based on the user's actions, which is maintained by some other class.

Design Principles:

- Single Responsibility Principle (SRP): Each class has a single responsibility, and their methods serve that single responsibility.
- Open/Closed Principle (OCP): The code is open for extension but closed for modification. For example, the model classes can be extended or replaced, but the MainWindow class does not need to be changed.
- Dependency Inversion Principle (DIP): High-level classes like MainWindow depend on abstractions (interfaces) of low-level classes like JList, ButtonGroup, etc., rather than the concrete classes themselves.
- Liskov Substitution Principle (LSP): Subtypes of a class, such as JPanel or JButton, can be used interchangeably with their parent class in the code.

- Interface Segregation Principle (ISP): The code uses interfaces to segregate methods into smaller, cohesive groups, making them easier to manage and understand.

Design Patterns:

- Singleton Pattern: The MainWindow class is implemented as a singleton, meaning there can be only one instance of it throughout the entire application.
- Factory Pattern: The code uses a factory method (initComponents()) to create and initialize UI components (JList, JRadioButton, JButton, etc.) in a consistent way.
- Observer Pattern: The code uses the observer pattern to listen for changes in the JList (FoodCategory_jList) and ButtonGroup (orderType_buttonGroup) components, and updates the UI accordingly.

USE CASE : 3 : USER ACCOUNT MAINTENANCE AND TRANSACTION OF ORDERS WITH BILL

CONTRIBUTOR : S M SUTHARSAN RAJ

Architecture patterns:

The code is designed using the Model-View-Controller (MVC) architectural pattern. The "UserAccount" class represents the view, responsible for the GUI. The "CurrentCustomer" class is the model, responsible for holding user data. The "ActionPerformed" methods act as the controller, handling user interactions with the GUI. This pattern separates the application into three interconnected parts, making it easier to maintain and extend.

Design principles:

- Single Responsibility Principle (SRP) : The code adheres to the Single Responsibility Principle (SRP) as each class has a specific responsibility. The "UserAccount" class is responsible for the GUI, the "CurrentCustomer" class is responsible for holding the user's data, and the "ActionPerformed" methods are responsible for handling the user's interactions with the GUI.
- The Separation of Concerns (SoC) design principle is also followed as the code separates the application's concerns into different modules or components.

Design patterns:

- Observer Pattern: The class implements the ActionListener interface, which is used to receive events from the Timer object.
- Composite Pattern: The AlphaComposite class is used to set the alpha value for the images, creating a fading effect between the food items. Overall, the code follows good design principles and patterns, making it easy to maintain and extend in the future.
- The code uses the DefaultTableModel class from the javax.swing.table package to create a table model that holds data for a JTable component. This is an example of the Model-View-Controller (MVC) pattern, where the JTable component acts as the view, the DefaultTableModel class acts as the model, and the "ActionPerformed" methods act as the controller, updating the table model based on the user's interactions with the GUI. While no other design patterns are

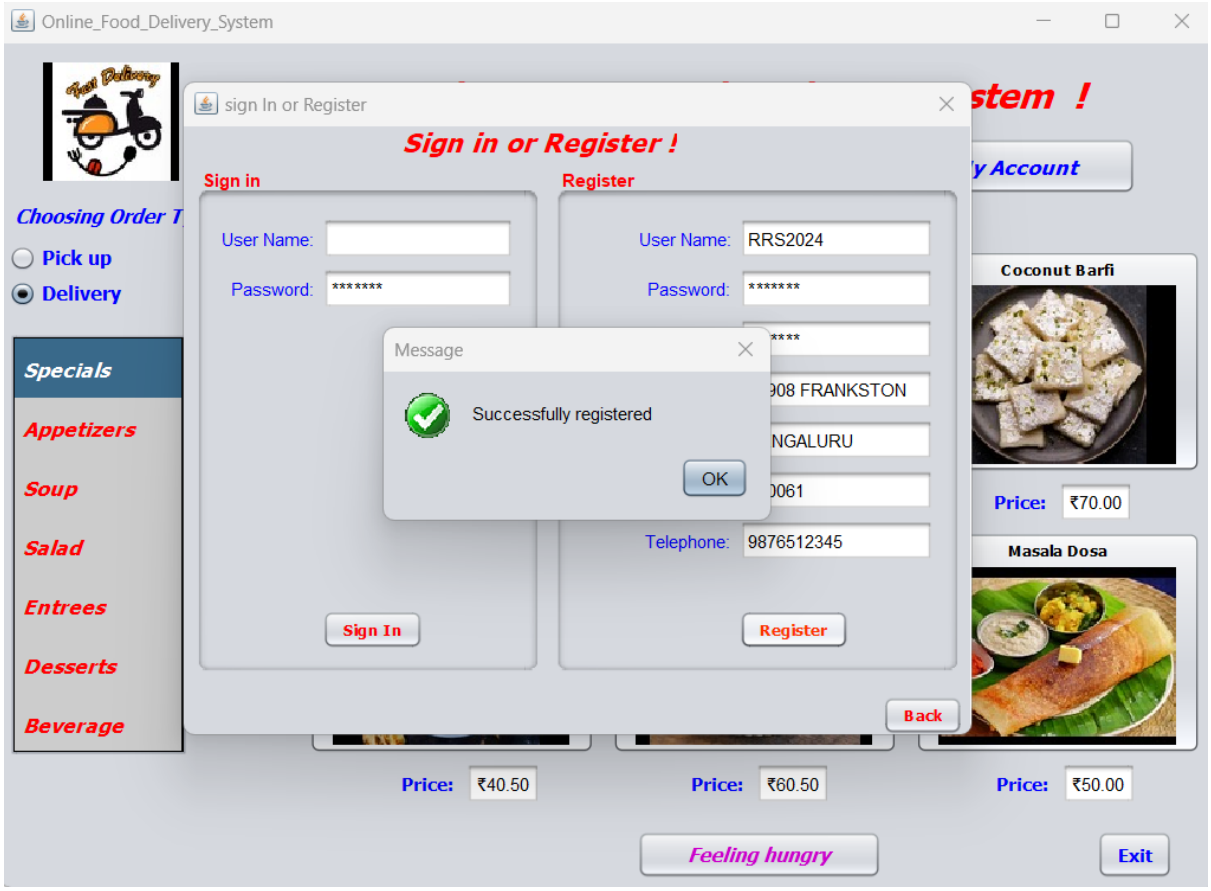
used explicitly, the code follows good design principles, making it easier to maintain and extend in the future.

GITHUB LINK :

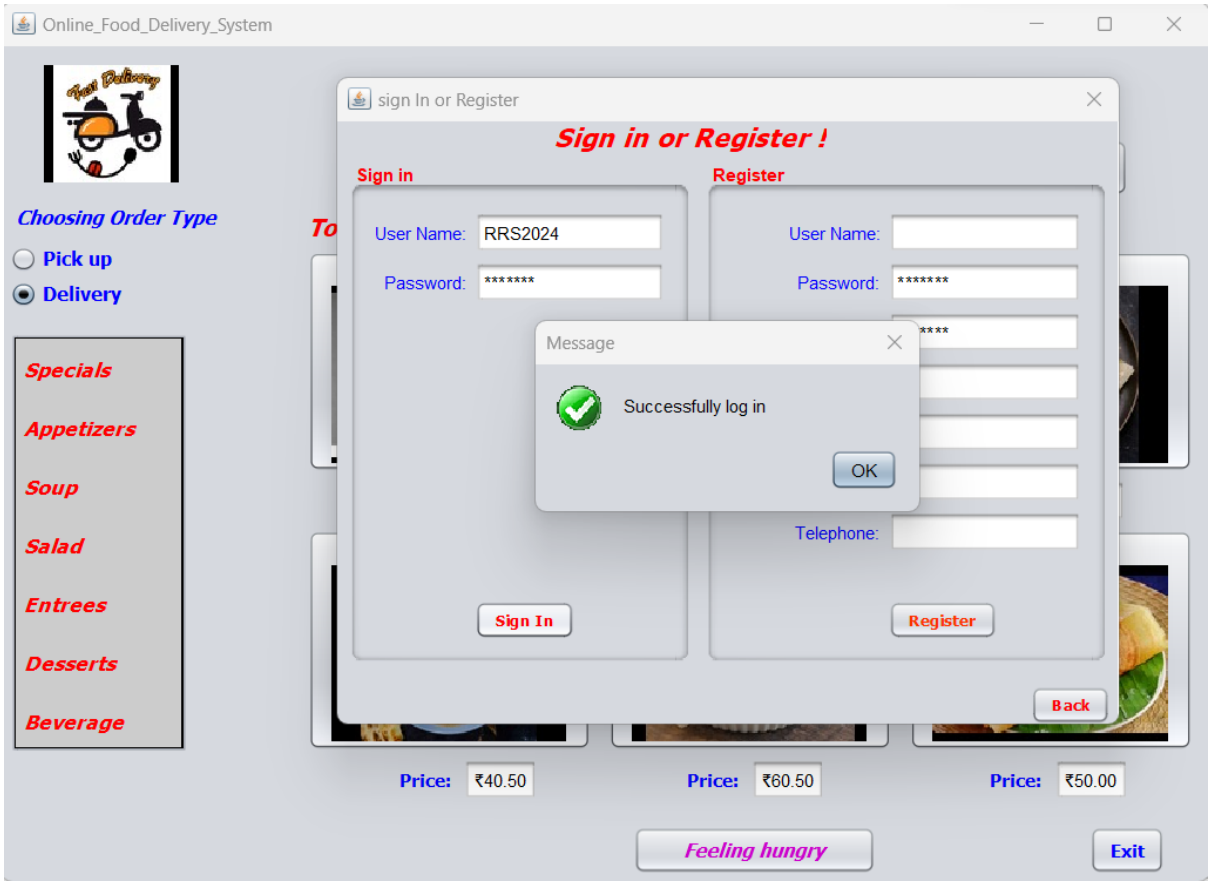
https://github.com/smsraj2001/ONLINE-FOOD-DELIVERY-SYSTEM-JAVA

SCREENSHOTS WITH INPUT VALUES POPULATED AND OUTPUT SHOWN :

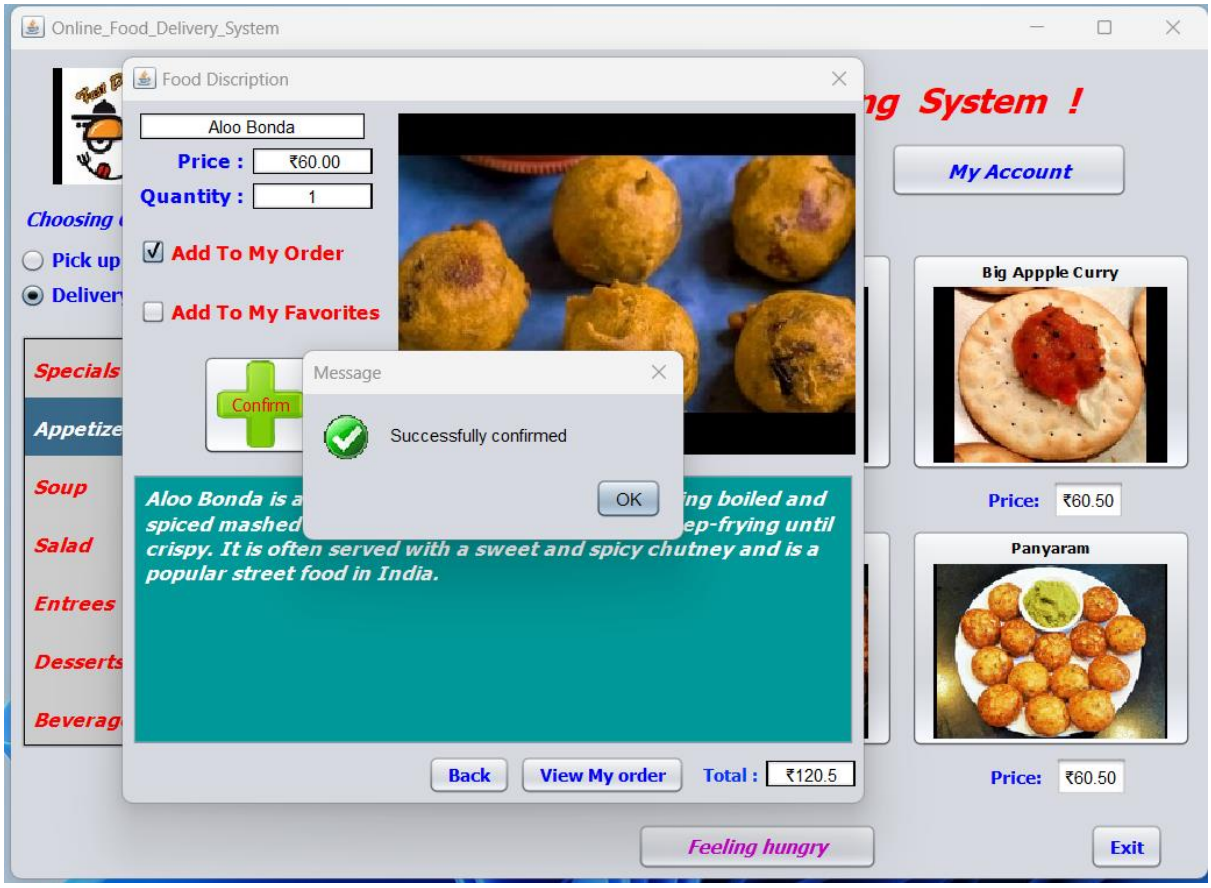
Registration :

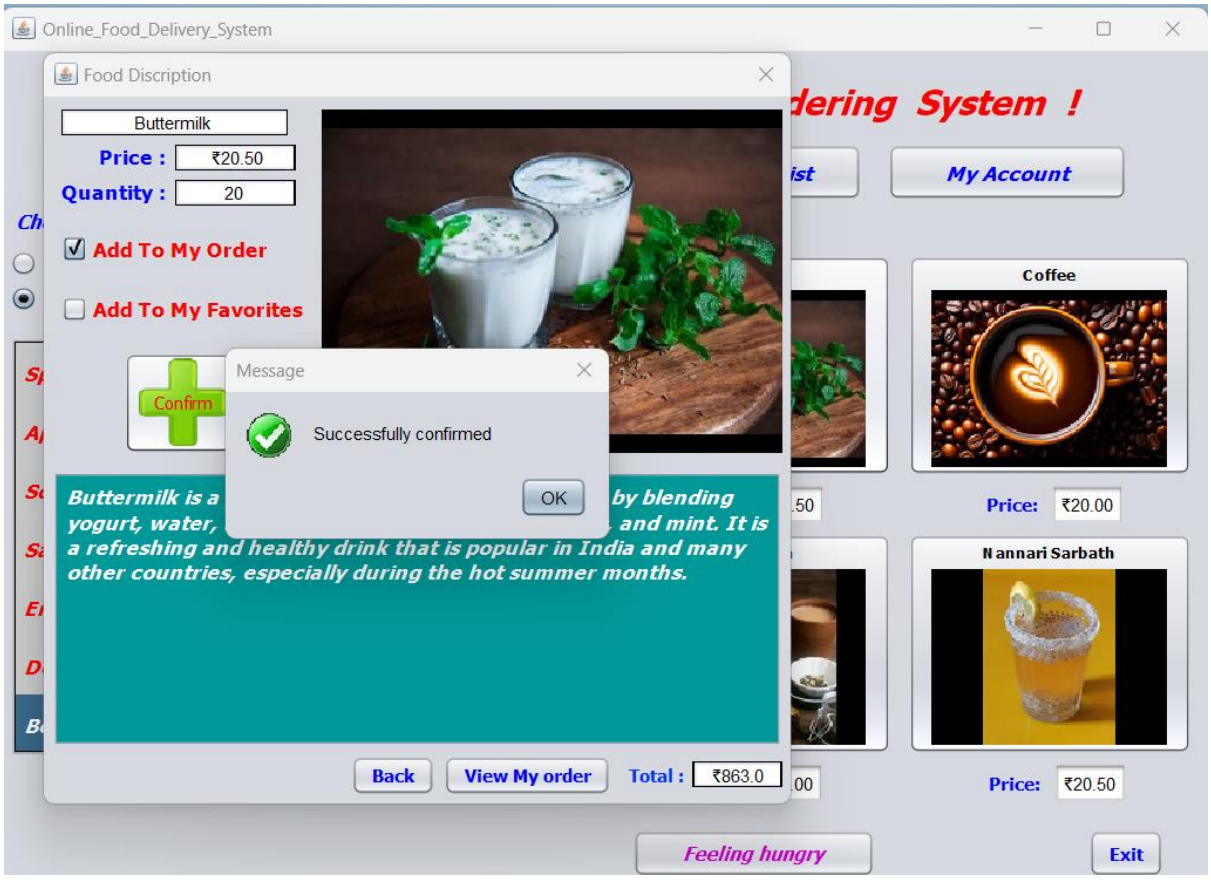

Online_Food_Delivery_System
sign In or Register
Sign in or Register !
Sign in
Register
User Name:
Password:
User Name:
RRS2024
Password:
Message
Successfully registered
OK
908 FRANKSTON
NGALURU
0061
Telephone:
9876512345
Sign In
Register
Back
Choosing Order T
Pick up
Delivery
Specials
Appetizers
Soup
Salad
Entrees
Desserts
Beverage
Coconut Barfi
Price:
₹70.00
Masala Dosa
Price:
₹40.50
Price:
₹60.50
Price:
₹50.00
Feeling hungry
Exit

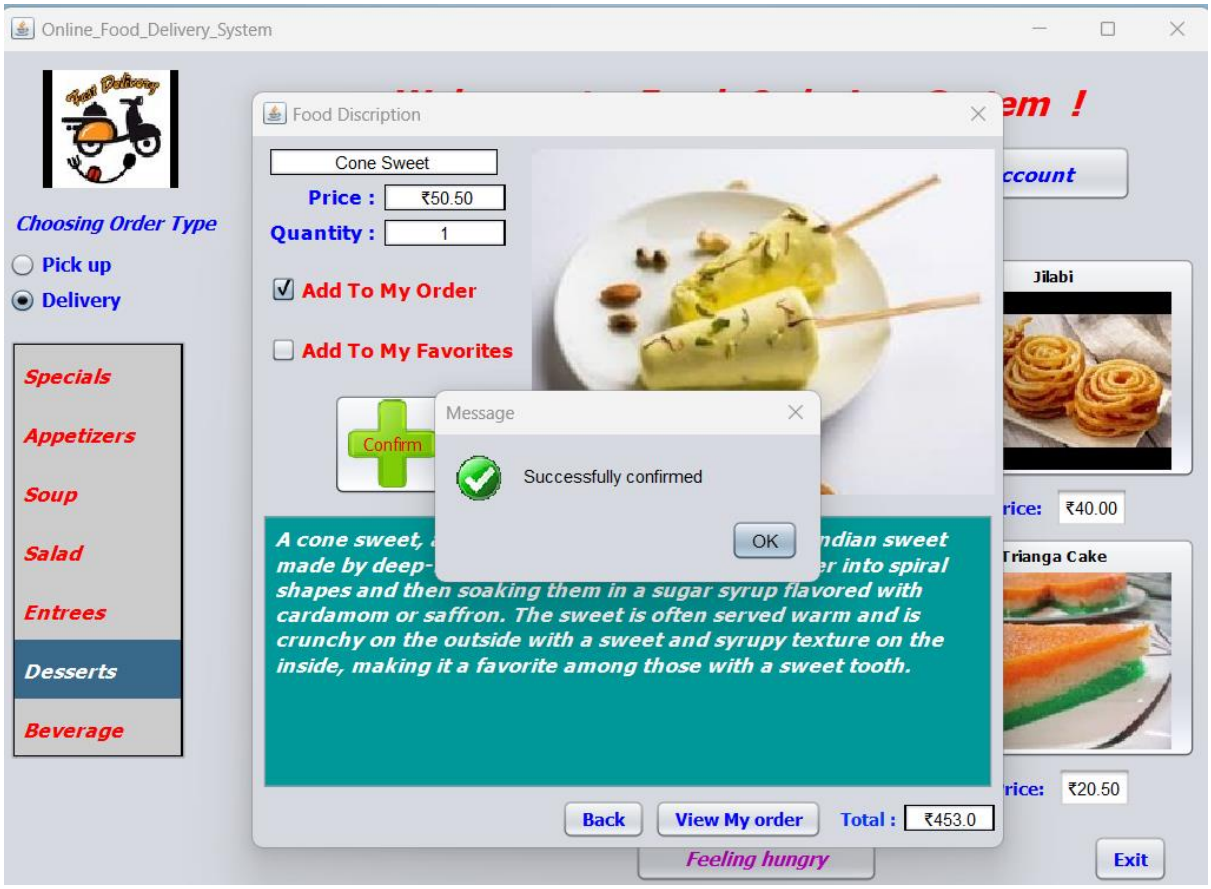
Sign In :



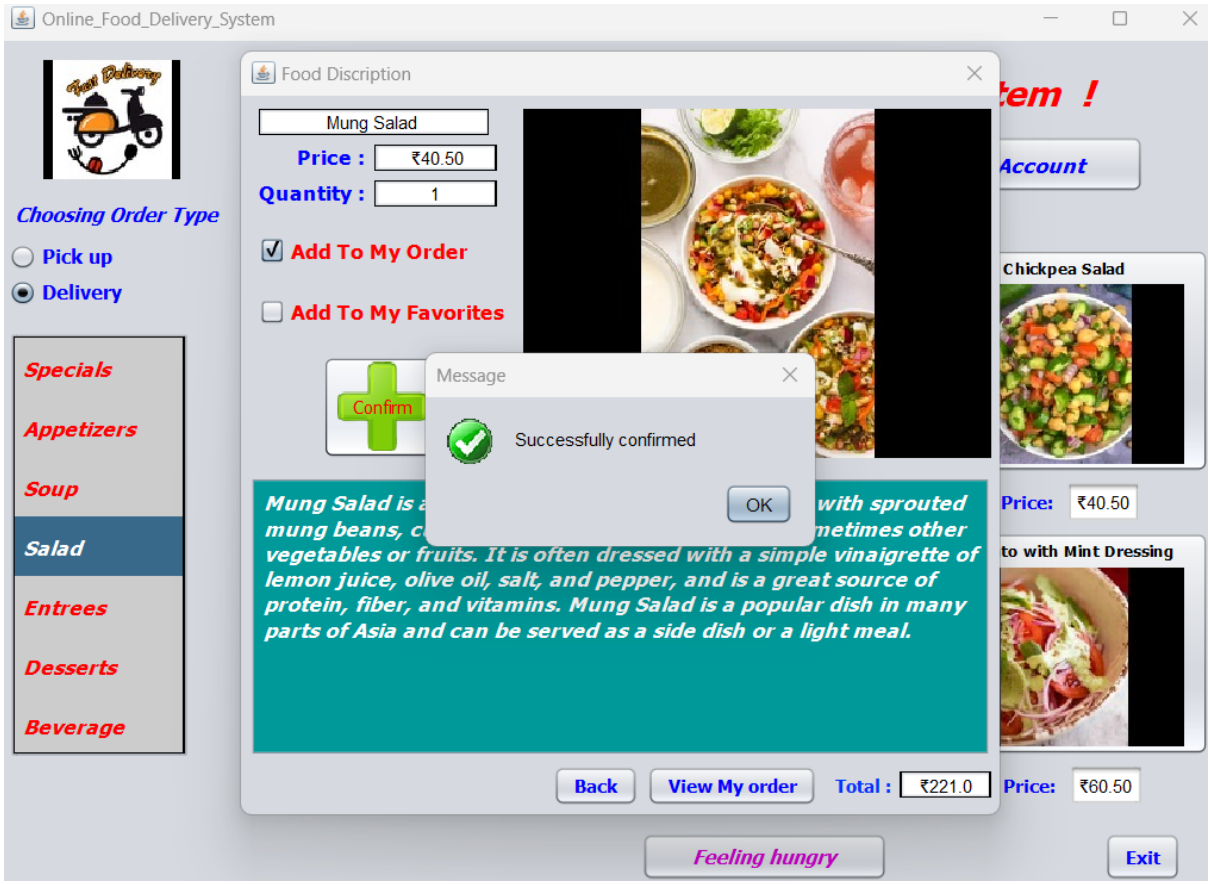
Food order : DELIVERY

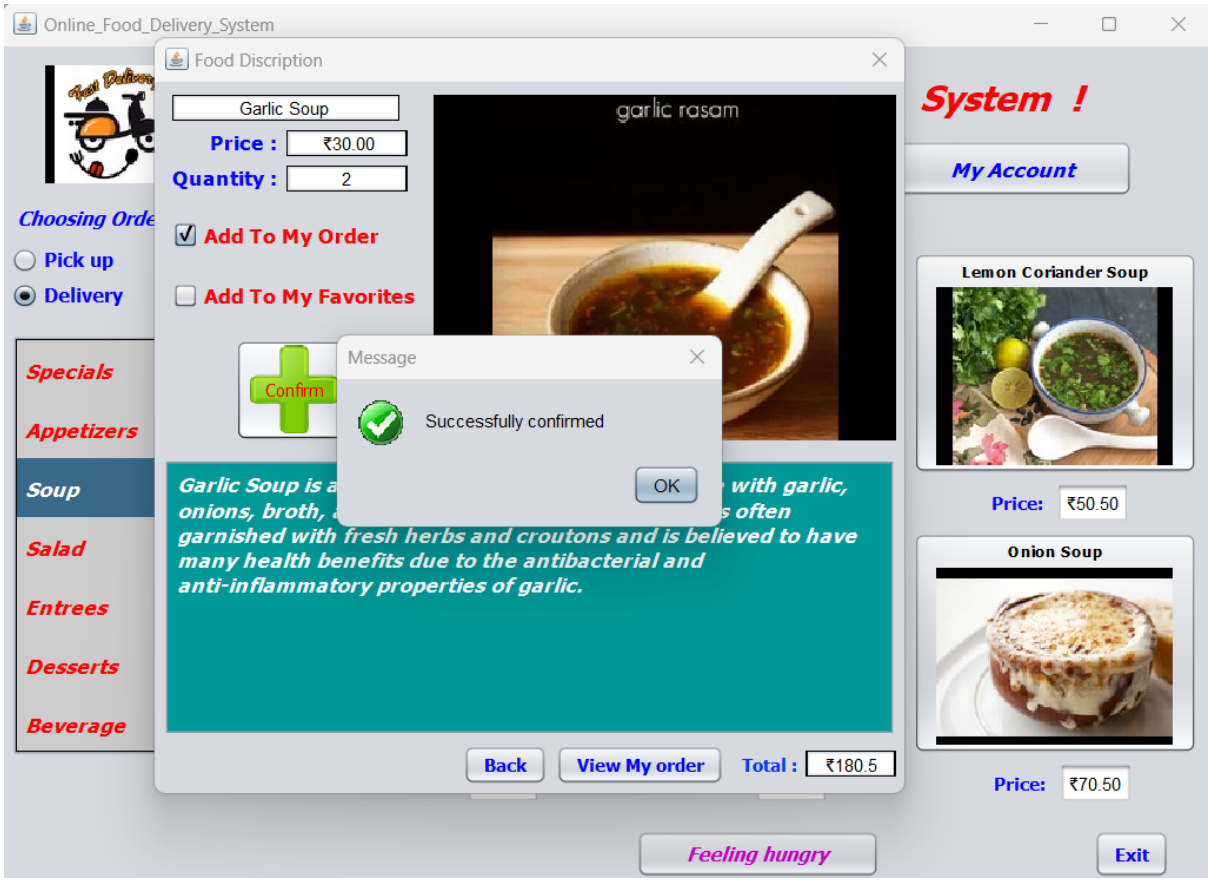

Online_Food_Delivery_System
Food Discription
Aloo Bonda
Price :
₹60.00
Quantity :
1
Add To My Order
Add To My Favorites
Confirm
Message
Successfully confirmed
OK
Aloo Bonda is a
ing boiled and
spiced mashed
ep-frying until
crispy. It is often served with a sweet and spicy chutney and is a
popular street food in India.
Back
View My order
Total :
₹120.5
ng System !
My Account
Choosing
Pick up
Deliver
Specials
Appetize
Soup
Salad
Entrees
Desserts
Beverag
Big Appple Curry
Price:
₹60.50
Panyaram
Price:
₹60.50
Feeling hungry
Exit

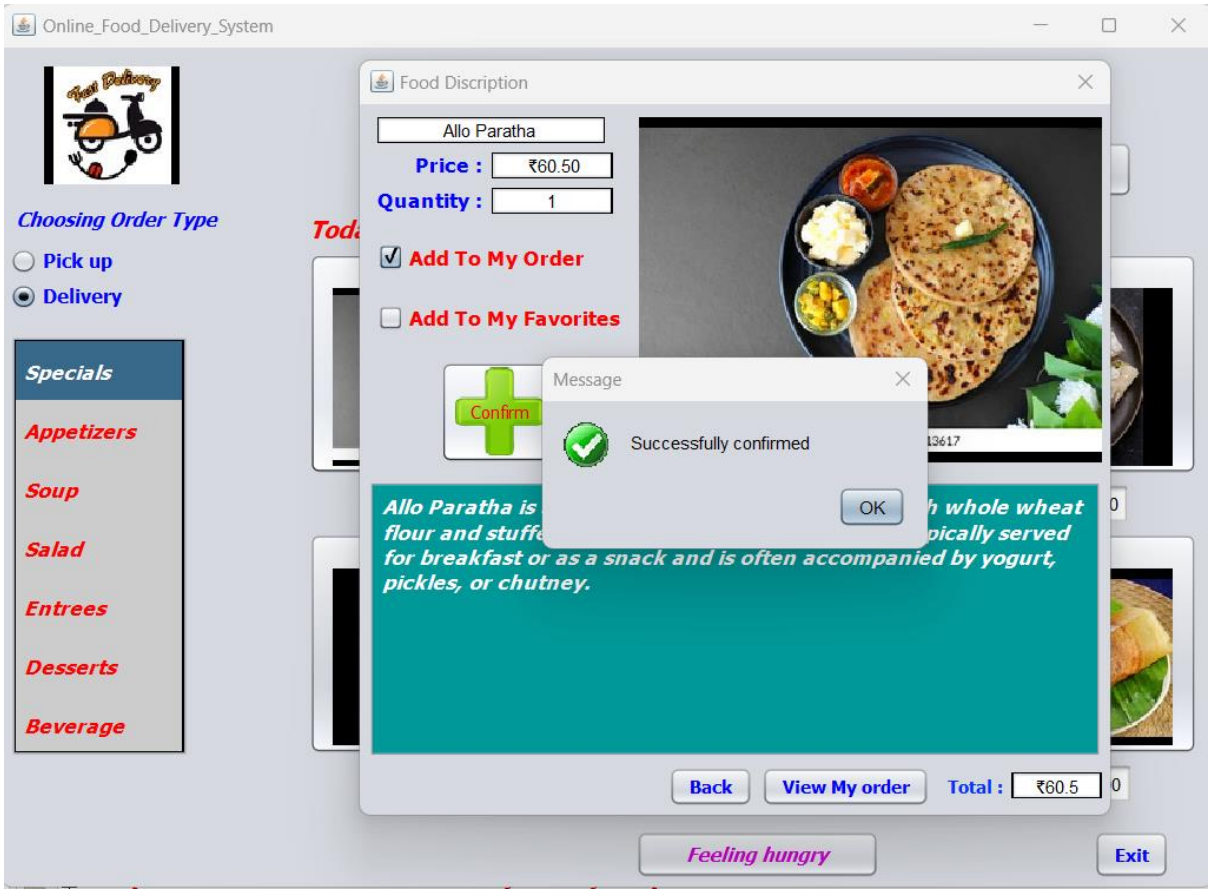

Online_Food_Delivery_System
Food Discription
Buttermilk
Price :
₹20.50
Quantity :
20
Add To My Order
Add To My Favorites
Confirm
Message
Successfully confirmed
OK
Buttermilk is a
by blending
yogurt, water,
and mint. It is
a refreshing and healthy drink that is popular in India and many
other countries, especially during the hot summer months.
Back
View My order
Total :
₹863.0
dering System !
My Account
Coffee
Price:
₹20.00
Nannari Sarbath
Price:
₹20.50
Feeling hungry
Exit


Online_Food_Delivery_System
Food Discription
Cone Sweet
Price :
₹50.50
Quantity :
1
Add To My Order
Add To My Favorites
Confirm
Message
Successfully confirmed
OK
Choosing Order Type
Pick up
Delivery
Specials
Appetizers
Soup
Salad
Entrees
Desserts
Beverage
Jilabi
₹40.00
Trianga Cake
₹20.50
Back
View My order
Total :
₹453.0
Feeling hungry
Exit

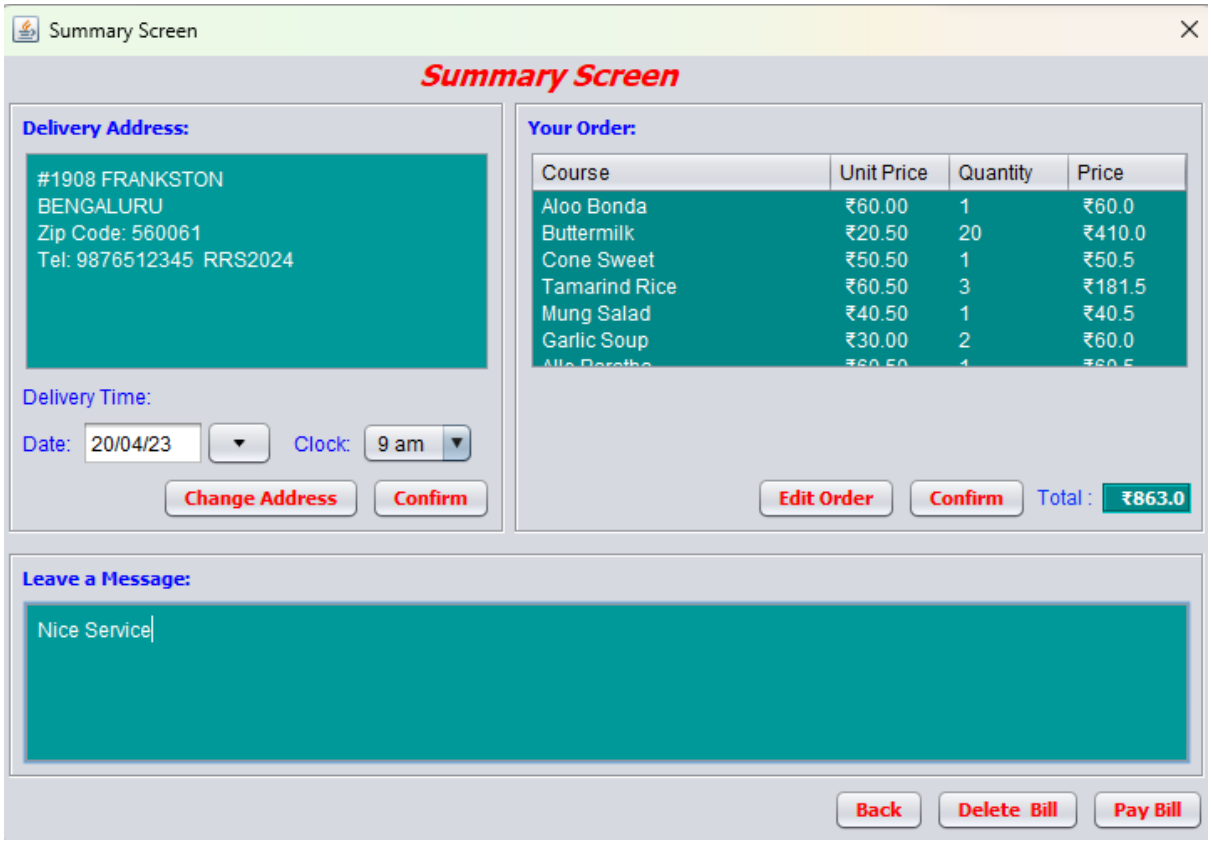
Online_Food_Delivery_System
Welcome to Food Ordering System !
Food Discription
Tamarind Rice
Price :
₹60.50
Quantity :
3
Add To My Order
Add To My Favorites
Confirm
Message
Successfully confirmed
OK
Choosing Order Type
Pick up
Delivery
Specials
Appetizers
Soup
Salad
Entrees
Desserts
Beverage
Paneer Butter Masala
Price:
₹50.50
Tamarind Rice
Price:
₹60.50
Back
View My order
Total :
₹402.5
Exit


Online_Food_Delivery_System
Food Discription
Mung Salad
Price :
₹40.50
Quantity :
1
Add To My Order
Add To My Favorites
Confirm
Message
Successfully confirmed
OK
Choosing Order Type
Pick up
Delivery
Specials
Appetizers
Soup
Salad
Entrees
Desserts
Beverage
Mung Salad is a
with sprouted
mung beans, c
metimes other
vegetables or fruits. It is often dressed with a simple vinaigrette of
lemon juice, olive oil, salt, and pepper, and is a great source of
protein, fiber, and vitamins. Mung Salad is a popular dish in many
parts of Asia and can be served as a side dish or a light meal.
Back
View My order
Total :
₹221.0
Account
Chickpea Salad
Price:
₹40.50
to with Mint Dressing
Price:
₹60.50
Feeling hungry
Exit

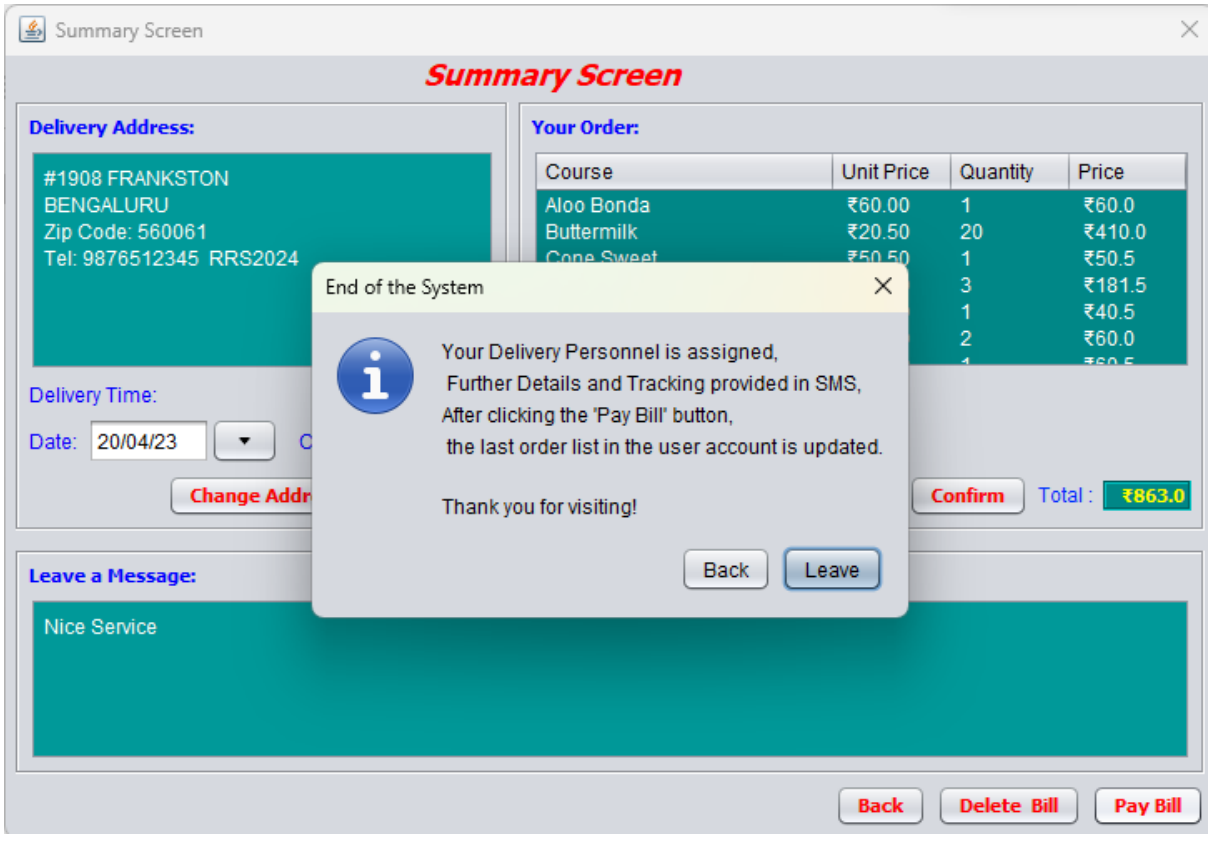

Online_Food_Delivery_System
Food Discription
Garlic Soup
Price :
₹30.00
Quantity :
2
Add To My Order
Add To My Favorites
Confirm
Message
Successfully confirmed
OK
garlic rasam
Choosing Orde
Pick up
Delivery
Specials
Appetizers
Soup
Salad
Entrees
Desserts
Beverage
Garlic Soup is a
with garlic,
onions, broth,
s often
garnished with fresh herbs and croutons and is believed to have
many health benefits due to the antibacterial and
anti-inflammatory properties of garlic.
Back
View My order
Total :
₹180.5
System !
My Account
Lemon Coriander Soup
Price:
₹50.50
Onion Soup
Price:
₹70.50
Feeling hungry
Exit



Summary Screen :-

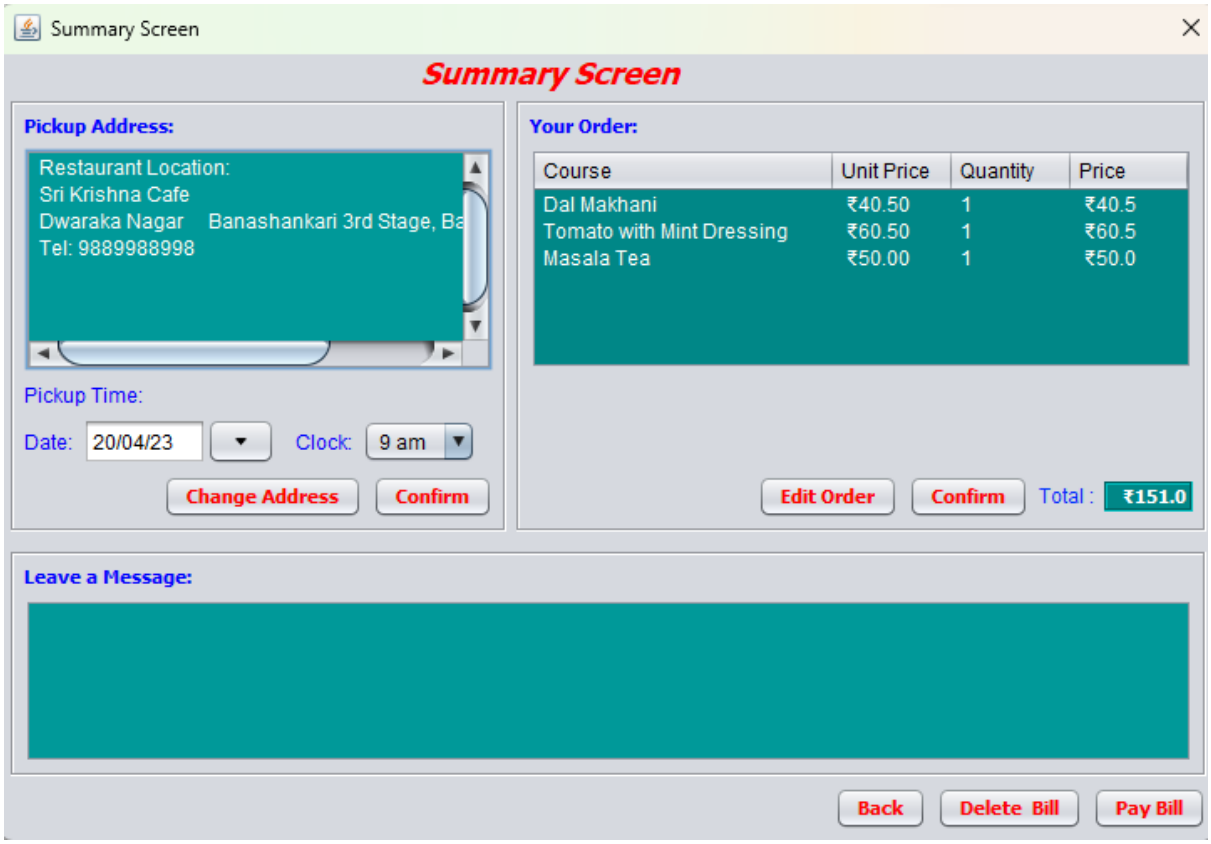


Paying the bill :-

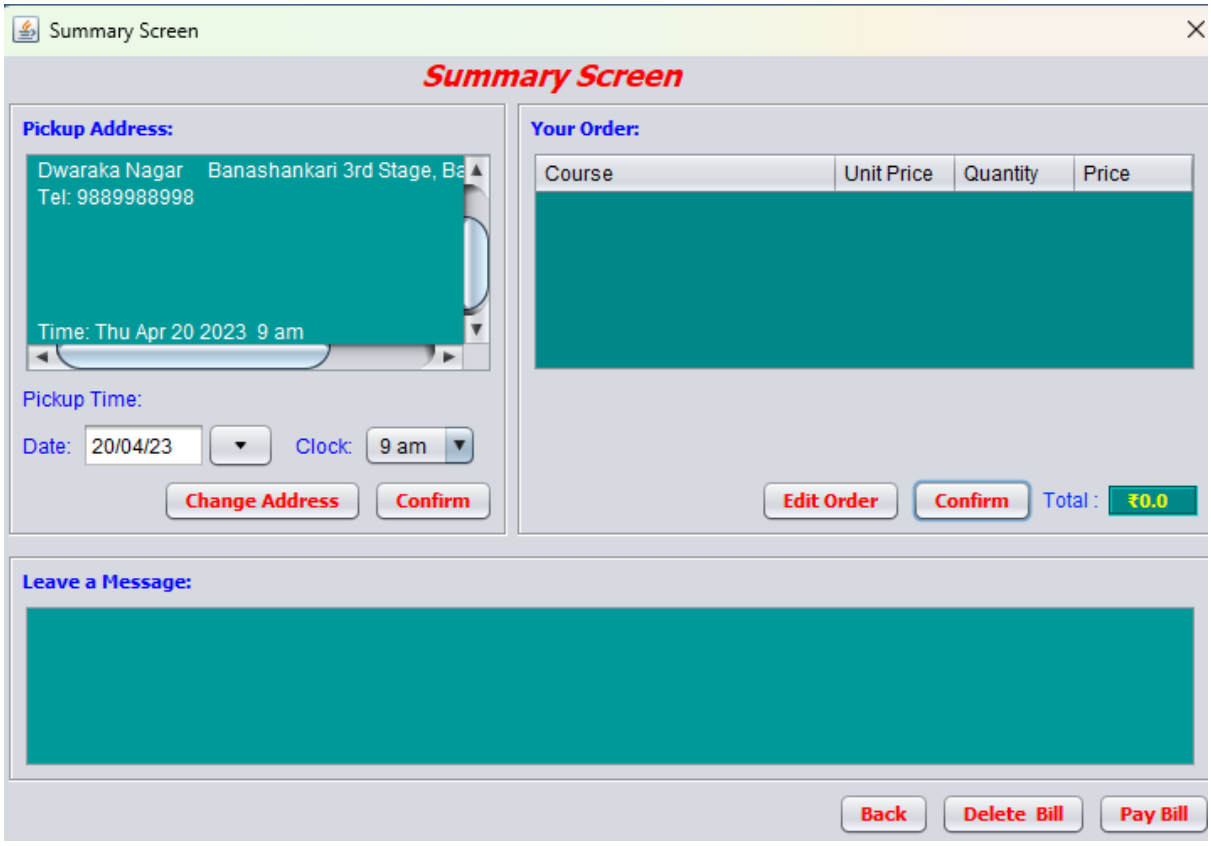


Food order : PICK – UP and use of “I am Feeling Hungry”

Paying bill : PICKUP MODE :-



Deleting the bill :-



My account button :-

THANK YOU