The Islamia University of Bahawalpur

Department of Information Technology

SOFTWARE DESIGN DESCRIPTION

(SDD DOCUMENT)

for

<The Food Express>

Version 1.0

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Bachelor of Science in Information Technology

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Revision History

Name	Date	Reason for changes	Version

Application Evaluation History

Comments (by committee) ***include the ones given at scope time both in doc and presentation**	**Action Taken**

Supervised by
Ms. Kainat

Signature _____

1. Introduction

"The Food Express" project aims to provide a convenient and user-friendly platform for customers to browse and order food online from a restaurant. The web application is designed to streamline the ordering process and make it easier for customers to find the food they wish, place an order, and make a payment. The web application should be user-friendly, reliable, secure, and scalable to accommodate a large number of users. In today's world every person need comfort and ease in their life.

The functional scope of the web application has the following main features:

- To record details of Customer
- To record information of New Registered Customer
- To record the location of delivery Food
- To record information of Food
- To Update, delete and Add new Food
- To record information of Delivery Service
- To record information of Online Payment
- To generate reports

The System has various modules as:

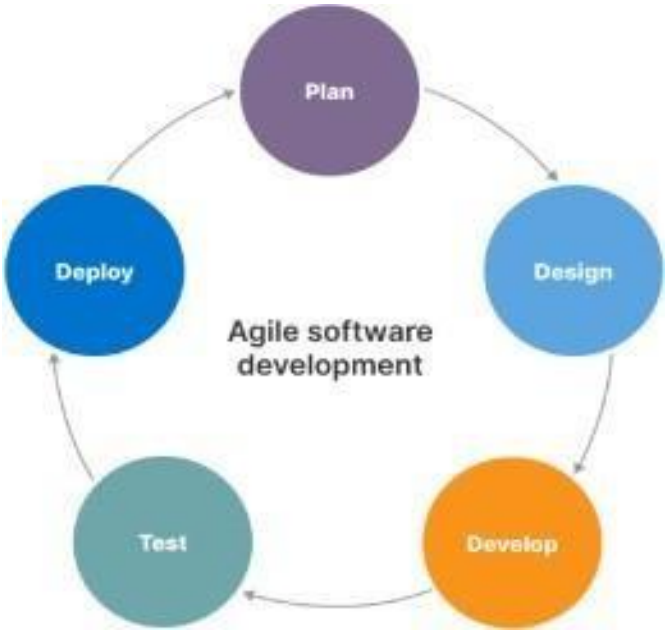
User Registration and Authentication: This module enables users to create accounts, login, and manage their profiles. It includes features like account creation, login/logout functionality, and password reset.

Menu Browsing and Ordering: This module allows users to browse through restaurant menu, view item details, and place orders. It includes features like menu categorization, item customization, and adding items to the cart.

Order Tracking: This module allows users to track the status of their orders in real-time. It provides updates on the order's preparation, dispatch, and estimated delivery time.

Ratings and Reviews: This module allows users to provide feedback on their food orders and rate the restaurant they have ordered from. It helps other users make informed decisions when selecting restaurants.

2. Design methodology and software process model



The **Agile methodology** is one of such developments, which is specially created for such websites, apps and software. It also works for individual and group interactions through various tools, software using relevant documentation, contract negotiation through customer collaboration and response.

Being a response to the ever-changing competition and customer trends using the latest technology, the Agile methodology works with a blend of business and technical Small and medium-sized enterprises in "The Food express" to ensure a smooth and effective functionality and an overall great performance.

It has been widely said that **agile methodology** such website is a perfect match, and there are many examples to prove that with the following benefits.

- Higher speed
- Observing market interest
- Better product quality
- Flexibility
- Less risks
- Regular and rigorous testing
- Happier customers

That's why we are using agile methodology in our web application.

3. System overview

The "The Food Express" is a web-based application that aims to provide a convenient platform for customers to browse and order food like burger, drinks and deals from a restaurant. The web application is designed to streamline the entire food ordering process, from menu selection to payment and delivery.

Overall, “The Food Express” project aims to provide a user-friendly, efficient, and secure platform for customers to order food online, while enabling restaurant to showcase their menus and streamline their order management processes. The web application ensures a seamless experience from menu browsing to payment and delivery, enhancing convenience for both customers and restaurant owners/managers.

- **Systems Perspective:** “The Food Express” web application will be a completely new web application for the customers. It has the database of transactions, customer’s details, Account’s details, online ordering etc.
- **Assumptions and dependencies:** “The Food Express” web application will offer 24-hour service within certain areas. The 24-hour service depends on the availability of delivery services. All the end user services dependent upon server by using Internet as a medium, but if the server is down or the Internet speed is not sufficient then users will fail to achieve these facilitating services. If any change occurs in our application then it will not much effect our documentation in order to purchase things Consumer must have Cash on Delivery/Easy Paisa/Visa card in his/her possession else consumer cannot order. Our “The Food Express” application will be only available in Web Application. ➢ **Cost and pricing:** This is my Final year Project and has no Cost & Pricing.

3.1 Architectural design

Architectural design for the "The Food Express" project can be based on a multi-tiered architecture to ensure scalability, modularity, and separation of concerns.

3.1.1 Presentation Layer:

User Interface: Provides a user-friendly interface for customers to browse menus, place orders, and track deliveries.

Admin Interface: Allows admin to manage their menus, view and process orders, and update order statuses.

3.1.2 Application Layer:

Order Management: Handles order processing, validation, and coordination between customers and restaurant.

User Management: Manages user authentication, registration, and profile management.

Menu Management: Handles menu updates, item availability, and pricing.

Delivery Management: Tracks and manages delivery logistics, including assigning drivers and updating delivery statuses.
Review and Rating: Manages customer feedback and ratings for restaurants and delivery services.

3.1.3 Data Layer:

Database Management System: Stores and manages data related to customers, menus, orders, payments, and reviews.

3.1.4 Data Access Layer: Provides an interface to interact with the database, including CRUD (Create, Read, Update and Delete) operations.

3.1.5 Integration Layer:

Integrates with external services, such as mapping services for delivery tracking, and notification systems for order updates.

3.2 Process flow/Representation

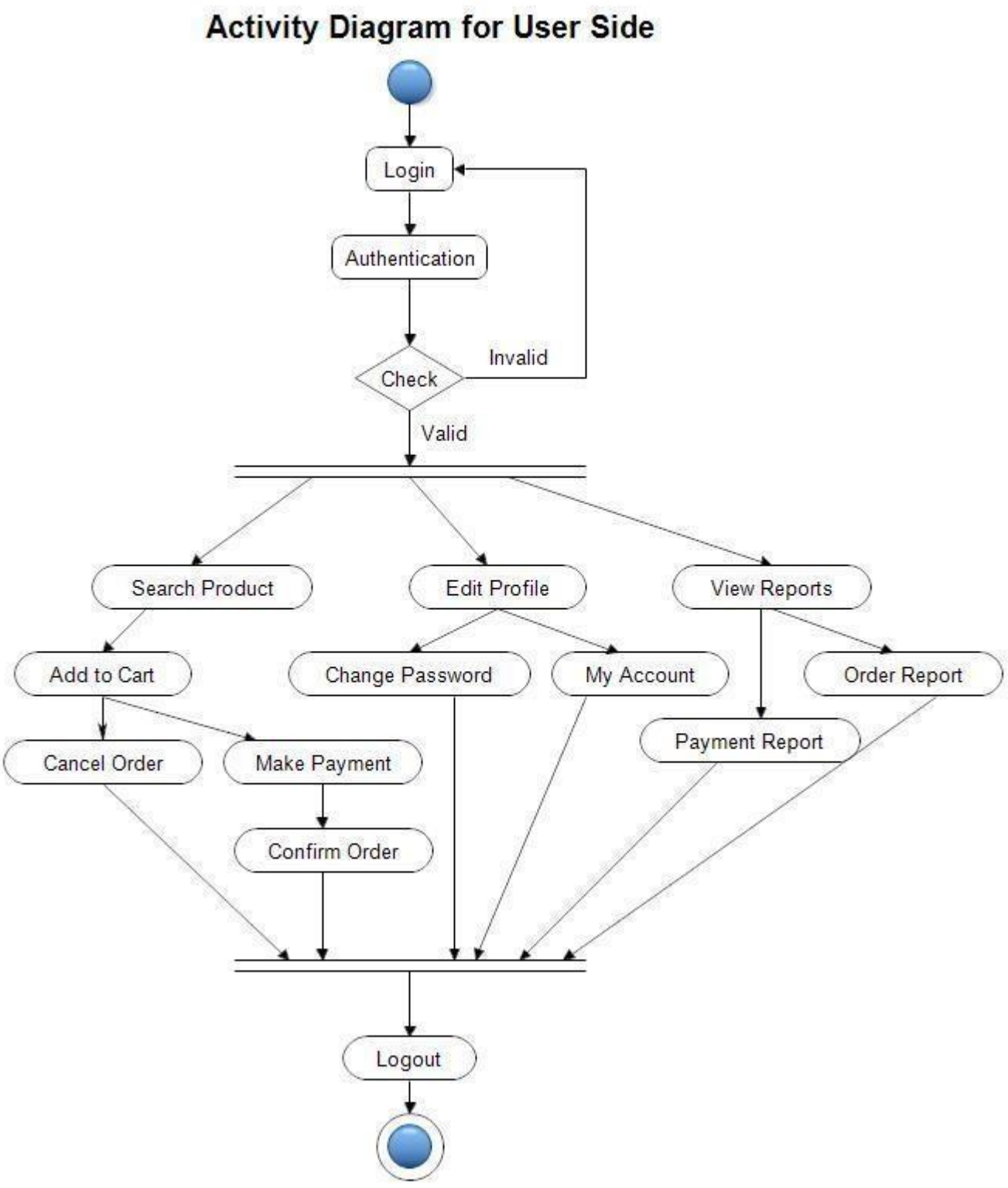


Figure 3.1 Activity Diagram From user side

Figure 3.1. Captures user actions from login to order placement, payment and log out from the web application in the “The Food Express” web application.

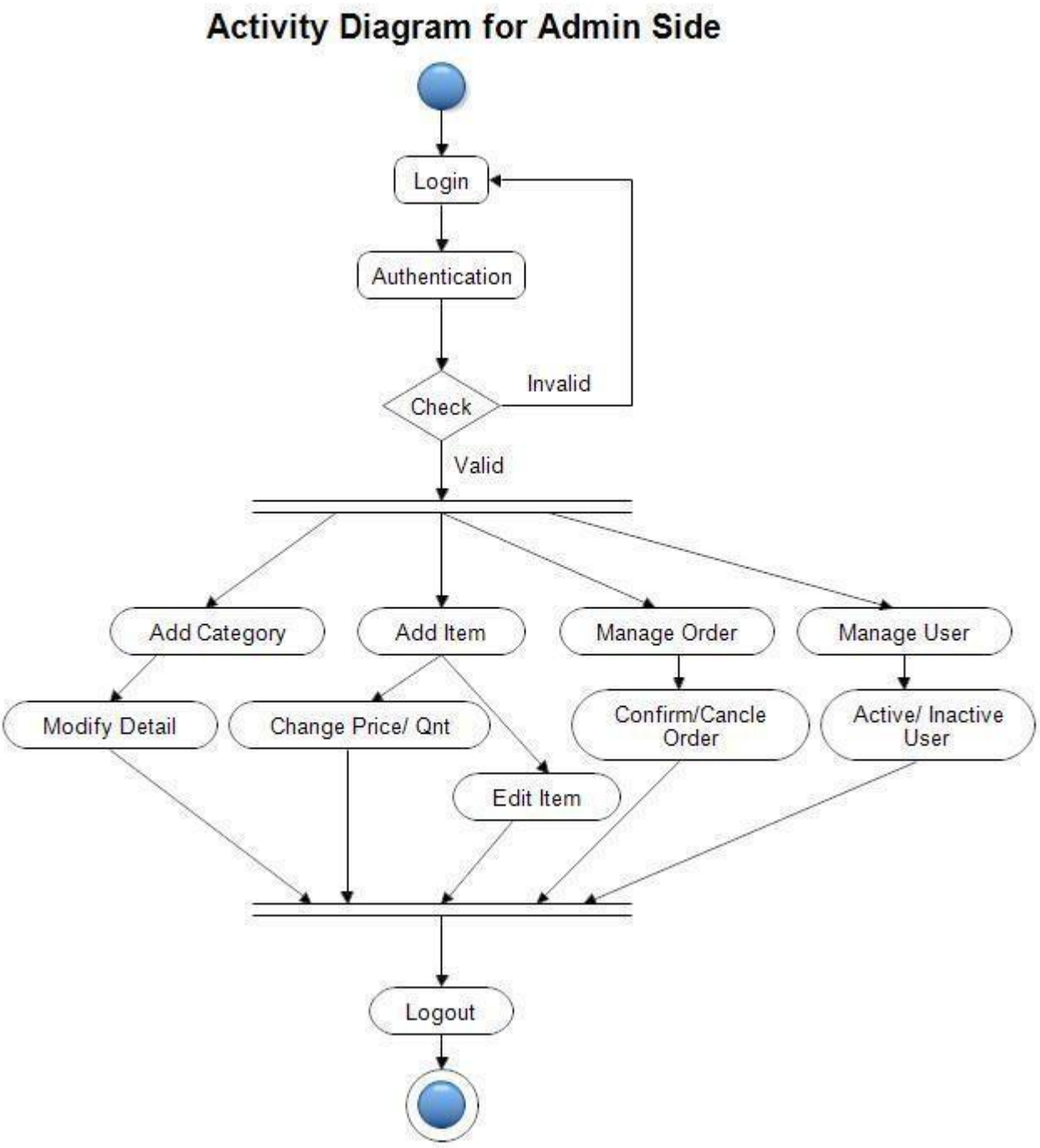


Figure 3.2 Activity Diagram from admin side

Figure 3.2 illustrates administrative actions like admin login, managing food, menus, manage order, manage user, and logout in the “The Food Express” web application.

4. Design models

4.1 Sequence Diagram

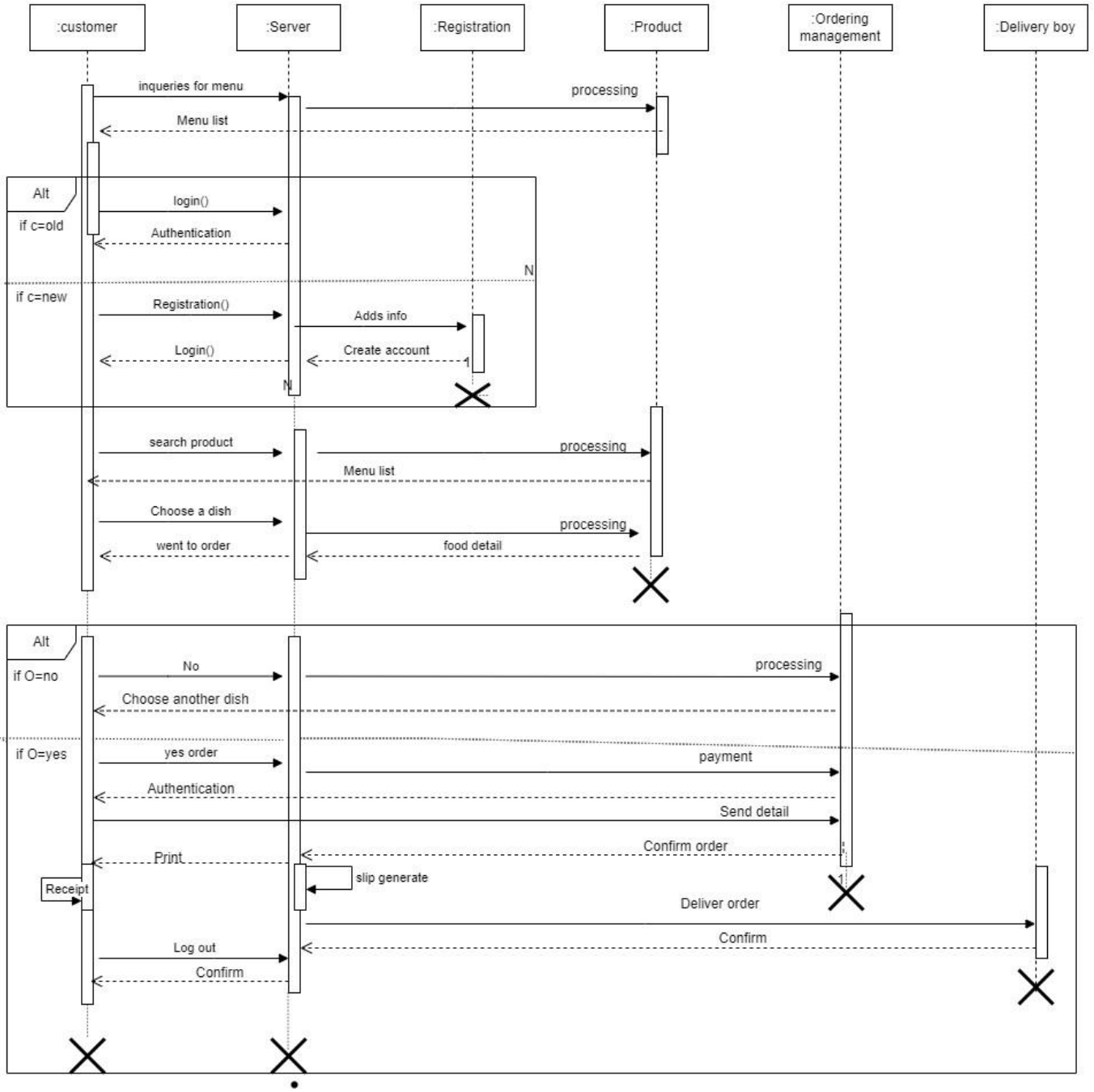

:customer
:Server
:Registration
:Product
:Ordering management
:Delivery boy
inqueries for menu
processing
Menu list
Alt
if c=old
login()
Authentication
N
if c=new
Registration()
Adds info
Login()
Create account
1
N
search product
processing
Menu list
Choose a dish
processing
went to order
food detail
Alt
if O=no
No
processing
Choose another dish
if O=yes
yes order
payment
Authentication
Send detail
Confirm order
Print
slip generate
1
Receipt
Deliver order
Confirm
Log out
Confirm

Figure 4.2 Sequence Diagram

Figure 4.2 describe the visual representation of interactions between objects/components in the "The Food Express", showcasing the order of actions and message exchanges. It illustrates dynamic behavior and collaboration between objects and web application.

4.2 State Transition Diagram

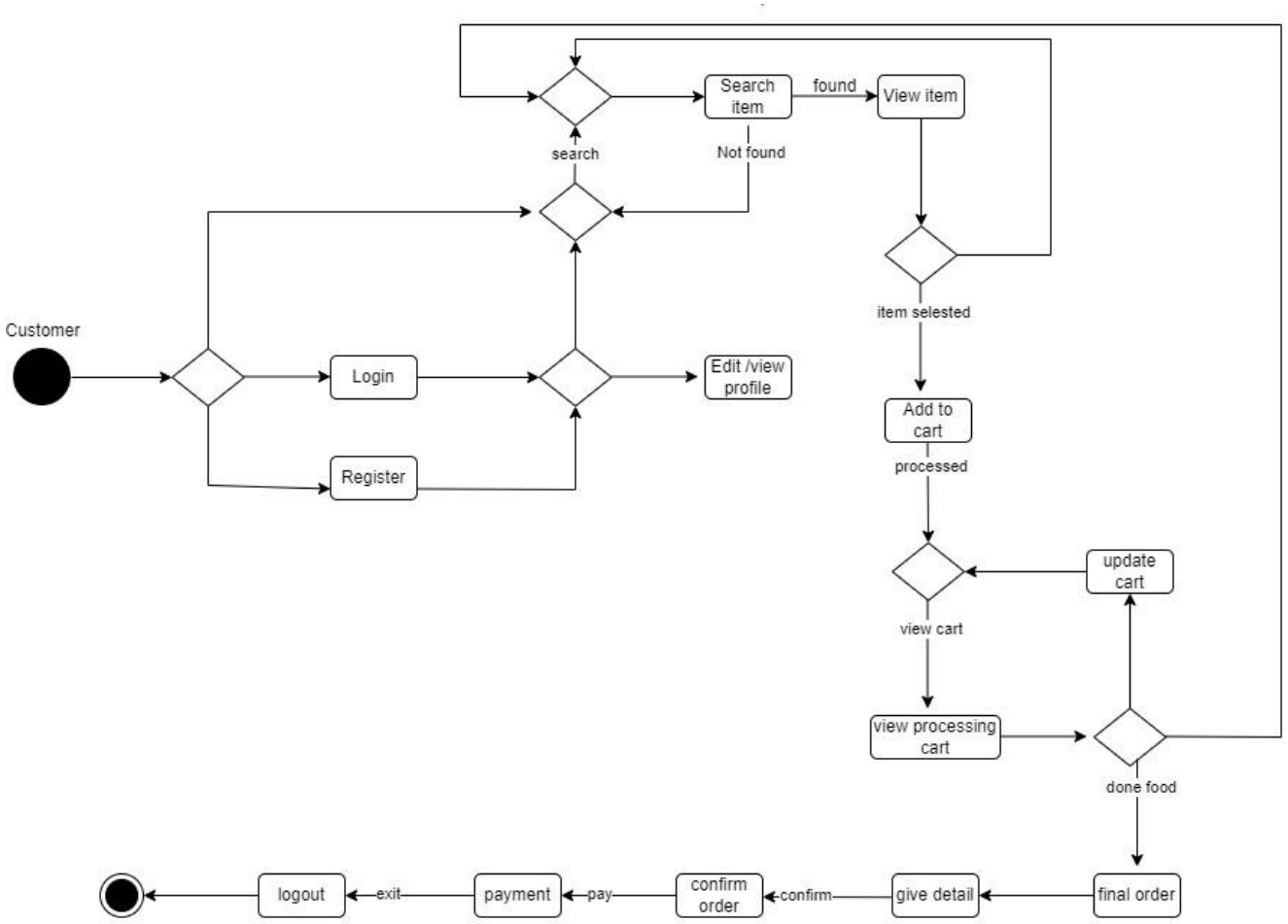


Figure 1.3 State transition diagram

Figure 4.3 illustrates the various states and transitions that an order goes through in the web application. Visualizes the flow and conditions for transitioning between states based on user actions and website events.

4.3 Data Flow Diagram

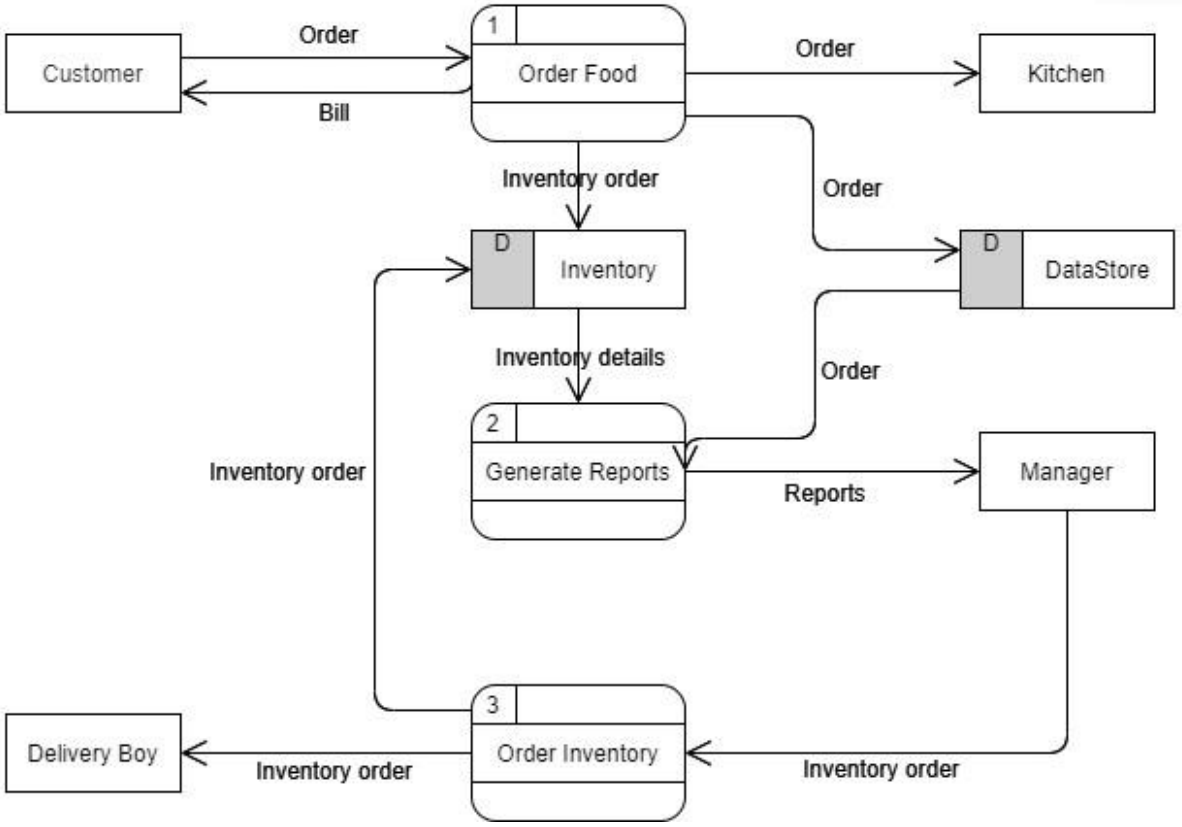


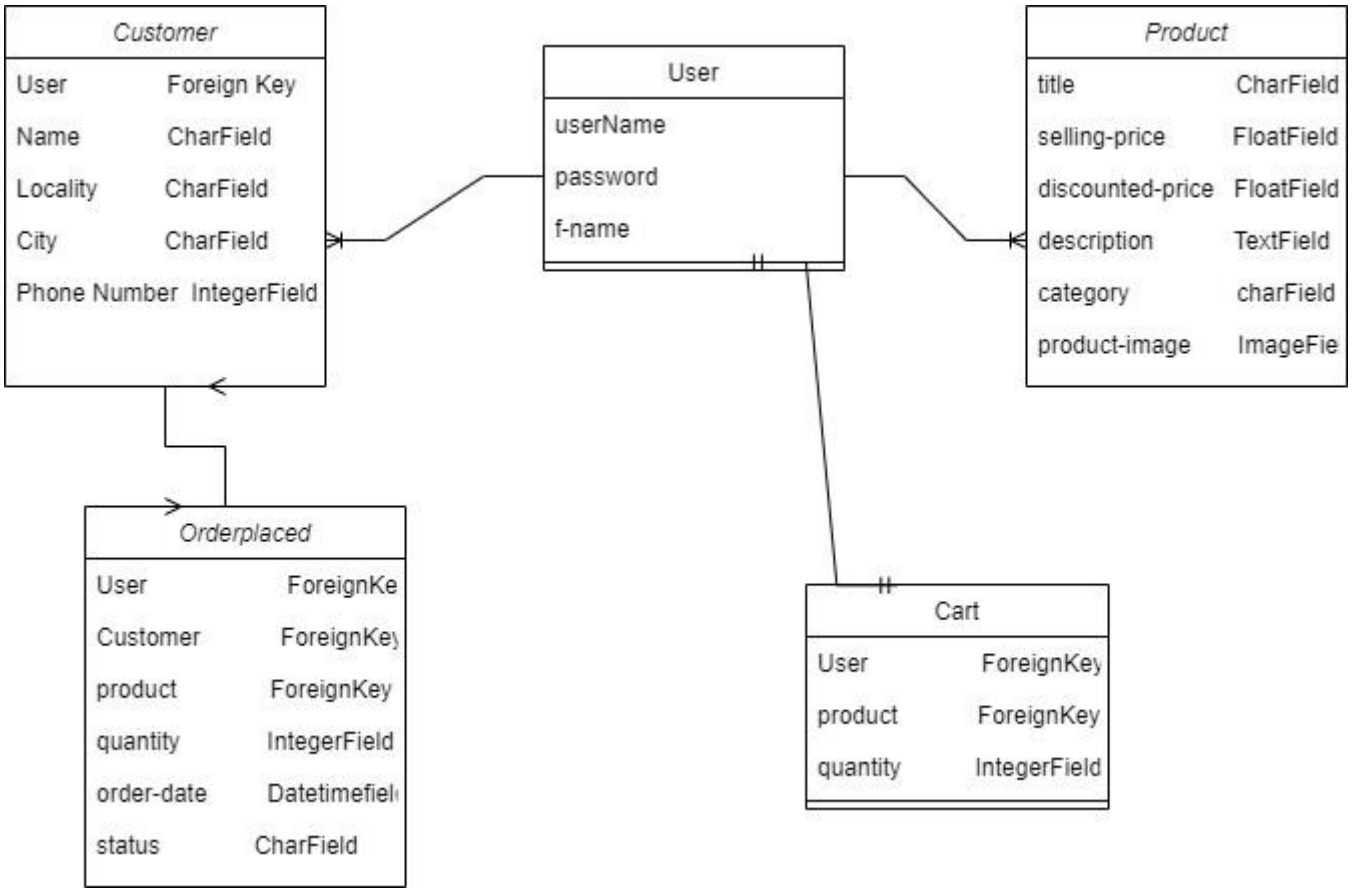
Figure 4.4 Data flow diagram

Figure 4.4 illustrates how information such as customer orders, menus, and payment details are processed and transmitted. Provides a high-level overview of the web application data flow, aiding in understanding the application functionality and interactions.

5. Data design

Data Description MySQL database connects with connection using python Django installed on the local web server.

5.1 Maps Database


Customer
User Foreign Key
Name CharField
Locality CharField
City CharField
Phone Number IntegerField
User
userName
password
f-name
Product
title CharField
selling-price FloatField
discounted-price FloatField
description TextField
category charField
product-image ImageFie
Orderplaced
User ForeignKe
Customer ForeignKe
product ForeignKey
quantity IntegerField
order-date Datetimefiel
status CharField
Cart
User ForeignKe
product ForeignKey
quantity IntegerField

5.2 Data dictionary

1. **Id**
   INT
   4-Digit
   0000-9999

2. **User_name**
   Varchar
   500

3. **Description**
   Text
   500

4. **Name**
   Varchar
   500

5. **Delivery_status**
   Varchar
   500

6. **Delivery_time**
   Time

7. **Item_name varchar**
   500

8. **Contact_info**
   INT
   15

9. **Password**
   Varchar
   500

10. **Item_price**

Decimal

11 **Quantity**
INT

12 **E_mail** **varchar 500**

13 **Address**
Varchar 500

14 **Is_admin**
Boolean

15 **Availability**
Boolean

6. Software requirements traceability matrix

In this Section we see Functional and non-functional requirements for each object. Where Functional requirements are denoted by “F” and non-functional requirements are denoted by “NF”.

Table 6.1 Requirements Traceability Matrix

Req. ID	**Type**	**Description**	**Component Items**
R_01	F	The application will provide the facility of registration.	Register
R_02	F	The application will provide the facility of login.	Login
R_03	F	The Application should provide the facility to view menu.	Menu
R_04	F	The application should provide the facility to place order.	Order
R_05	F	The application will provide the facility to user to cancel order.	Cancel order
R_06	NF	The user’s personal information (password, email id, phone no) not access by another user.	Data constraint
R_07	NF	The Application should available all the time	Website
R_08	NF	The Application has the capability of accessing and handling to over multiple users at a time.	Website

R_09	NF	After entering the user name and password the admin will update the menu and manage orders manage customers.	Admin View
R_10	F	The application will allow user to add product to cart.	Add to cart
R11	NF	The user or admin can logout from the website.	Log out

7. Human interface design

This section provides an example of what the interface will look like for each web page to the user.

7.1 Overview of User Interface

From the user's perspective, the application provides a convenient way to place order food from a restaurant.

The **customer interface** allows customers to view available menu and place order from restaurant. Customers can search for available menu based on various criteria, such as food name and special offers. Once an order is placed, the application will display confirmation information, including date, time, and location of the order.

The **admin interface** allows admin to view orders placed and communicate with customers through the application. Admin can update the menu and manage food availability and manage customer detail.

The **application** provides feedback information to the customers at various stages of the place order. For example, if there are no available food for the selected criteria, the application will display a message informing the customer of this fact. If an order is placed successfully, the application will display confirmation information. If there are any errors or issues with the place order process, the application will display an error message with instructions on how to proceed. Overall, the website is designed to provide a user-friendly and efficient way for customers and restaurant to manage food order placed. **7.2 Screen images 7.2.1 Home Page:**

Figure 7.3 Home Page

Figure 7.3 describe the Home page provides you with links to all the other pages within the web application and displays an overview of what is expected of the application.

7.2.2 Menu page:

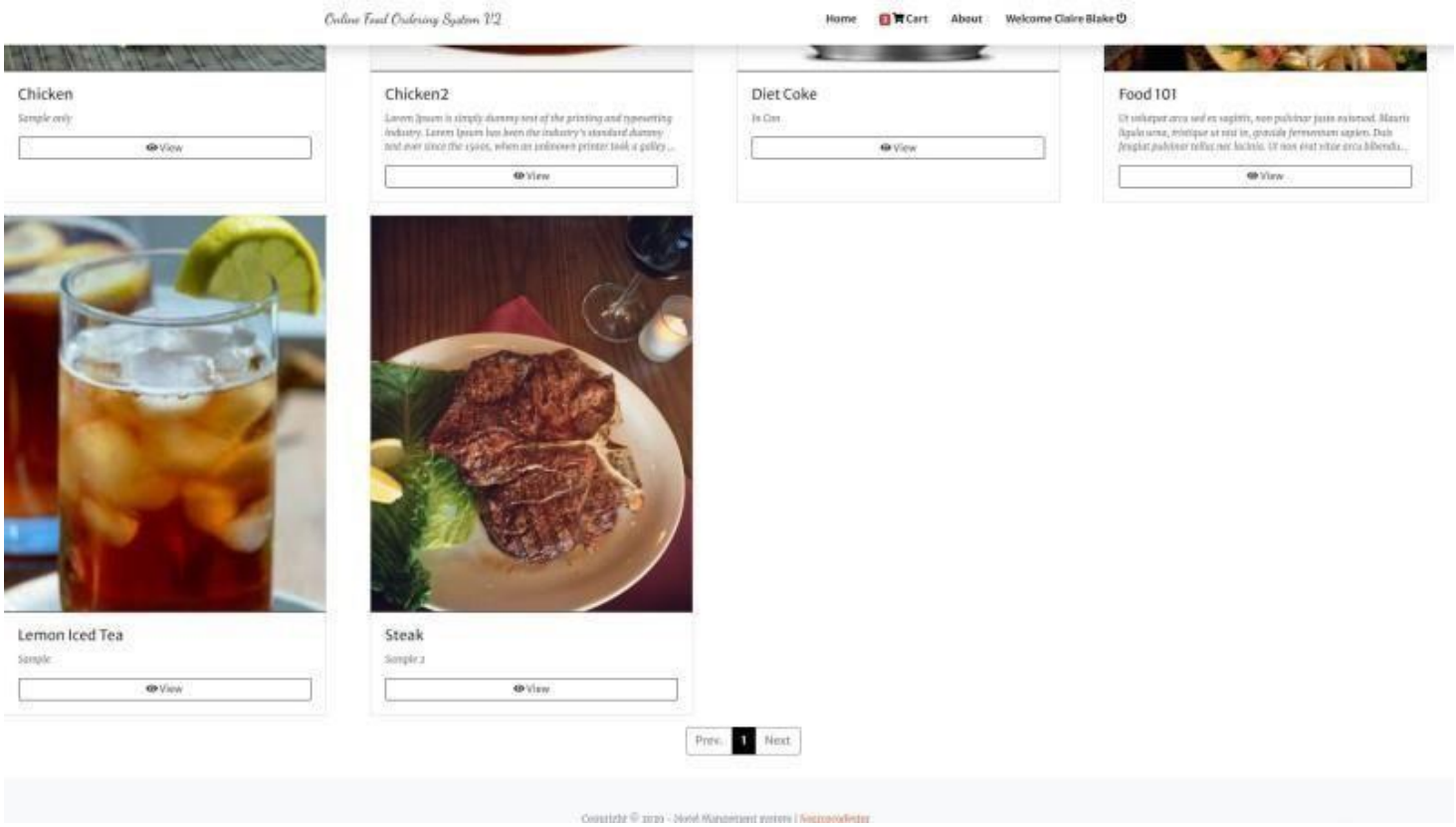


Figure 7.2 Menu Page

Figure 7.2 describe the menu Screen will consist of screen were one can browse through the food which we have available. Registered users can order desired food from here.

Login:

7.2.3

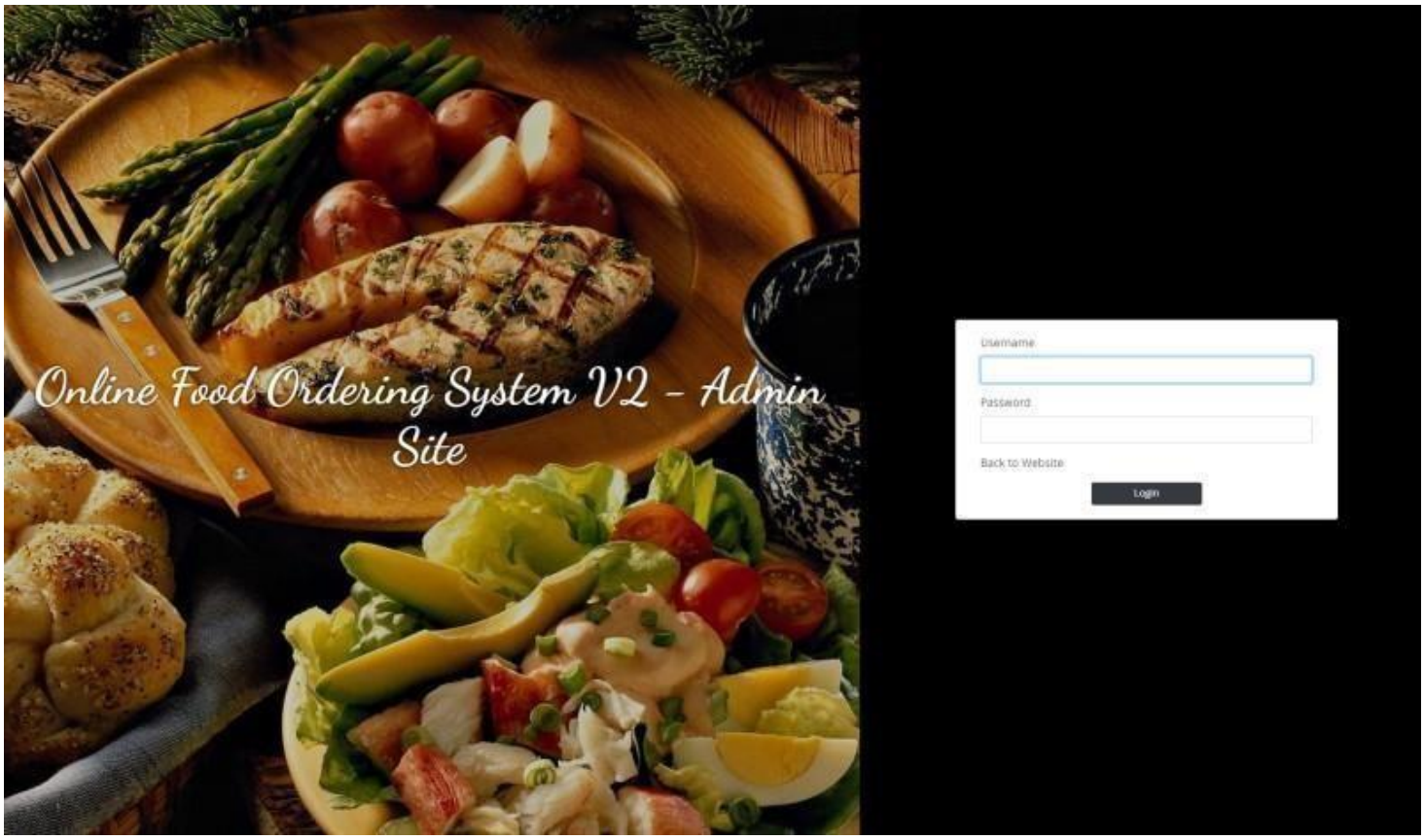


Figure 7.3 Login

Figure 7.3 describe the Login page contain a form or path by which you can get access to your homepage for order place by the web application.

7.2.4

Add food to cart:

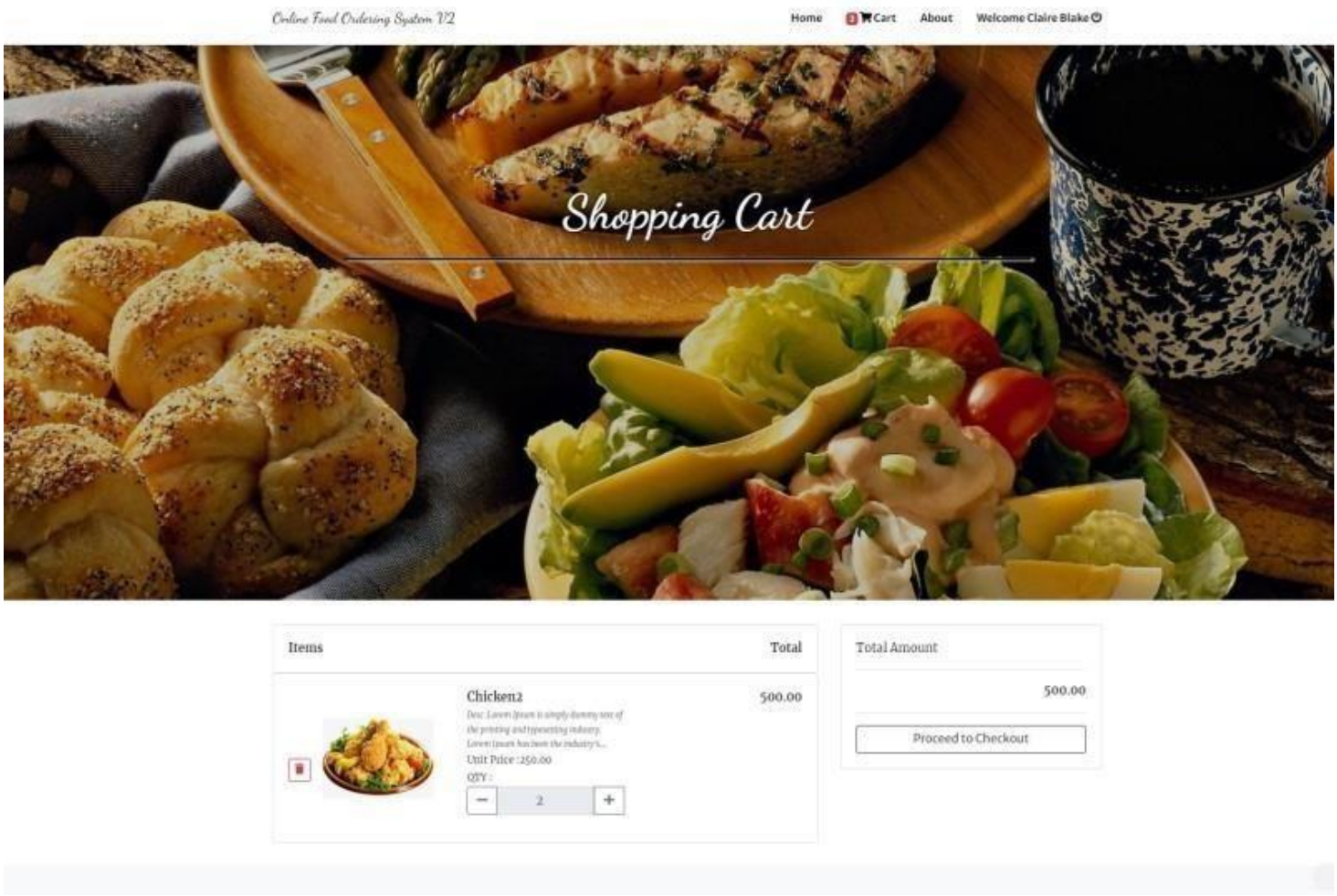


Figure 7.4 Add to cart

Figure 7.4 describe page by which customers add there required food into the cart.

Admin side:

7.2.5

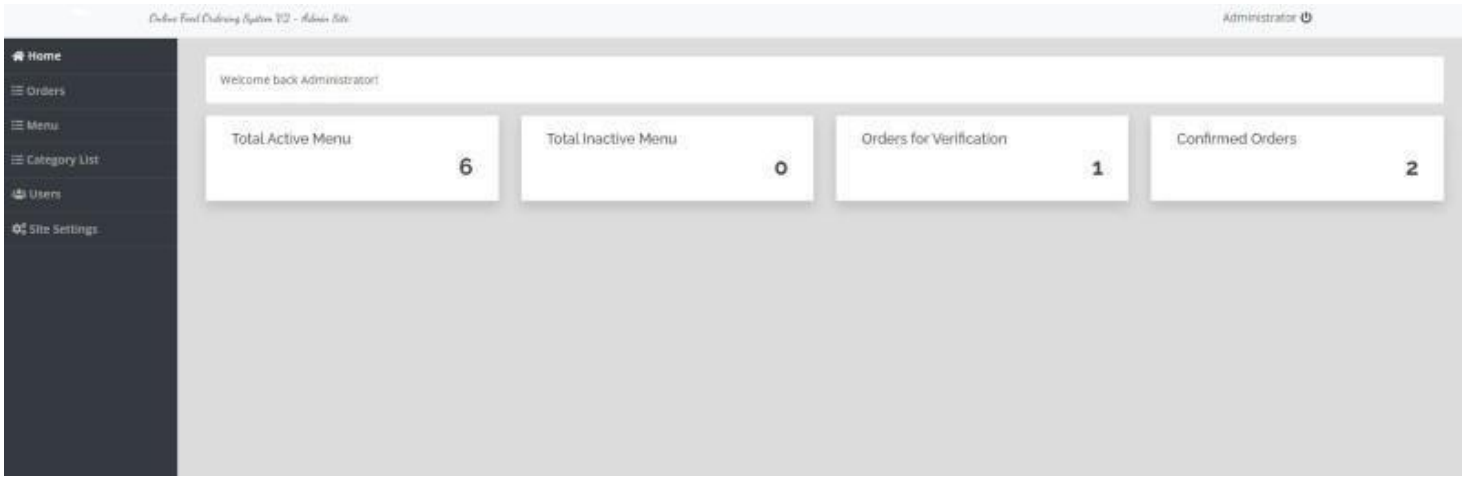


Figure 7.5

Figure 7.5 describe the Website Administrators can track and ship orders here and admin related task can perform here.

7.3 Screen objects and actions

7.3.1 Home: On the home page there are following icons:

- **Navigation bar** to access other pages (**Home, cart, about us, login and admin login**) of the websites.
- **Slider** to show new food and on discount.
- **Search bar** is used to search different food from the website.
- **Category** block displays products of different food.
- **Footer** contains quick links to navigate through the pages.

7.3.2 Menu: On the Menu page there are following icons:

- **Header** section include:
- **Navigation bar** to access other pages (**Home, cart, about us, login and admin login**) of the websites.
- **Search bar** is used to search different food from the website.
- **Menu** block displays menu of different food.
- **Footer** contains quick links to navigate through the pages.

7.3.3 Login, Registration: On this page there are following objects:

- **Header section**
- Text boxes for input data and buttons login and register.

7.3.4 Shopping Cart: Shows the products that we want to buy and there total price.

- **Header section**
- Displays the buttons to shop more, check out, and delete items.
- **Footer section**

7.3.5 Admin: On this page there are following objects:

- **Header section**
- Related task to admin as manage food, total active and inactive order and total sale and manage customer related information.

8. Appendix I

- Google
  https://www.academia.edu/33253493/An_Online_Food_Ordering_System_System_Documentation
- Wikipedia
  https://en.wikipedia.org/wiki/Online_food_ordering
- Geeks For Geeks https://www.geeksforgeeks.org/food-ordering-system-in-c/
- Diagrams Draw.io
  https://app.diagrams.net/