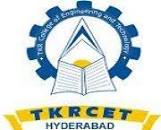
**A MINI PROJECT**

**ON**

**INDIAN SIGN LANGUAGE**

**-A NEW ERA OF COMMUNICATION**

****

Submitted in the partial fulfilment of the requirements for the award of B. Tech in

**COMPUTER SCIENCE AND ENGINEERING**

**(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)**

**By**

**BHUKYA PAVANI 21K91A6613**

**ALLURI V S KOUSIK 21K91A6603**

**ALLA VARSHITH REDDY 21K91A6601**

**ATLA SAI CHARAN 21K91A6605**

**Under the Guidance of**

MS.D. UMAMAHESHWARI

Professor in CSE(AI&ML)

**TKR COLLEGE OF ENGINEERING & TECHOLOGY**

**(AUTONOMOUS)**

(Accredited by NAAC with ‘A+’ Grade)

**Medbowli, Meerpet, Saroornagar, Hyderabad-500097**

DEPARTMENTMENT OF COMPUTER SCIENCE AND ENGINEERING

(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

**CERTIFICATE**

This is to certify that the project report entitled **“QR BASED FOOD ORDERING SYSTEM”**, being submitted by **MS.BHUYA PAVANI**, bearing **Roll.No:**.**21K91A6613, MR. ALLURI V S KOUSIK**, bearing **Roll.No:21K91A6603, Mr. ALLA VARSHITH REDDY**, bearing **Roll.No:** **21K91A6601 and Mr. ATLA SAI CHARAN** bearing **Roll.No:**.**21K91A6605** in partial fulfillment of requirements for the award of degree of **Bachelor of Technology in COMPUTER SCIENCE AND MACHINE LEARNING (ARTIFICIAL INTELLIGENCE&MACHINE LEARNING)**, to the TKR College of Engineering & Technology is a record of bonafide work carried out by them under my guidance and supervision.

Signature of the Guide Signature of the HOD

Ms.D.Umamaheswari Dr. B. Sunil Srinivas

Assistant professor CSE(AI-ML) Prof & HoD in CSE(AI-ML)

Project Co-Ordinator

C. Jaya Lakshmi

Asst. Professor

**DECLARATION BY THE CANDIDATES**

We, **Ms. BHUKYA PAVANI** bearing Hall Ticket Number: **21K91A6613**, **Mr. ALLURI V S KOUSIK**  bearing Hall Ticket Number: **21K91A6603, Mr. ALLA VARSHITH** bearing Hall Ticket Number: **21K91A6605** hereby declare that the project report titled **QR BASED FOOD ORDERING SYSTEM** under the guidance of **MS.D.UMAMAHESHWARI**, Assistant professor in Department of COMPUTER SCIENCE AND ENGINEERING(ARTIFICIAL INTELLIGENCE&MACHINE LEARNING) is submitted in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in COMPUTER SCIENCE AND ENGINEERING(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING).**

Bhukya Pavani(21K91A6613)

Alluri v s kousik (21K91A6603)

Alla varshith Reddy(21K91A6601)

Atla sai Charan(21K91A6605)

## **ACKNOWLEDGEMENT**

The satisfaction and euphoria that accompanies the successful completion of any task would be incomplete without the mention of the people who made it possible and whose encouragement and guidance have crowned our efforts with success.

We are indebted to the **Internal Guide, Ms. D. Uma Maheswari,** Assistant Professor, COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING), TKR College of Engineering & Technology, for his support and guidance throughout our project.

We are also indebted to the **Project Co-Ordinator, Mrs. C. Jaya Lakshmi,** Assistant Professor, COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE&MACHINE LEARNING), TKR College of Engineering & Technology, for her support and guidance throughout our project.

We are also indebted to the **Head of the Department, Dr. B. Sunil Srinivas,** Professor, COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE&MACHINE LEARNING), TKR College of Engineering & Technology, for his support and guidance throughout our project.

We extend our deep sense of gratitude to the **Principal, Dr. D. V. Ravi Shankar,** TKR College of Engineering & Technology, for permitting us to undertake this project.

Finally, we express our thanks to one and all that have helped us in successfully completing this Thesis. Furthermore, we would like to thank our family and friends for their moral support and encouragement.

Bhukya Pavani 21K91A6613

Alluri V S Kousik 21K91A6603

Alla Varshith Reddy 21K91A6601

Atla Sai Charan 21K91A6605

**ABSTRACT**

The food ordering system is system where we can order some food through the digital transaction of. In a restaurant and then wait for a waiter to come and take orders. This procedure can be slow during busy hours and can reduce customer satisfaction. It is therefore susceptible to errors made by humans. Automated systems can be used to automate procedures by eliminating errors made by humans reducing paper waste, and making ordering processes more time and cost-effective. The benefit of the system is to efficiently take the customer’s order and give them a proper calculation in order to generate a billing receipt. There have been numerous attempts to automate the ordering process in restaurants in recent years. The method we ordering propose in this paper is the QR code for the ordering of the food in the restaurant. With smartphones, the customer can scan the QR code which is set on the table, and open the current menu to order the food. Upon ordering, the notification will be delivered to the kitchen and the cashier along with the table number. The current menu and offers will be updated on this menu. This method ensures time and customer satisfaction with Restaurant. Also, the implementation cost is less.

**List of Figures**

|  |  |  |
| --- | --- | --- |
| **Serial No.** | **Image Caption** | **Page No.** |
| 1. | 1.3.3 ISL Gestures | 4 |
| 2. | 4.1.1 Use Case diagram symbols 4.1.2 Use Case diagram  4.2.1 Class diagram symbols  4.2.2 Class diagram Relationships  4.2.3 Class diagram  4.3.1 Sequence diagram  4.4.1 Activity diagram symbols  4.4.2 Activity diagram | 9 9  10  11  11  12  13  13 |
| 3. | 6.1 Screen of index.html page 6.2.1 Screen of recognition.html page  6.2.2 Screen of alphabet ‘C’ in recognition.html page  6.2.3 Screen of alphabet ‘G’ in recognition.html page  6.2.4 Screen of alphabet ‘V’ in recognition.html page  6.2.5 Screen of alphabet ‘W’ in recognition.html page  6.3.1 Screen of gesture.html page  6.3.2 ISL Gesture ‘L’  6.3.3 ISL Gesture ‘O’  6.3.4 ISL Gesture ‘V’  6.3.5 ISL Gesture ‘E’  6.4.1 Screen of feedback.html page  6.4.2 Sending feedback from feedback.html page  6.4.3 Receiving feedback to email from feedback.html page  6.5 Screen of tutorial.html page | 42 43  43  44  44  45  45  46  46  47  47  48  48  49  49 |

**List of Tables**

|  |  |  |
| --- | --- | --- |
| **Serial No.** | **Title** | **Page No.** |
| 1 | 2.2 Literature Survey  2.5.1 Hardware Requirements  2.5.2 Software Requirements | 6 7  7 |

**INDEX**

|  |  |  |
| --- | --- | --- |
| S.No. | Content | Page No. |
|  | **Declaration ….…………………………………………………………**  **Certificate….…………………………………………………………...**  **Acknowledgement …………………………………………………….**  **Abstract………………………………………………………………...**  **List of Figures………………………………………………...……. ...**  **List of Tables …………………………………………………………** | **i**  **ii**  **iii**  **iv**  **v**  **vi** |
| *1.* | **INTRODUCTION**  1.1 Motivation 1  1.2 Objective  1.3 project Description  1.3.1 What is Sign Language  1.3.2 Types of Sign Languages  1.3.3 What is Indian Sign Language | **1**  1  1  1  1  1  3 |
| *2.* | **LITERATURE SURVEY**  2.1 Existing System  2.2 Proposed System  2.3 Software and Hardware Specifications  2.3.1 Hardware Requirements  2.3.2 Software Requirements | 6  7  7  7  7  7 |
| *3.* | **MODULES** | 8 |
| *4.* | **DIAGRAMS**  4.1 Use Case Diagram  4.2 class Diagram  4.3 Sequence Diagram  4.4 Activity Diagram | 9  9  10  12  13 |
| *5.* | **IMPLEMENTATION**  5.1 Methods of Implementation  5.1.1 Python  5.1.2 NumPy  5.1.3 TensorFlow  5.1.4 Mediapipe  5.1.5 Base64  5.1.6 Flask  5.1.7 Scripting Languages  5.1.8 EmailJS  5.2 Source Code  5.2.1 train.py  5.2.2 app.py  5.2.3 index.html  5.2.4 recognition.html  5.2.5 gesture.html  5.2.6 feedback.html  5.2.7 tutorial.html | 14  14  14  16  17  19  20  21  22  23  24  24  26  29  31  34  37  39 |
| *6.* | **OUTPUT SCREENS** | 42 |
| *7.* | **CONCLUSION** | 50 |
| *8.* | **FUTURE ENHANCEMENT** | 51 |
| *9.* | **REFRENCES** | 52 |

**1.INTRODUCTION**

**1.1 MOTIVATION**

Implementing a QR-based food ordering system offers significant advantages for both businesses and customers. For businesses, it enhances efficiency by reducing wait times and streamlining operations, leading to faster and more accurate order processing. It also brings cost savings by minimizing labour and printing expenses. Additionally, such systems provide valuable data on customer preferences and operational patterns, enabling personalized marketing and better resource management. From a customer perspective, the experience is improved through easily accessible, up-to-date menus, and the convenience of contactless ordering, which is particularly important for health and safety. Overall, QR-based food ordering systems create a modern, efficient, and engaging dining experience.

**1.2 OBJECTIVE**

The primary objective of a QR-based food ordering system is to enhance the dining experience by leveraging technology to streamline the ordering process. This involves improving efficiency and speed by minimizing wait times for customers and reducing the workload for staff through direct table-to-kitchen communication. It enhances customer convenience by offering a seamless, contactless ordering process that allows customers to view the menu, place orders, and make payments directly from their smartphones. Additionally, it boosts operational productivity by automating order management, reducing errors, and improving order accuracy.

The system also enables real-time menu management, allowing businesses to easily update menus with daily specials, new items, and promotions. By facilitating data collection and analysis, it gathers valuable insights into customer preferences and order patterns, enabling personalized marketing, improved menu offerings, and optimized business operations. Finally, it ensures health and safety by providing a contactless solution that minimizes physical contact, contributing to a safer dining environment for both customers and staff.

**1.3 PROJECT DESCRIPTION**

**1.3.1 QR CODE DESCRIPTION**

A QR code (Quick Response code) is a type of matrix barcode that can store a large amount of data, which can be quickly scanned and read by smartphones or other QR code readers. Unlike traditional barcodes, which store data in a series of vertical lines, QR codes use a pattern of black squares arranged on a white background within a square grid. They are highly versatile and can encode various types of information, such as website URLs, text, contact information, and more. The popularity of QR codes has surged due to their ease of use and ability to facilitate quick access to digital content. They are widely used in various applications, including marketing, ticketing, payments, and, notably, contactless ordering in the food and beverage industry. By simply scanning the QR code with a mobile device, users can instantly access the encoded information, making interactions more efficient and convenient.

A QR code food management system revolutionizes the way we interact with food services. By integrating QR codes into menus and ordering processes, this system enhances efficiency and customer satisfaction. Customers simply scan a QR code to access digital menus, place orders, and make payments from their smartphones, reducing wait times and minimizing physical contact.

For restaurants, it streamlines operations by automating order processing and inventory management, optimizing staff productivity and reducing errors. Additionally, QR code systems facilitate contactless dining experiences, promoting hygiene and safety standards. Overall, QR code food management systems represent a modern, convenient solution that caters to the evolving needs of both diners and food service providers in today's digital age.

**1.4. HISTORY**

The QR in the name stands for quick response, expressing the development concept for the code, whose focus was placed on high-speed reading. When it was announced, however, even Hara, one of the original developers of the code, could not be sure whether it would actually be accepted as a two-dimensional code to replace barcodes. He had confidence in the performance of the code, however, and was eager to make the rounds of companies and industry organizations concerned to introduce it in the hope that it would become known and used by as many people as possible. Since the QR Code is an open code that anyone is allowed to use, it is used not only in Japan, but also in countries all over the world. As rules for its use were stipulated and the code was standardized, its use spread further. In 1997, it was approved as an AIM standard\* to be used in the automatic identification industry While use of the QR Code spread globally, new types of QR Code to meet more sophisticated needs were created one after another. A micro QR Code was created to meet the need for smaller codes. This is so small that it can be printed in a small space and it was made a JIS standard in 2004. In 2008, the iQR Code, which has a small footprint despite its large coding capacity and which allows the use of rectangular code modules, was released.



**2.LITERATURE SURVEY**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| YEAR | | TITLE &  AUTHOR | DESCRIPTION | ADVANTAGES | DISADVANTAGES |
| 2020 | Restaurant Information System (RIS) with QR Code to Improve Service Operations of Casual Fine Dining Restaurant  - Grace Lorraine Intal, Jan Daryll Payas, Louise Mae Fernandez; Blanca Marie Domingo. | | A qr based food ordering system enables customers to scan a qr code view the menu , customize their order ,make payment, and receive confirmation using their mobile devices the restaurant receives the order ,paperes the food ,and either delivers it or prepares it for pickup it simpilify the ordering process. | Table will be allotted when you enter the restaurant  By scanning the qr code table will be allotted. | The qr code gives only information about the table allotment but does not give information about the menu.  We would be using another qr code for menu and ordering. |
| 2021 | Smart restaurant application for dining  -Anfriatama bagaakaraAhmad ridhwan naufalIvano ekasetia dhojopatmoAli abdurrabWidodo budiharto. | | They proposed that restaurant should make their resevation and booking online as we have seen that online booking is becoming popular lately. | They ordering system can be easy and confirm their order,as well as paying it directly using electronic device. | The qr code gives only information about the table allotment but does not give information about the menu.  We would be using another qr code for menu and ordering. |
| 2020 | smart restaurant system & V babu ravupati,dr.k.jegan mohan,p.srinivasa reddy.shiva akula. | | The benefits of implementing a smart restaurant system using QR codes. Customers can use their smartphones to scan QR codes and access a digital platform where they can book tables, browse menus, and place orders without waiter intervention. The system reduces errors, improves operational efficiency, and provides data analytics for managers to make informed decisions. It also offers a contactless and hygienic dining .experience, aligning with current safety concerns. | They ordering system can be easy and confirm their order,as well as paying it directly using electronic dev ice. | The qr code gives only information about the table allotment but does give about timings • We would be using another qr code for menu and ordering. |
| 2023 | Cafeteria Food Ordering System using QR Code & Archana Nikose, Aayush Hatwar, Akshata Nikose, Dhananjay Adikane, Khushi Gaharwar. | | The Cafeteria Food Ordering System using QR Code Technology is a real-time ordering system that replaces the traditional paper-based order-taking process. Customers register and generate a unique QR code, which they scan to access the digital menu. They can then place their orders, customize them, and choose their preferred payment method. Orders are instantly transmitted to the kitchen, and customers can track their order status. This system improves efficiency, reduces waiting time, and enhances customer satisfaction in the cafeteria. | • By using qr code we will get the digital menuand we can order the food | There is no payment option in that qr code we should use another qr code for it. |

*Table 2.2 Literature Survey*

**2.1 EXSISTING SYSTEM**

Using printed menu cards in a restaurant can be a cumbersome and time-consuming process, requiring paper and ink resources for regular updates. It also demands additional manpower to print, distribute, and manage these menus. The manual effort involved increases the likelihood of errors, potentially leading to incorrect dish servings and a decrease in customer satisfaction. Moreover, printed menus lack the flexibility for daily updates, limiting the restaurant's ability to promptly reflect changes in offerings or prices. Overall, while traditional menus have their charm, they present several challenges in terms of efficiency, accuracy, and meeting modern customer expectations for timely and accurate information.

**2.2 PROPOSED SYSTEM**

The proposed system helps in elimination or the reduction of the manual works and the reduction of money spent on the man power. The proposed system helps the administration to operate and manage their resources smoothly and efficiently. In these system we have a QR Code in the menu card in each table of the restaurant. For more details about the food stuff you just scan the QR Code. After the QR Code scanning the customer gets into our website home page displaying the menu items and their respective price.

Additionally, QR code systems facilitate contactless dining experiences, promoting hygiene and safety standards. Overall, QR code food management systems represent a modern, convenient solution that caters to the evolving needs of both diners and food service providers in today's digital age.

In this page one can see the entire detail about the food stuff selected.

• Decreases the load of the person involved in the existing manual system. Accuracy in work.

• Work becomes very speedy.

• Easy to update information.

**2.3 SOFTWARE AND HARDWARE SPECIFICATIONS**

**2.3.1 HARDWARE REQUIREMENTS**

|  |  |
| --- | --- |
| Devices | Computer or Laptop |
| RAM: | 8GB |
| Hard Disk: | 16-32GB |
| Processor: | Intel i3 configuration |

*Table 2.3.1 Hardware Requirements*

**2.3.2 SOFTWARE REQUIREMENTS**

|  |  |
| --- | --- |
| Operation System: | Windows (11/12) |
| Scripting Languages: | HTML,CSS and JavaScript |
| Text editor: | Notepad |
| Programming Languages: | Python |
| IDE: | Python |
| Tools: | XAMPP, ORM, MySQL |
| Database: | MySQL |

*Table 2.3.2 Software Requirements*

**3. MODULES**

**Homepage modules**

Home page includes menu,restaurant timings,phone number and table allotment

**QR input module**

After scanning the QR code will get a home page where we find the menu to order the food

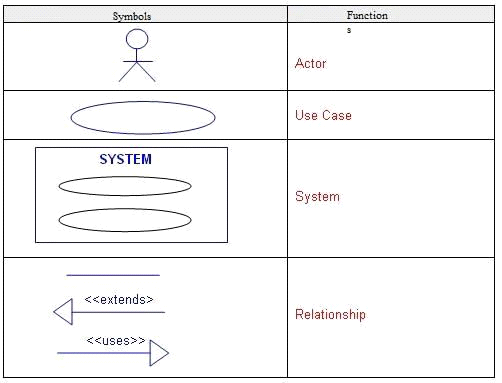
**Output module**

As per the order the food will be served to the table

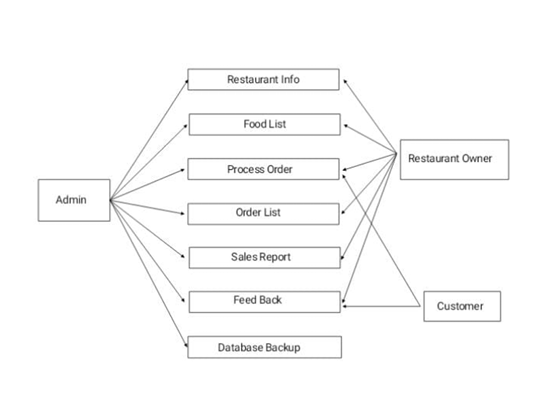
**4. DIAGRAMS**

**4.1 USE CASE DIAGRAM**

A **use case diagram** at its simplest is a representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram can portray the different types of users of a system and the various ways that they interact with the system. This type of diagram is typically used in conjunction with the textual use case and will often be accompanied by other types of diagrams as well.



*Figure 4.1.1 Use Case diagram symbols*

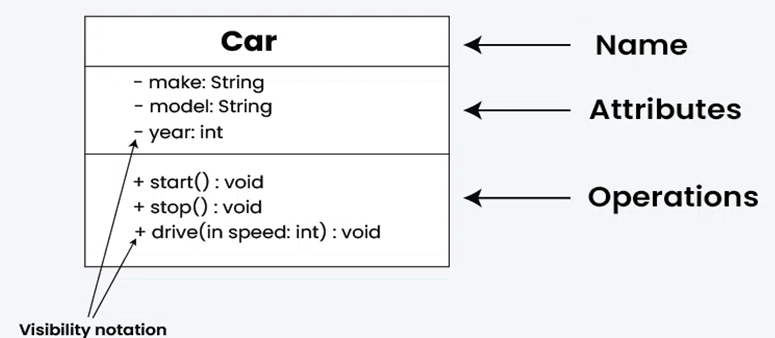
****

*Figure 4.1.2 Use Case diagram*

**4.2 CLASS DIAGRAM**

A class diagram is a type of UML (Unified Modelling Language) diagram that illustrates the structure of a system by showing classes, their attributes, methods, and relationships among objects. Here's a brief description of its components:

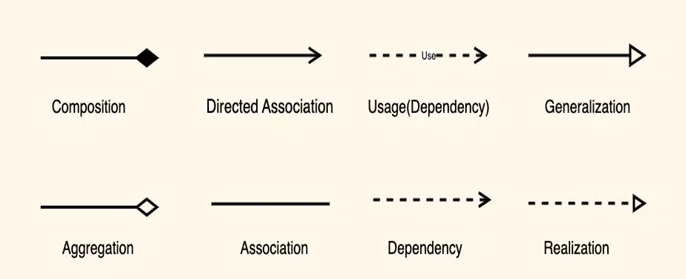
1. **Classes**: Represented as rectangles with three compartments:
   * Top compartment: Class name.
   * Middle compartment: Attributes (variables or data members).
   * Bottom compartment: Methods (functions or operations).



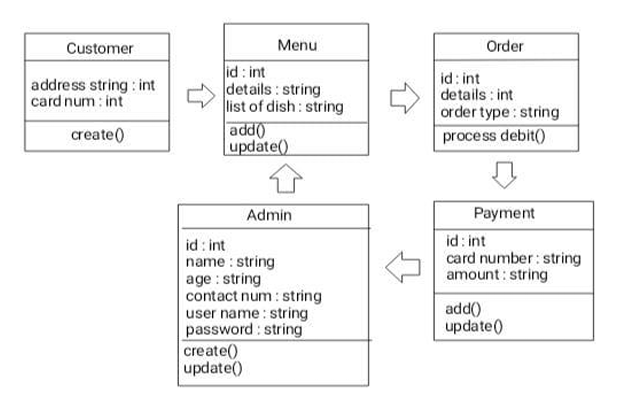
*Figure 4.2.1 Class diagram symbols*

1. **Attributes**: Describes the characteristics or properties of a class. They are typically listed in the middle compartment of the class rectangle.
2. **Methods**: Represent the behaviours or actions that objects of the class can perform. They are listed in the bottom compartment of the class rectangle.
3. **Relationships**: Show how classes are connected or related to each other:

* **Composition**: Shows a strong "whole-part" relationship where the part cannot exist without the whole, depicted by a filled diamond arrowhead.
* **Directed Association**: Represents a directional relationship between classes, indicating a flow of interaction or dependency.
* **Usage**: Indicates that one class uses another class or its objects in some way, often shown with a dashed arrow.
* **Generalization**: Shows inheritance where one class (subclass or derived class) inherits from another (superclass or base class), denoted by a solid line with a hollow triangle arrowhead.
* **Aggregation**: Represents a "whole-part" relationship where parts can exist independently of the whole, depicted by an unfilled diamond arrowhead.
* **Association**: Represents a generic relationship between classes, showing how they are connected or interact with each other.
* **Dependency**: Shows that one class depends on another in some way, often indicating that changes in one class may affect another.
* **Realization**: Indicates that a class implements the behaviour specified by an interface or abstract class, shown with a dashed line with a hollow triangle arrowhead.



*Figure 4.2.2 Class diagram Relationships*

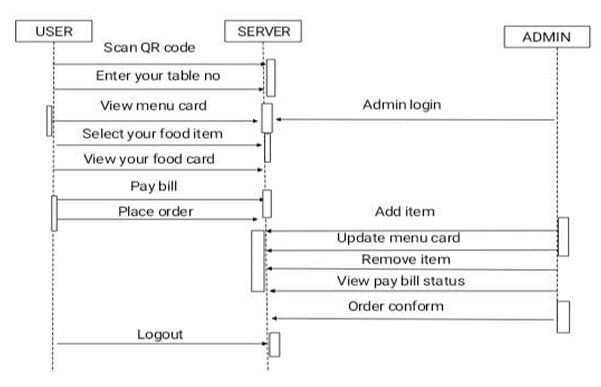


*Figure 4.2.3 Class diagram*

**4.3 SEQUENCE DIAGRAM**

A sequence diagram is a type of UML (Unified Modelling Language) diagram that illustrates interactions between objects or entities arranged in a chronological sequence. Here's a brief description of its key components and purpose:

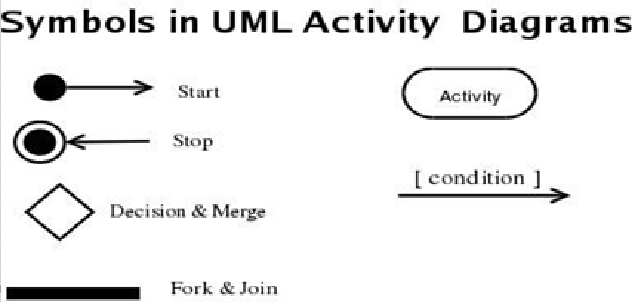
1. **Objects**: Represented as vertical lifelines, each object corresponds to an entity or instance participating in the sequence of interactions.
2. **Messages**: Horizontal arrows between lifelines depict the flow of communication or interaction between objects. Messages can be synchronous (denoted by a solid line) or asynchronous (denoted by a dashed line).
3. **Activation Boxes**: Optional boxes along lifelines indicate periods when an object is performing an operation or responding to a message. They show the duration of method invocation or processing.
4. **Control Focus**: Represents the focus of control during the sequence of interactions, typically moving from one object to another as messages are exchanged.
5. **Return Messages**: Indicate the flow of control and data back to the caller object after a method invocation or operation completion.



*Figure 4.3.1 Sequence diagram*

**4.4 ACTIVITY DIAGRAM**

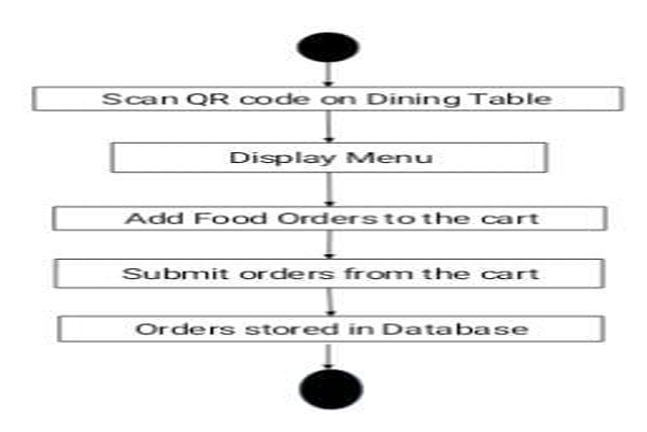
**Activity diagrams** are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modelling Language, activity diagrams can be used to describe the business and operational step- by-step workflows of components in a system. An activity diagram shows the overall flow of control.



*Figure 4.4.1 Activity diagram symbols*

Activity diagrams are constructed from a limited number of shapes, connected with arrows. The most important shape types:

* rounded rectangles represent activities;
* diamonds represent decisions
* bars represent the start (split) or end (join) of concurrent activities;
* a black circle represents the start (initial state) of the workflow;
* an encircled black circle represents the end (final state).

****

*Figure 4..4.2 Activity diagram*

**5. IMPLEMENTATION**

**5.1 METHODS OF IMPLEMENTATION**

**5.1.1 PYTHON**

[Python](https://www.geeksforgeeks.org/python-programming-language/) was created by Guido van Rossum in 1991 and further developed by the Python Software Foundation. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer lines of code. Python is a programming language that lets you work quickly and integrate systems more efficiently.

**Python** is a general purpose, dynamic, [high-level](https://www.javatpoint.com/classification-of-programming-languages), and interpreted programming language. It supports Object Oriented programming approach to develop applications. It is simple and easy to learn and provides lots of high-level data structures.

Python is easy to learn yet powerful and versatile scripting language, which makes it attractive for Application Development. Python’s syntax and dynamic typing with its interpreted nature make it an ideal language for scripting and rapid application development. Python supports multiple programming pattern, including object-oriented, imperative, and functional or procedural programming styles.

Python is not intended to work in a particular area, such as web programming. That is why it is known as multipurpose programming language because it can be used with web, enterprise, 3D CAD, etc. We don't need to use data types to declare variable because it is dynamically typedso we can write a=10 to assign an integer value in an integer variable.

Python makes the development and debugging fastbecause there is no compilation step included in Python development, and edit-test-debug cycle is very fast.

**Features of Python**

Python provides many useful features which make it popular and valuable from the other programming languages. It supports object-oriented programming, procedural programming approaches and provides dynamic memory allocation. We have listed below a few essential features.

1) Easy to Learn and Use

Python is easy to learn as compared to other programming languages. Its syntax is straightforward and much the same as the English language. There is no use of the semicolon or curly-bracket, the indentation defines the code block. It is the recommended programming language for beginners.

2) Expressive Language

Python can perform complex tasks using a few lines of code. A simple example, the hello world program you simply type print ("Hello World"). It will take only one line to execute, while Java or C takes multiple lines.

3) Interpreted Language

Python is an interpreted language; it means the Python program is executed one line at a time. The advantage of being interpreted language, it makes debugging easy and portable.

4) Cross-platform Language

Python can run equally on different platforms such as Windows, Linux, UNIX, and Macintosh, etc. So, we can say that Python is a portable language. It enables programmers to develop the software for several competing platforms by writing a program only once.

5) Free and Open Source

Python is freely available for everyone. It is freely available on its official website [www.python.org](https://www.python.org/). It has a large community across the world that is dedicatedly working towards make new python modules and functions. Anyone can contribute to the Python community. The open-source means, "Anyone can download its source code without paying any penny."

6) Object-Oriented Language

Python supports object-oriented language and concepts of classes and objects come into existence. It supports inheritance, polymorphism, and encapsulation, etc. The object-oriented procedure helps to programmer to write reusable code and develop applications in less code.

7) Extensible

It implies that other languages such as C/C++ can be used to compile the code and thus it can be used further in our Python code. It converts the program into byte code, and any platform can use that byte code.

8) Large Standard Library

It provides a vast range of libraries for the various fields such as machine learning, web developer, and also for the scripting. There are various machine learning libraries, such as Tensor flow, Pandas, NumPy, Keras, and Pytorch, etc. Django, flask, pyramids are the popular framework for Python web development.

9) GUI Programming Support

Graphical User Interface is used for the developing Desktop application. PyQT5, Tkinter, Kivy are the libraries which are used for developing the web application.

10) Integrated

It can be easily integrated with languages like C, C++, and JAVA, etc. Python runs code line by line like C, C++, Java. It makes easy to debug the code.

11) Embeddable

The code of the other programming language can use in the Python source code. We can use Python source code in another programming language as well. It can embed other language into our code.

12) Dynamic Memory Allocation

In Python, we don't need to specify the data-type of the variable. When we assign some value to the variable, it automatically allocates the memory to the variable at run time. Suppose we are assigned integer value 15 to x, then we don't need to write int x = 15. Just write x = 15.

**5.1.2 NUMPY**

NumPy stands for Numerical Python, is an open-source Python library that provides support for large, multi-dimensional arrays and matrices. It also have a collection of high-level mathematical functions to operate on arrays. It was created by Travis Oliphant in 2005.It provides a high-performance multidimensional array object and tools for working with these arrays.

**Features of NumPy**

NumPy has various features which make them popular over lists.

* Some of these important features include:
* A powerful N-dimensional array object
* Sophisticated (broadcasting) functions
* Tools for integrating C/C++ and Fortran code
* Useful linear algebra, Fourier transform, and random number capabilities

**Install Python NumPy**

NumPy can be installed for Mac and Linux users via the following pip command:

***pip install numpy***

**5.1.6 FLASK**

### ***5.1.6.1 Flask***

Flask is a lightweight and flexible web framework for Python, known for its simplicity and ease of use. It is designed to help developers build web applications quickly and with a minimal amount of code. Here are some key features and benefits of using Flask:

1. **Minimalist Design**: Flask follows a micro-framework approach, providing the essential tools needed to build web applications without imposing a lot of overhead or complexity. This makes it ideal for small to medium-sized projects and for developers who prefer a simple and straightforward approach.
2. **Extensibility**: Despite its minimalist design, Flask is highly extensible. Developers can add functionality as needed using Flask extensions, which are readily available for tasks like database integration, form handling, authentication, and more.
3. **Built-in Development Server**: Flask includes a built-in development server and debugger, making it easy to test and debug applications locally during development.
4. **URL Routing**: Flask's URL routing system allows developers to map URLs to Python functions, making it easy to define and manage the endpoints of a web application.
5. **Template Engine**: Flask uses the Jinja2 template engine, which allows for dynamic HTML generation with support for template inheritance, macros, and more.
6. **RESTful Request Handling**: Flask supports RESTful request handling, making it straightforward to build RESTful APIs.

### ***5.1.6.2 Flask-SocketIO***

Flask-SocketIO is an extension for Flask that adds support for WebSocket communication. This allows for real-time, bidirectional communication between the server and clients. Flask-SocketIO is built on top of the Socket.IO protocol, which provides both WebSocket and fallback mechanisms to ensure compatibility across different clients and network conditions.

1. **Real-Time Communication**: Enables real-time communication between the server and clients, suitable for applications like chat rooms, live updates, notifications, and more.
2. **Event Handling**: Supports event-driven programming, allowing developers to define custom events and handlers for real-time interaction.
3. **Broadcasting**: Supports broadcasting messages to all connected clients or specific rooms, useful for sending updates to multiple clients simultaneously.
4. **Namespaces and Rooms**: Provides namespaces for segmenting the communication space and rooms for grouping clients, offering flexibility in managing connections and events.
5. **Asynchronous Support**: Integrates with Flask's asynchronous capabilities, allowing for scalable and efficient real-time applications.

**5.1.7 SCRIPTING LANGUAGES**

### ***5.1.7.1 HTML (Hypertext Markup Language)***

**HTML** is the standard markup language used to create and design web pages. It consists of a series of elements that define the structure and content of a web page. Here are key points:

* **Structure**: HTML provides a hierarchical structure of elements (tags) to organize content on web pages, such as headings, paragraphs, lists, images, forms, and more.
* **Markup**: Tags are used to mark up content, defining its meaning or purpose. Tags are enclosed in angle brackets < > and usually come in pairs, with an opening tag and a closing tag.
* **Attributes**: Tags can have attributes that provide additional information about the element, such as id, class, src, href, etc.
* **Semantic Elements**: HTML5 introduced semantic elements like <header>, <footer>, <nav>, <article>, <section>, which provide meaning to the content for better accessibility and SEO.

### ***5.1.7.2 CSS (Cascading Style Sheets)***

**CSS** is a stylesheet language used to define the presentation (layout, colors, fonts, etc.) of HTML documents. Here are key points:

* **Style Definition**: CSS separates content from presentation, allowing developers to style multiple HTML elements with a single style definition.
* **Selectors**: CSS uses selectors to target HTML elements based on their type, class, id, attributes, etc. Styles are then applied to these selected elements.
* **Properties and Values**: CSS properties define how elements should appear (e.g., color, font-size, margin). Values specify the details of each property (e.g., red, 12px, 20px 10px).
* **Cascading Order**: CSS rules cascade, meaning styles can be inherited from parent elements and overridden by more specific rules.

### ***5.1.7.3 JavaScript***

**JavaScript** is a high-level, interpreted programming language primarily used for client-side scripting in web development. Here are key points:

* **Dynamic Behaviour**: JavaScript adds interactive and dynamic behaviour to web pages, allowing them to respond to user actions without requiring server-side processing.
* **Event-Driven**: JavaScript is event-driven, meaning it can respond to events like clicks, mouse movements, key presses, etc., to trigger specific actions.
* **Functions and Objects**: JavaScript supports functions as first-class citizens, allowing for modular and reusable code. It also uses objects and prototypes to organize and manipulate data.
* **Client-Side Validation**: JavaScript can perform client-side form validation to improve user experience by checking input data before it's submitted to the server.

**5.2 SOURCE CODE**:

**5.2.1 index**

<!doctype html>

<html>

<head>

<title> Digital Diner </title>

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1">

<link href="style/login.css" rel="stylesheet">

</head>

<body>

<section class="headerpic">

<img src="food.jpeg">

</section>

<center><p><b>GOOD FOOD GOOD TASTE</b></p></center>

<script src="login.js"></script>

<div class="login-page">

<div class="form">

<form class="login-form" action="mainpage.html" method="POST">

<input type="tel"

name="phone\_number"

id="phone\_number"

pattern="^\d{10}$"

placeholder="Enter Mobile number"

required="required"

/>

<input type="text" name="text" placeholder="Enter Table number(1-20)" pattern="^\d{1}$"required>

<input class="submit-form" type="submit" name="submit" value="Proceed" class="btn btn-primary">

</form>

</div>

</div>

</body>

</html>

from tensorflow.keras.models import Sequential

from tensorflow.keras.layers import Conv2D, MaxPooling2D, Flatten, Dense

# Define the CNN model architecture

model = Sequential([

Conv2D(32, (3, 3), activation='relu', input\_shape=(64, 64, 3)), # First convolutional layer with 32 filters

MaxPooling2D(pool\_size=(2, 2)), # Max pooling layer

Conv2D(64, (3, 3), activation='relu'), # Second convolutional layer with 64 filters

MaxPooling2D(pool\_size=(2, 2)), # Max pooling layer

Conv2D(128, (3, 3), activation='relu'), # Third convolutional layer with 128 filters

MaxPooling2D(pool\_size=(2, 2)), # Max pooling layer

Flatten(), # Flatten the 3D feature maps to 1D feature vectors

Dense(256, activation='relu'), # Fully connected layer with 256 units

Dense(26, activation='softmax') # Output layer with 26 units for A-Z classification

])

# Compile the model

model.compile(optimizer='adam', # Use Adam optimizer

loss='categorical\_crossentropy',# Use categorical crossentropy loss

metrics=['accuracy']) # Track accuracy metric

# Train the model

model.fit(

train\_generator, # Training data generator

steps\_per\_epoch=train\_generator.samples // train\_generator.batch\_size,

validation\_data=validation\_generator, # Validation data generator

validation\_steps=validation\_generator.samples // validation\_generator.batch\_size,

epochs=10) # Train for 10 epochs

# Save the trained model to a file

model.save('ISL\_Det.h5')

**5.2.2 mainpage.html**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<!-- Important to make website responsive -->

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=8">

<title>Qr</title>

<!-- Link our CSS file -->

<link rel="stylesheet" href="style/style.css">

</head>

<body>

<!-- Navbar Section Starts Here -->

<section class="navbar">

<div class="container">

<div class="logo">

<a href="#" title="Logo">

</a>

</div>

<div class="menu text-right">

<ul>

<li>

<a href="mainpage.html">Home</a>

</li>

<li>

<a href="foods.html">Menu</a>

</li>

<li>

<a href="contact.html">Contact</a>

</li>

</ul>

</div>

<div class="clearfix"></div>

</div>

</section>

<!-- Navbar Section Ends Here -->

<section class="heading">

<center>

<div class="text text-1">QR MENU</div><div class="text text-2"> </div>

</section>

h

<section class="abproject">

<p>Since our opening, we have become masters of our craft. our commitment to quality items, exceptional services and incomparable customer care keep our community coming back again and again</p>

</section>

<section class="Timings">

<h2>Timings</h2>

/>

<hr>

<!-- social Section Starts Here -->

<section class="social">

<div class="container text-center">

<ul>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>

</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white">copyright &copy 2022. All rights reserved by <a href="#">Swarup</a></p>

</div>

</section>

<!-- footer Section Ends Here -->

<h1></h1>

</body>

</html>

<center><p>Monday : 9:00 A.M - 9:00 P.M </p><br/>

<p> Tuesday : 9:00 A.M - 9:00 P.M</p><br/>

<p> Wednesday : 9:00 A.M - 10:00 P.M</p><br/>

<p> Thursday : 9:00 A.M - 9:00 P.M</p><br/>

<p> Friday : 9:00 A.M - 10:00 P.M</p><br/>

<p> Saturday : 10:00 A.M - 10:00 P.M</p><br/>

<p> Sunday : 10:00 A.M - 11:00 P.M</p></center>

</section>

<hr>

<!-- social Section Starts Here -->

<section class="social">

<div class="container text-center">

<ul>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>  
</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white">copyright &copy 2022. All rights reserved by <a href="#">Swarup</a></p>

</div>

</section>

<!-- footer Section Ends Here -->

<h1></h1>

</body>

</html>

@socketio.on('frame')

def handle\_frame(frame\_data):

global previous\_coords

try:

# Convert base64 image data to numpy array

nparr = np.frombuffer(base64.b64decode(frame\_data['image'].split(',')[1]), np.uint8)

image = cv2.imdecode(nparr, cv2.IMREAD\_COLOR)

# Process the image and detect hands using MediaPipe

results = hands.process(cv2.cvtColor(image, cv2.COLOR\_BGR2RGB))

if results.multi\_hand\_landmarks:

for hand\_landmarks in results.multi\_hand\_landmarks:

# Draw hand landmarks on the image

mp\_drawing.draw\_landmarks(

image, hand\_landmarks, mp\_hands.HAND\_CONNECTIONS,

mp\_drawing.DrawingSpec(color=(0, 0, 255), thickness=2, circle\_radius=2),

mp\_drawing.DrawingSpec(color=(0, 255, 0), thickness=2, circle\_radius=2))

# Extract landmark coordinates

landmark\_list = hand\_landmarks.landmark

# Determine bounding box coordinates

x\_min = min([landmark.x for landmark in landmark\_list])

x\_max = max([landmark.x for landmark in landmark\_list])

y\_min = min([landmark.y for landmark in landmark\_list])

y\_max = max([landmark.y for landmark in landmark\_list])

x\_min = int(x\_min \* image.shape[1])

x\_max = int(x\_max \* image.shape[1])

y\_min = int(y\_min \* image.shape[0])

y\_max = int(y\_max \* image.shape[0])

# Smooth bounding box coordinates

new\_coords = (x\_min, x\_max, y\_min, y\_max)

smoothed\_coords = smooth\_coordinates(new\_coords, previous\_coords)

previous\_coords = smoothed\_coords

x\_min, x\_max, y\_min, y\_max = map(int, smoothed\_coords)

# Extract hand region from the image

hand\_region = image[y\_min:y\_max, x\_min:x\_max]

# Resize hand region to 64x64 pixels

hand\_region = cv2.resize(hand\_region, (64, 64))

# Convert hand region color to RGB as expected by the model

hand\_region = cv2.cvtColor(hand\_region, cv2.COLOR\_BGR2RGB)

# Normalize hand region pixel values

hand\_region = hand\_region / 255.0

# Predict the gesture using the trained model

predictions = model.predict(np.expand\_dims(hand\_region, axis=0))

predicted\_class = np.argmax(predictions)

predicted\_letter = class\_labels[predicted\_class]

# Debug: Print the predicted letter

print(f"Predicted letter: {predicted\_letter}")

# Convert the processed image back to base64

\_, buffer = cv2.imencode('.jpg', image)

encoded\_image = base64.b64encode(buffer).decode('utf-8')

image\_data = f"data:image/jpeg;base64,{encoded\_image}"

# Send the processed frame along with the prediction to the client

emit('processed\_frame', {'image': image\_data, 'prediction': predicted\_letter})

else:

# Debug: No hands detected

print("No hands detected.")

emit('processed\_frame', {'image': frame\_data['image'], 'prediction': 'No hands detected'})

except Exception as e:

# Debug: Exception occurred

print(f"Exception: {e}")

emit('processed\_frame', {'image': frame\_data['image'], 'prediction': 'Error processing frame'})

if \_\_name\_\_ == '\_\_main\_\_':

# Run the Flask application with SocketIO support

socketio.run(app, debug=True)

**5.2.3 index.html**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<!-- Important to make website responsive -->

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Digital Diner</title>

<!-- Link our CSS file -->

<link rel="stylesheet" href="style/contact.css">

</head>

<body>

<!-- Navbar Section Starts Here -->

<section class="navbar">

<div class="container">

<div class="logo">

<a href="#" title="Logo">

<img src="images/logo.png" alt="Restaurant Logo" class="img-responsive">

</a>

</div>

<div class="menu text-right">

<ul>

<li>

<a href="mainpage.html">Home</a>

</li>

<li>

<a href="foods.html">Menu</a>

</li>

<li>

<a href="#">Contact</a>

</li>

</ul>

</div>

<div class="clearfix"></div>

</div>

</section>!3d12.819409321670483!2m3!1f0!2f0!3f0!3m2!1i1024!2i768!4f13.1!3m3!1m2!1s0x3a52f76c4db87a47%3A0x341fa471f8027d68!2sSRM%20University%2C%20Kattankulathur%2C%20Tamil%20Nadu%20603203!5e0!3m2!1sen!2sin!4v1639571580383!5m2!1sen!2sin" width=200px height=150px></iframe>

</div>

</div>

<div class="phone">

<h2> Phone </h2>

<p>+91 8919xxxxxx</p>

</div>

<div class="email">

<h2> Email </h2>

<p> Digitaldiner@gmail.com </p>

</div>

</section>

</section>

<hr>

<!-- social Section Starts Here -->

<section class="social">

<div class="container text-center">

<ul>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>

</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white; width:100%">copyright &copy 2022. All rights reserved by <a href="#">Swarup</a></p>

</div>

</section>

<!-- footer Section Ends Here -->

</body>

</html>

**5.2.4 contact.html**

<hr>

<!-- social Section Starts Here -->

<section class="social">

<div class="container text-center">

<ul>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>

</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white; width:100%">copyright &copy 2022. All rights reserved by <a href="#">Swarup</a></p>

</div>

</section>

<!-- footer Section Ends Here -->

</body>

</html>

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<!-- Important to make website responsive -->

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Digital Diner</title>

<!-- Link our CSS file -->

<link rel="stylesheet" href="style/contact.css">

</head>

<body>

<!-- Navbar Section Starts Here -->

<section class="navbar">

<div class="container">

<div class="logo">

<a href="#" title="Logo">

<img src="images/logo.png" alt="Restaurant Logo" class="img-responsive">

</a>

</div>

<div class="menu text-right">

<ul>

<li>

<a href="mainpage.html">Home</a>

</li>

<li>

<a href="foods.html">Menu</a>

</li>

<li>

<a href="#">Contact</a>

</li>

</ul>

</div>

<div class="clearfix"></div>

</div>

</section>

<!-- Navbar Section Ends Here -->

<!-- contact section starts here -->

<section class="contact-section">

<section class="contact">

<div class="Quries">

<h2> Send us a message </h2>

<p> If you have any types of quries related to my website, you can send me message from here. It's my pleasure to help you.

</p>

</div>

<div class="form" >

<form class="contact-form" action="1.html">

<input type="name" name="full-name" placeholder="Enter your name" required>

<input type="email" name="email" placeholder="Enter your email" required>

<textarea type="address" name="msg" placeholder="Enter your message" required></textarea><br>

<input class="submit-form" type="submit" name="submit" value="Send Now">

</form>

</div>

</section>

<section class="ourcontact">

<div class="address">

<h2> Address </h2>

<div class="map">

<iframe src="https://www.google.com/maps/embed?pb=!1m18!1m12!1m3!1d3890.369095755929!2d80.03710011378817!3d12.819409321670483!2m3!1f0!2f0!3f0!3m2!1i1024!2i768!4f13.1!3m3!1m2!1s0x3a52f76c4db87a47%3A0x341fa471f8027d68!2sSRM%20University%2C%20Kattankulathur%2C%20Tamil%20Nadu%20603203!5e0!3m2!1sen!2sin!4v1639571580383!5m2!1sen!2sin" width=200px height=150px></iframe>

</div>

</div>

<div class="phone">

<h2> Phone </h2>

<p>+91 8919xxxxxx</p>

</div>

<hr>

<!-- social Section Starts Here -->

<section class="social">

<div class="container text-center">

<ul>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>

</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white; width:100%">copyright &copy 2022. All rights reserved by <a href="#">Swarup</a></p>

</div>

</section>

<!-- footer Section Ends Here -->

</body>

</html>

**5.2.5 order.html**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<!-- Important to make website responsive -->

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Digital Diner</title>

<!-- Link our CSS file -->

<link rel="stylesheet" href="style/style.css">

</head>

<body>

<!-- Navbar Section Starts Here -->

<section class="navbar">

<div class="container">

<div class="logo">

<a href="#" title="Logo">

<img src="images/logo.png" alt="Restaurant Logo" class="img-responsive">

</a>

</div>

<div class="menu text-right">

<ul>

<li>

<a href="mainpage.html">Home</a>

</li>

<li>

<a href="foods.html">Menu</a>

</li>

<li>

<a href="contact.html">Contact</a>

</li>

</ul>

</div>

<div class="clearfix"></div>

</div>

</section>

<!-- Navbar Section Ends Here -->

<!-- fOOD sEARCH Section Starts Here -->

<section class="food-search">

<div class="container">

<h2 class="text-center text-white">Fill this form to confirm your order.</h2>

<form action="Continue.html" class="order">

<fieldset>

<legend style="color: white">Selected Food </legend>

<div class="food-menu-desc">

<div class="order-label" style="color: white">Quantity</div>

<div class="order-label" style="color: white">Quantity</div>

<input type="number" name="qty" class="input-responsive" value="1" required>

</div>

</fieldset>

<fieldset>

<legend style="color: white">Details</legend>

<div class="order-label">Full Name</div>

<input type="text" name="full-name" placeholder="E.g. Swarup" class="input-responsive" required>

<div class="order-label">Table Number</div>

<input name="input" placeholder="Enter Table Number" class="input-responsive" required></input>

<input type="submit" name="submit" value="Confirm Order" class="btn btn-primary">

</fieldset>

</form>

</div>

</section>

<!-- fOOD sEARCH Section Ends Here -->

<hr>

**3.2.4 feedback.html**

<!-- social Section Starts Here -->

<section class="social">

<div class="container text-center">

<ul>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>

</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white">copyright &copy 2022. All rights reserved by <a href="#">Swarup</a></p>

</div>

</section>

<!-- footer Section Ends Here -->

</body>

</html>

**5.2.6 dinner.html**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<!-- Important to make website responsive -->

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Digital Diner</title>

<!-- Link our CSS file -->

<link rel="stylesheet" href="style/style.css">

</head>

<body>

<!-- Navbar Section Starts Here -->

<section class="navbar">

<div class="container">

<div class="logo">

<a href="#" title="Logo">

<img src="images/logo.png" alt="Restaurant Logo" class="img-responsive">

</a>

</div>

<div class="menu text-right">

<ul>

<li>

<a href="mainpage.html">Home</a>

</li>

<li>

<a href="foods.html">Menu</a>

</li>

<li>

<a href="contact.html">Contact</a>

</li>

</ul>

</div>

<div class="clearfix"></div>

</div>

</section>

<!-- Navbar Section Ends Here -->

<!-- fOOD sEARCH Section Starts Here -->

<section class="food-search text-center">

<div class="container">

<h2><a href="#" class="text-red">Dinner</a></h2>

</div>

</section>

<!-- fOOD sEARCH Section Ends Here -->

<!-- fOOD MEnu Section Starts Here -->

<section class="food-menu">

<div class="container">

<h2 class="text-center">Menu</h2><br>

<h5 class="text-center">Pulao</h5>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/vegpulao.jpg" alt="Veg Pulao" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Veg Pulao</h4>

<p class="food-price">100 Rs</p>

<p class="food-detail">

Made with vegetables, basmati rice, spices, onions, garlic paste.

</p>

<br>

<a href="order.html"

class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/paneerpulao.jpg" alt="Paneer Pulao" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Paneer Pulao</h4>

<p class="food-price">120 Rs</p>

<p class="food-detail">

Made with Paneer, masalas,

garlic paste, spices, rice, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/greenpeaspulao.jpg" alt="Green Peas Pulao" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Green Peas Pulao</h4>

<p class="food-price">120 Rs</p>

<p class="food-detail">

Made with Green peas, rice, spices, masalas, garlic paste, mint leaves.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/cashewpulao.jpg" alt="Cashew Pulao" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Cashew Pulao</h4>

<p class="food-price">130 Rs</p>

<p class="food-detail">

Made with basmati rice, spices, masalas, garlic paste, Cashew nuts.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<h5 class="text-center">Biriyani</h5><br>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/vegbiriyani.jpg" alt="Veg Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Veg Biryani</h4>

<p class="food-price">120 Rs</p>

<p class="food-detail">

</p>

<br>

<a href="order.html" class="btn btn-primary">Order No

Made with Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/paneerbiryani.jpg" alt="Paneer Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Paneer Biryani</h4>

<p class="food-price">130 Rs</p>

<p class="food-detail">

Made with Paneer, Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/eggbiryani.jpg" alt="Egg Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Egg Biryani</h4>

<p class="food-price">130 Rs</p>

<p class="food-detail">

Made with Egg, Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/chickenbiryani.jpg" alt="Chicken Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

ani.jpg" alt="Chicken Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Chicken Biryani</h4>

<p class="food-price">150 Rs</p>

<p class="food-detail">

Made with Chicken, Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/chicken65biryani.jpg" alt="Chicken 65 Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Chicken 65 Biryani</h4>

<p class="food-price">180 Rs</p>

<p class="food-detail">

Made with chicken, Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/fishbiryani.jpg" alt="Chicke Hawain Pizza" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Fish Biryani</h4>

<p class="food-price">150 Rs</p>

<p class="food-detail">

Made with Fish, Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/muttonbiryani.jpg" alt="Mutton Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Mutton Biryani</h4>

<p class="food-price">150 Rs</p>

<p class="food-detail">

Made with Mutton, Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/prawnbiryani.jpg" alt="Prawn Biryani

" class="img-responsive img-curve"width="100px" height="80px">

img src="images/Dinner/prawnbiryani.jpg" alt="Prawn Biryani" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Prawn Biryani</h4>

<p class="food-price">150 Rs</p>

<p class="food-detail">

Made with Prawns, Basmati rice, spices, masalas, curd, vegetables.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<h5 class="text-center">Breads</h5><br>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/parota.jpg" alt="Parota" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Parota (2 Pieces)</h4>

<p class="food-price">60 Rs</p>

<p class="food-detail">

Serving with tomato curry, chicken curry, onions.

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/butter roti.jpg" alt="Butter Roti" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Butter Roti (2 Pieces)</h4>

<p class="food-price">50 Rs</p>

<p class="food-detail">

Serving with tomato curry, chicken curry, onions.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/phulka.jpg" alt="Phulka" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Phulka (4 Pieces)</h4>

<p class="food-price">60 Rs</p>

<p class="food-detail">

Serving with tomato curry

chicken curry, onions.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/alooparatha.jpg" alt="Aloo Paratha" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Aloo Paratha (2 Pieces)</h4>

<p class="food-price">80 Rs</p>

<p class="food-detail">

Serving with tomato curry, chicken curry, onions.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/butternaan.jpg" alt="Butter Naan" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Butter Naan (3 Pieces)</h4>

<p class="food-price">80 Rs</p>

<p class="food-detail">

Serving with tomato curry, chicken curry, palak curry, onions.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/garlicnaan.jpg" alt="Garlic Naan" class="img-responsive img-curve"width="100px" height="80px">

</div>

<div class="food-menu-desc">

<h4>Garlic Naan (3 Pieces)</h4>

<p class="food-price">80 Rs</p>

<p class="food-detail">

Serving with tomato curry, chicken curry, Palak Curry, onions.

</p>

<br>

<a href="order.html" class="btn btn-primary">Order Now</a>

</div>

</div>

<div class="food-menu-box">

<div class="food-menu-img">

<img src="images/Dinner/cheesenaan.jpg" alt="Cheese Naan" class="img-responsive img-curve"width="100px" height="80px">

</div>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>

</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white">copyright &copy 2022. All rights reserved by <a href="#">Swarup</a></p>

</div>

</section>

<!-- footer Section Ends Here -->

</body>

</html>

**5.2.7.continue.html**

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<!-- Important to make website responsive -->

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title> Digital Diner </title>

<link rel="stylesheet" href="style/style.css">

</head>

<body>

<!-- Navbar Section Starts Here -->

<section class="navbar">

<div class="container">

<div class="logo">

<a href="#" title="Logo">

<img src="images/logo.png" alt="Restaurant Logo" class="img-responsive">

</a>

</div>

<div class="menu text-right">

<ul>

<li>

<a href="mainpage.html">Home</a>

</li>

<li>

<a href="foods.html">Menu</a>

</li>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<!-- Important to make website responsive -->

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title> Digital Diner </title>

<link rel="stylesheet" href="style/style.css">

</head>

<body>

<div class="container">

<div class="logo">

<a href="#" title="Logo">

<img src="images/logo.png" alt="Restaurant Logo" class="img-responsive">

</a>

</div>

<div class="menu text-right">

<ul>

<li>

<a href="mainpage.html">Home</a>

</li>

<li>

<a href="foods.html">Menu</a>

</li>

<li>

<a href="contact.html">Contact</a>

</li>

</ul>

</div>

<div class="clearfix"></div>

</div>

</section>

<h2 class="feedback">Thanks for Ordering continue for your next order</h2>

<hr>

<!-- social Section Starts Here -->

<section class="social">

<div class="container text-center">

<ul>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

<a href="#"><img src="https://img.icons8.com/fluent/50/000000/facebook-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/instagram-new.png"/></a>

</li>

<li>

<a href="#"><img src="https://img.icons8.com/fluent/48/000000/twitter.png"/></a>

</li>

</ul>

</div>

</section>

<!-- social Section Ends Here -->

<!-- footer Section Starts Here -->

<section class="footer">

<div class="container text-center">

<p style="color: white">copyright &copy 2022. All rights reserved by <a href="#">pavani</a></p>

</div>

</section>

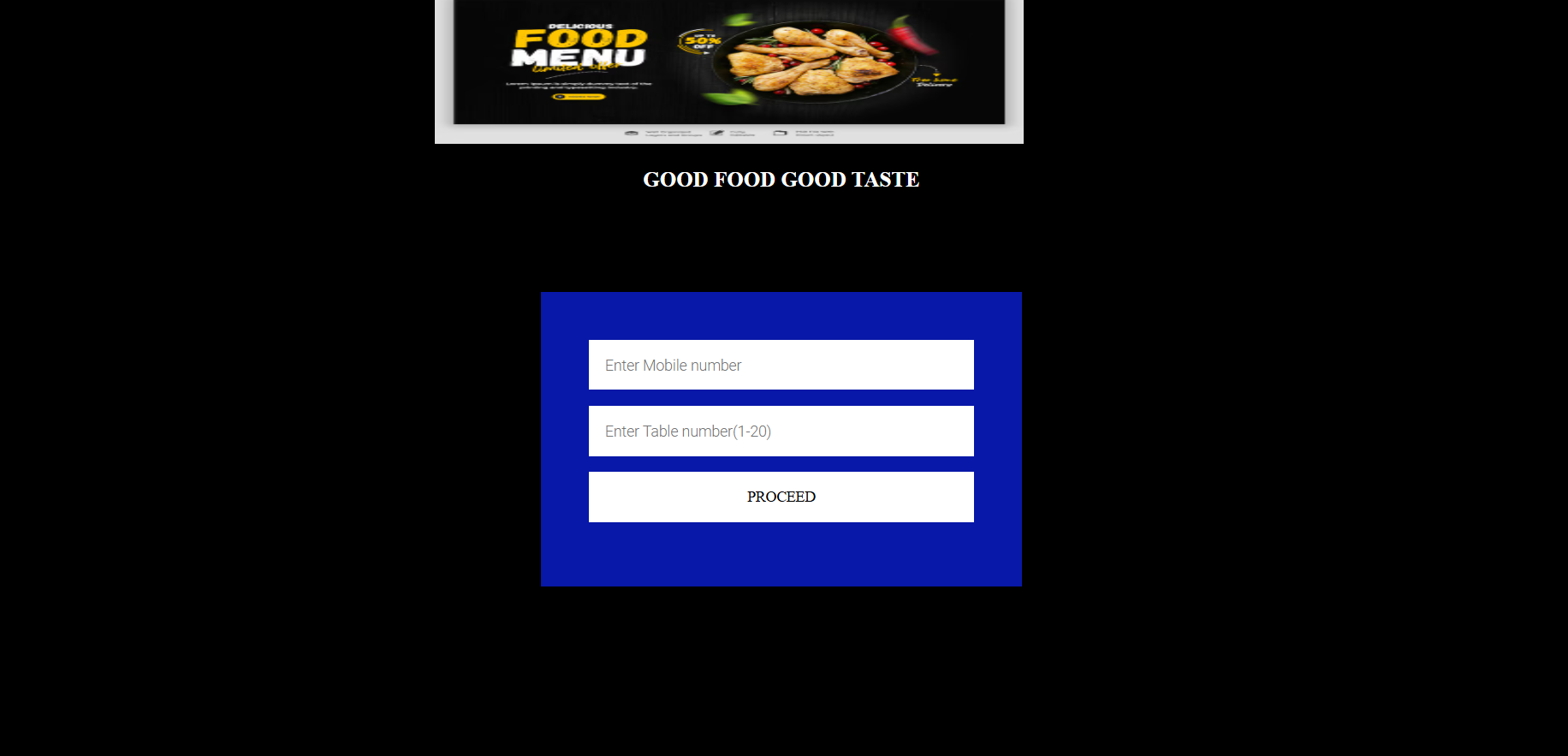
<!-- footer Section Ends Here -->

</body>

</html>

**6. OUTPUT SCREENS**

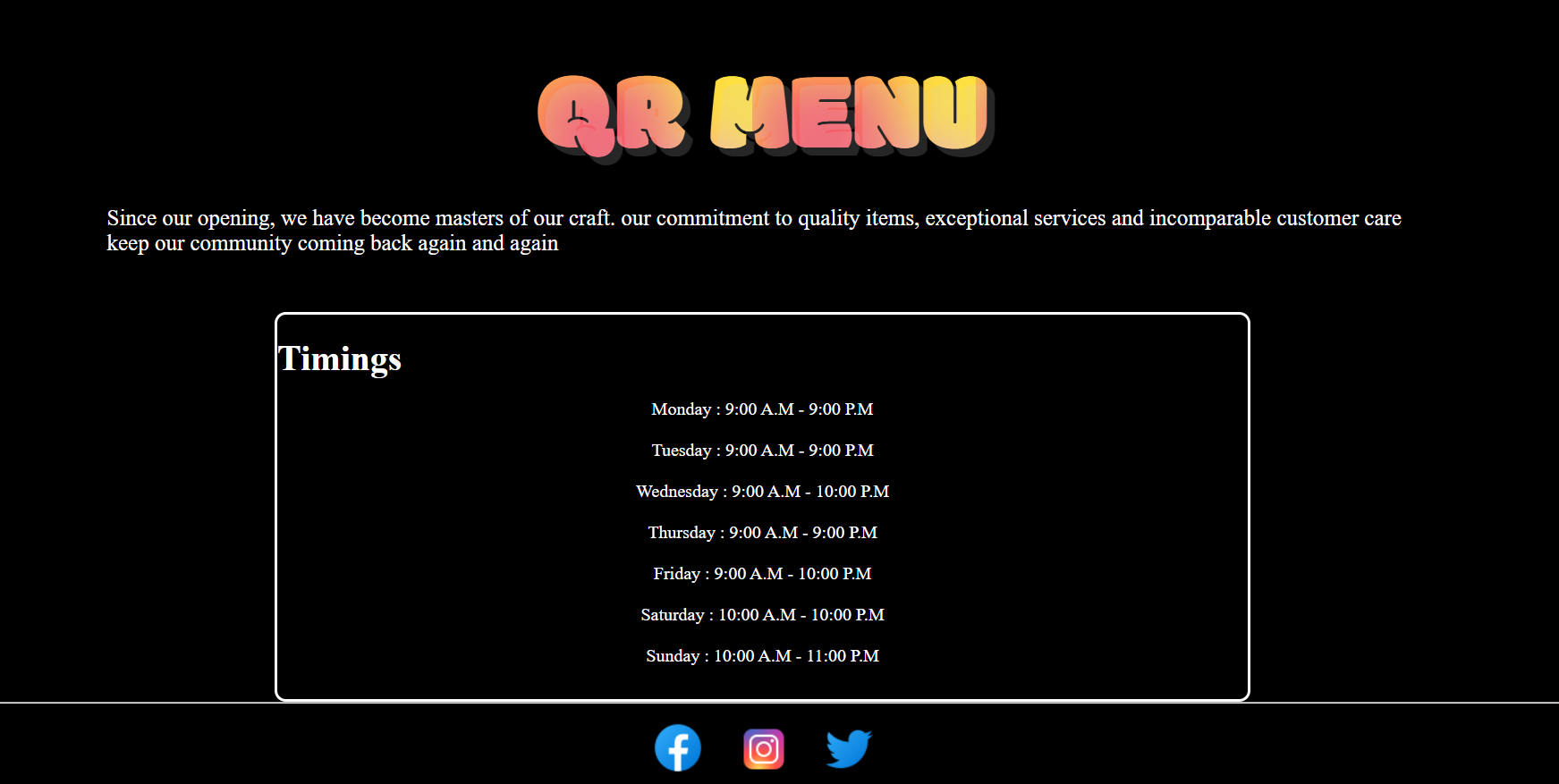
**6.1 index.html**

******

*Figure 6.1 Screen of index.html page*

The front page of the system that is seen by customers after scanning the QR code available for them. This page shows the details of the restaurant like restaurant name, address of the restaurant, contact number for the restaurant, and its opening timings. It displays the Book a table button, using which the he can book the table in advance. It also displays our menu button using which the user can directly see the menu available in the restaurant.

**6.2 mainpage.html**



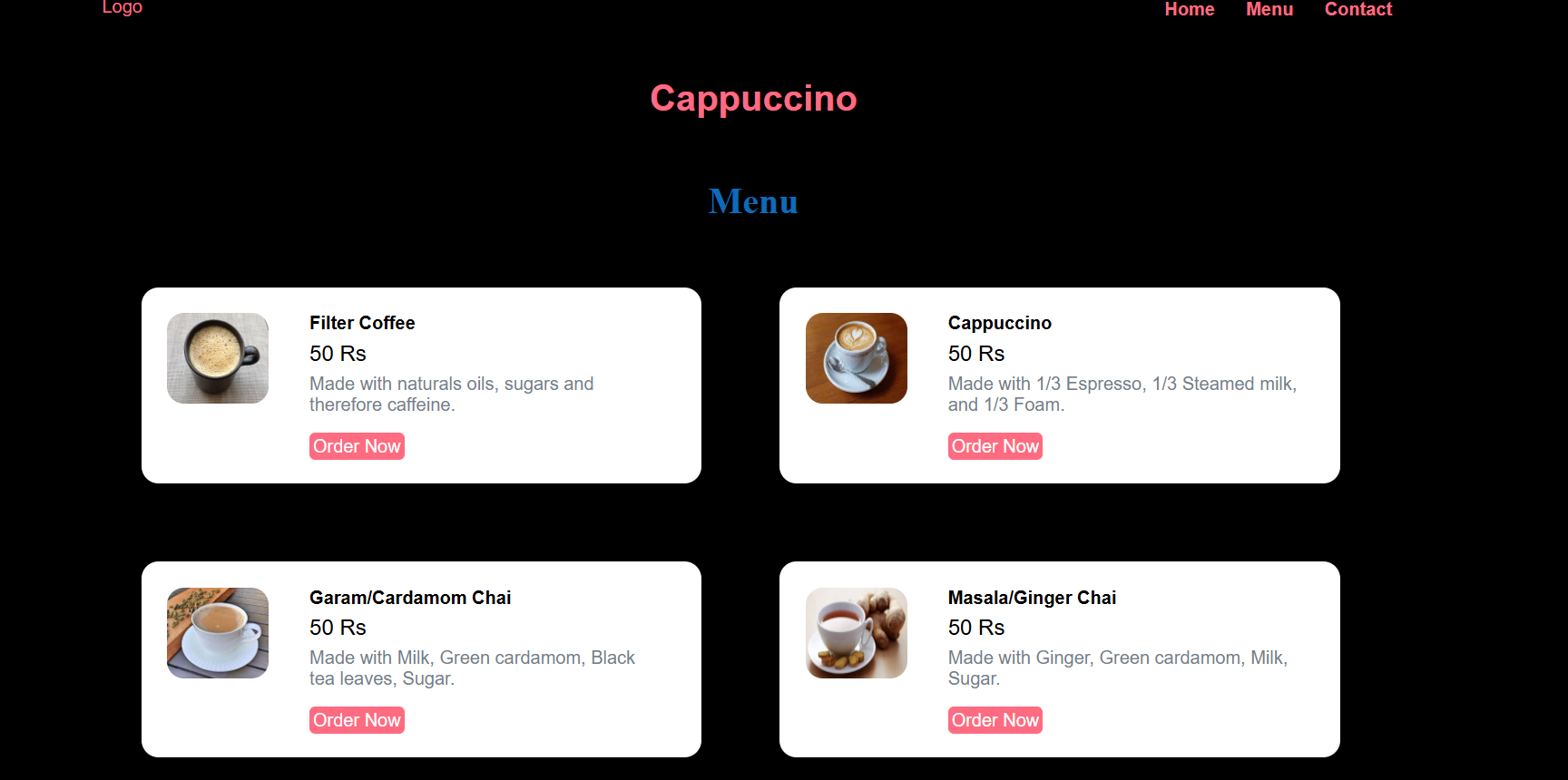
*Figure 6.2.1 Screen of mainpage.html page*

The main page of the QR Code Food Ordering System is designed to provide a seamless and efficient user experience. Upon arrival, users are greeted with a visually appealing banner and a brief introduction highlighting the convenience of the system. The page prominently features a prompt instructing users to scan the QR code available at their table or on their takeaway packaging, with clear instructions on how to use their smartphones for this purpose. Once the QR code is scanned, users are directed to the menu section, where they can browse various food and drink options, complete with images, descriptions, and prices. The intuitive design ensures that users can easily add items to their cart, customize orders, and proceed to checkout. Additionally, the main page includes a help section for troubleshooting and contact information for customer support, ensuring that any issues are promptly addressed. Overall, the main page is crafted to enhance the user's ordering experience by combining functionality, clarity, and ease of use.

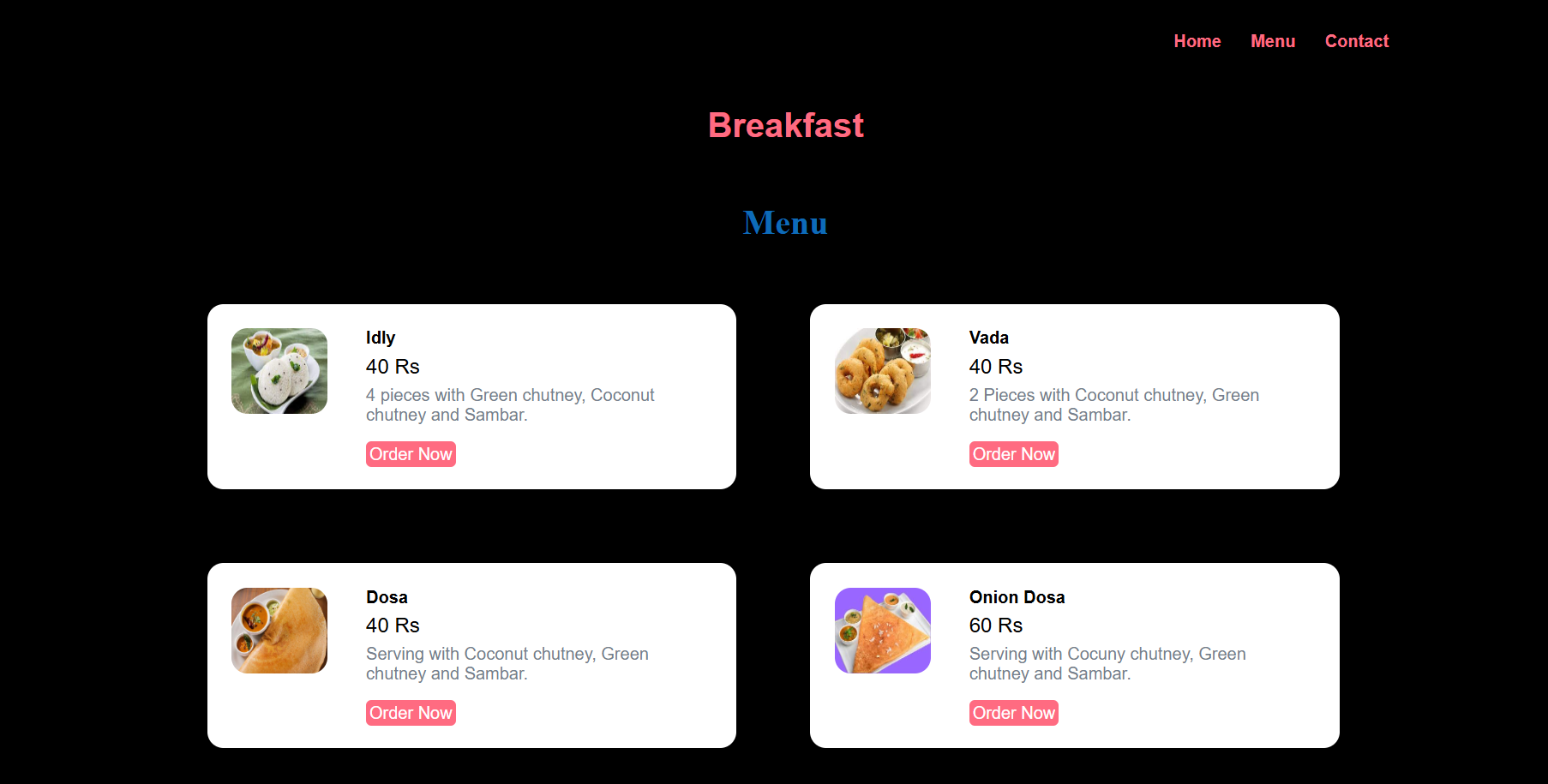


*Figure 6.2.2 Screen of menu html page*

The categories section on the menu page of our QR Code Food Ordering System is designed to simplify the browsing experience for users. Organized into intuitive categories such as Appetizers, Main Courses, Desserts, Beverages, and Specials, the menu ensures that customers can quickly find their desired items. Each category is displayed with an appealing icon and a brief description, making navigation both easy and visually engaging. Users can click on a category to expand it and view detailed listings of available items, complete with images, descriptions, and prices. This structured approach not only enhances the user experience but also streamlines the ordering process, allowing customers to make their selections effortlessly.

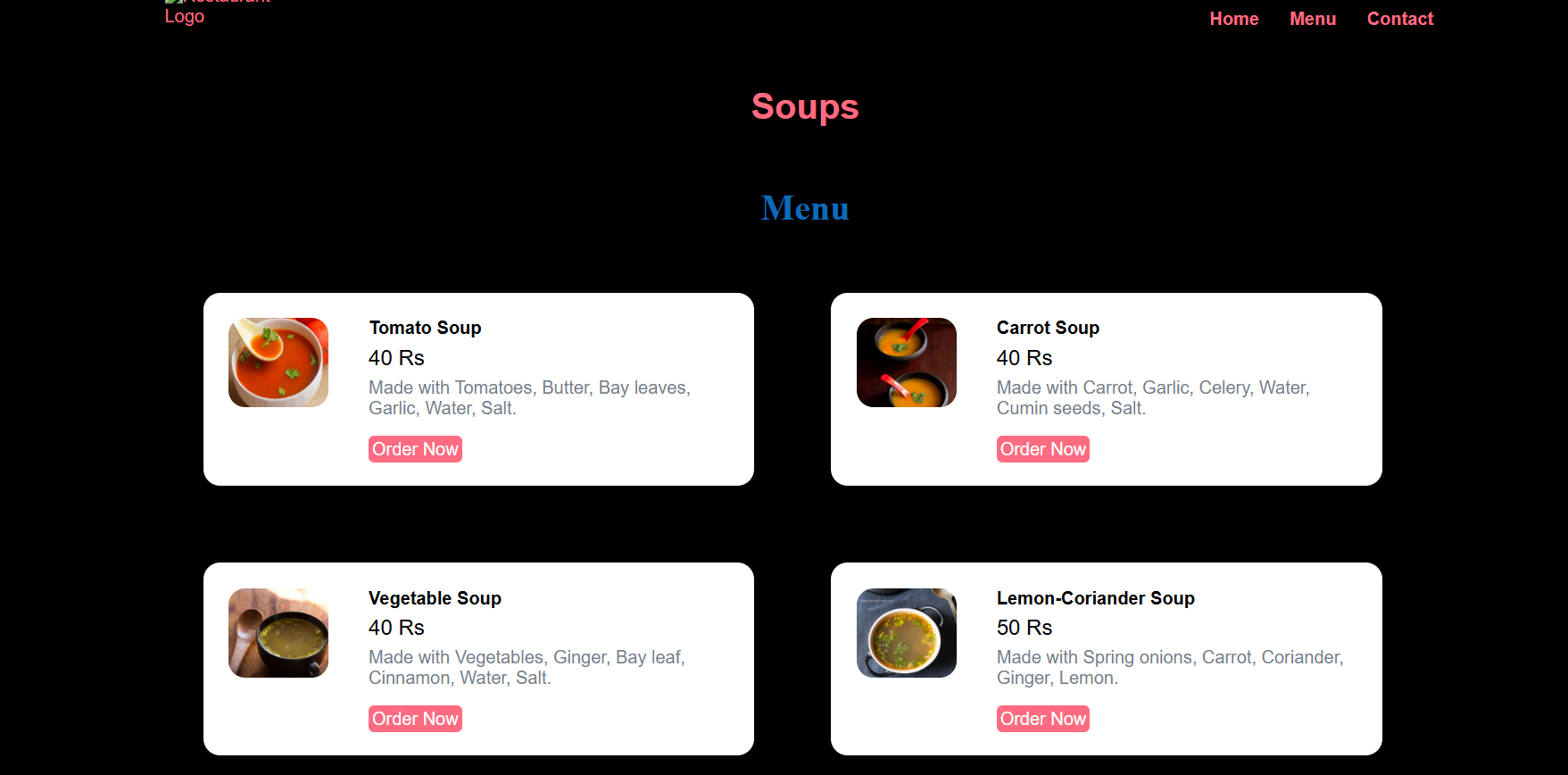
*Figure 6.2.3 Screen of cappuccino in menu..html page*

Our Cappuccino is a classic Italian coffee beverage that offers a perfect balance of rich espresso, steamed milk, and a layer of frothy milk foam. Made with our premium, freshly ground coffee beans, this drink provides a robust and aromatic flavor that is both smooth and invigorating. Served hot and topped with a light dusting of cocoa powder or cinnamon upon request, our Cappuccino is an ideal choice for coffee enthusiasts seeking a delightful and comforting experience. Enjoy it as a morning pick-me-up or a mid-day treat, perfectly paired with your favorite pastry or dessert.



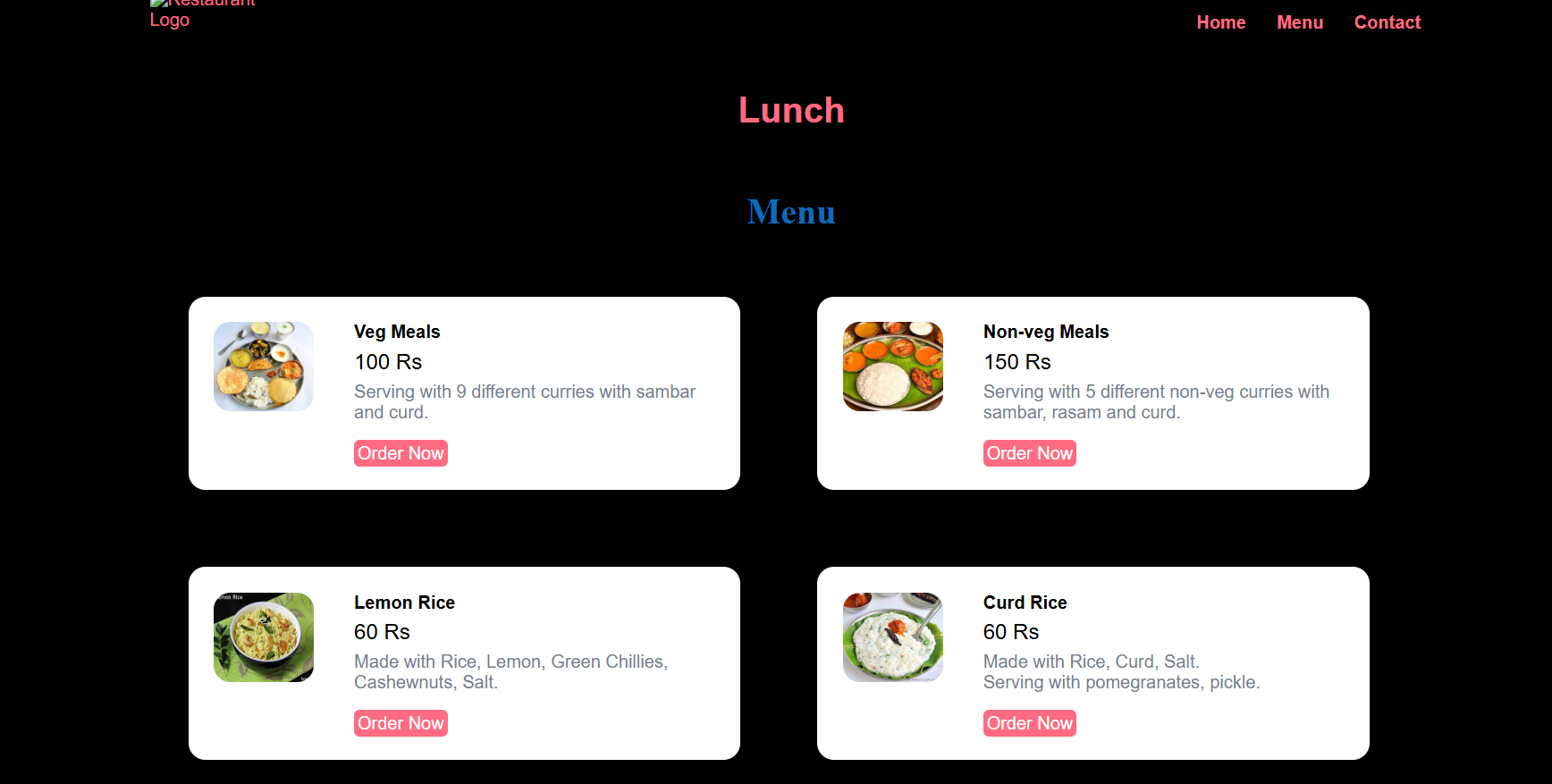
*Figure 6.2.4 Screen of breakfast in menu.html page*

Start your day with our delicious Cappuccino, a classic Italian coffee beverage perfect for your breakfast. Made from freshly ground premium coffee beans, our Cappuccino delivers a robust and aromatic flavor that harmoniously blends rich espresso, steamed milk, and a layer of velvety milk foam. Served hot, this invigorating drink is topped with a light dusting of cocoa powder or cinnamon upon request, adding an extra touch of delight to your morning routine. Pair it with a freshly baked croissant, a slice of toast, or any of our breakfast pastries to create a satisfying and energizing start to your day. Whether you're on the go or enjoying a leisurely breakfast, our Cappuccino is the perfect companion.



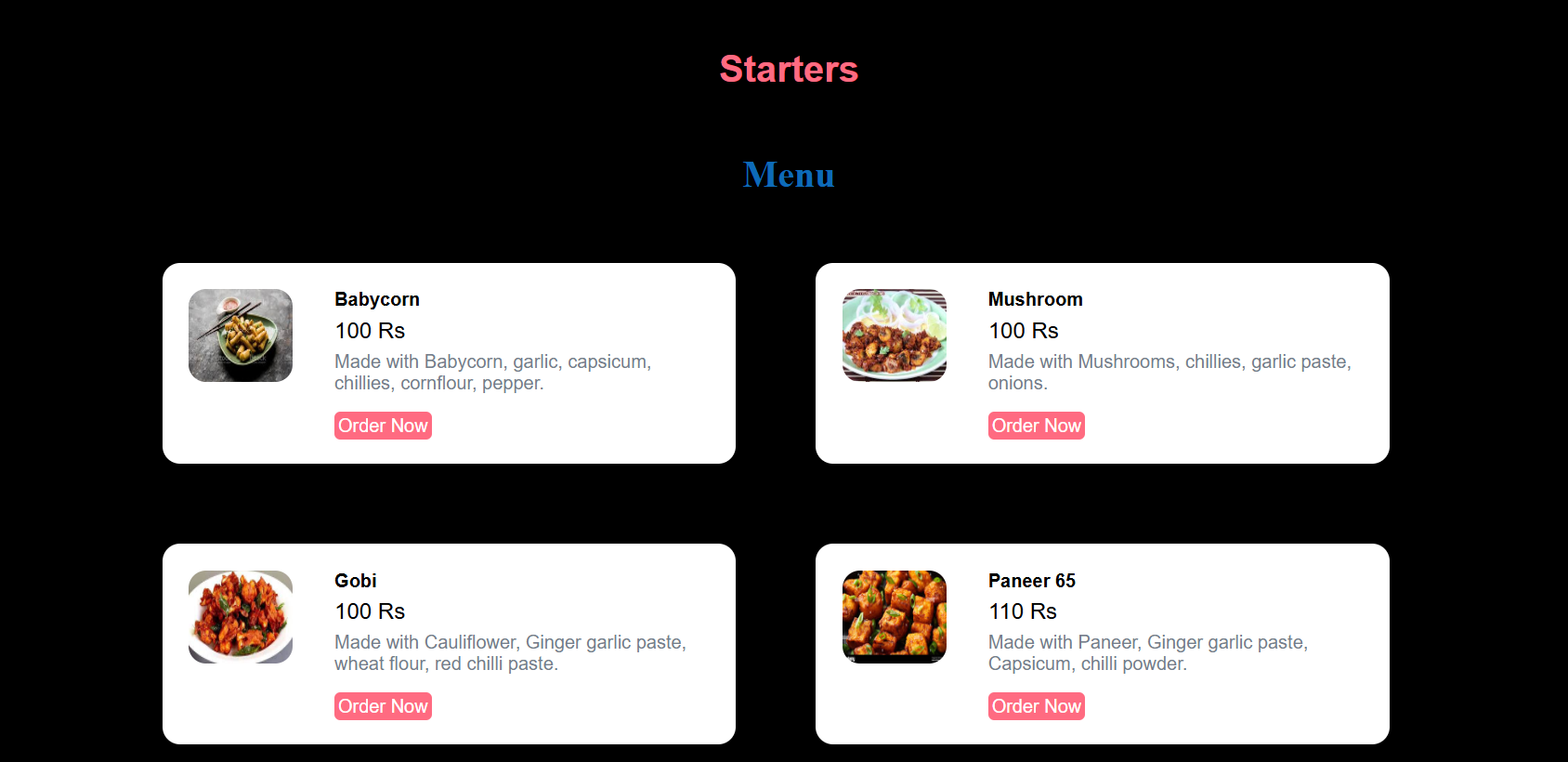
*Figure 6.2.5 Screen of soups in menu.html page*

Warm up with our selection of hearty and flavorful soups, perfect for any time of day. Each soup is crafted with the freshest ingredients to deliver a comforting and satisfying experience. Choose from our classic Tomato Basil Soup, featuring ripe tomatoes and fragrant basil blended into a smooth, creamy texture, or our savory Chicken Noodle Soup, filled with tender chicken, fresh vegetables, and delicate noodles in a rich, homemade broth. For a taste of something unique, try our Spicy Lentil Soup, a hearty blend of lentils, spices, and vegetables that offers a delightful kick. Whether you're in the mood for a light starter or a filling meal, our soups are sure to satisfy your cravings and warm your soul. Enjoy them with a slice of crusty bread or a side salad for a complete and nourishing meal.

****

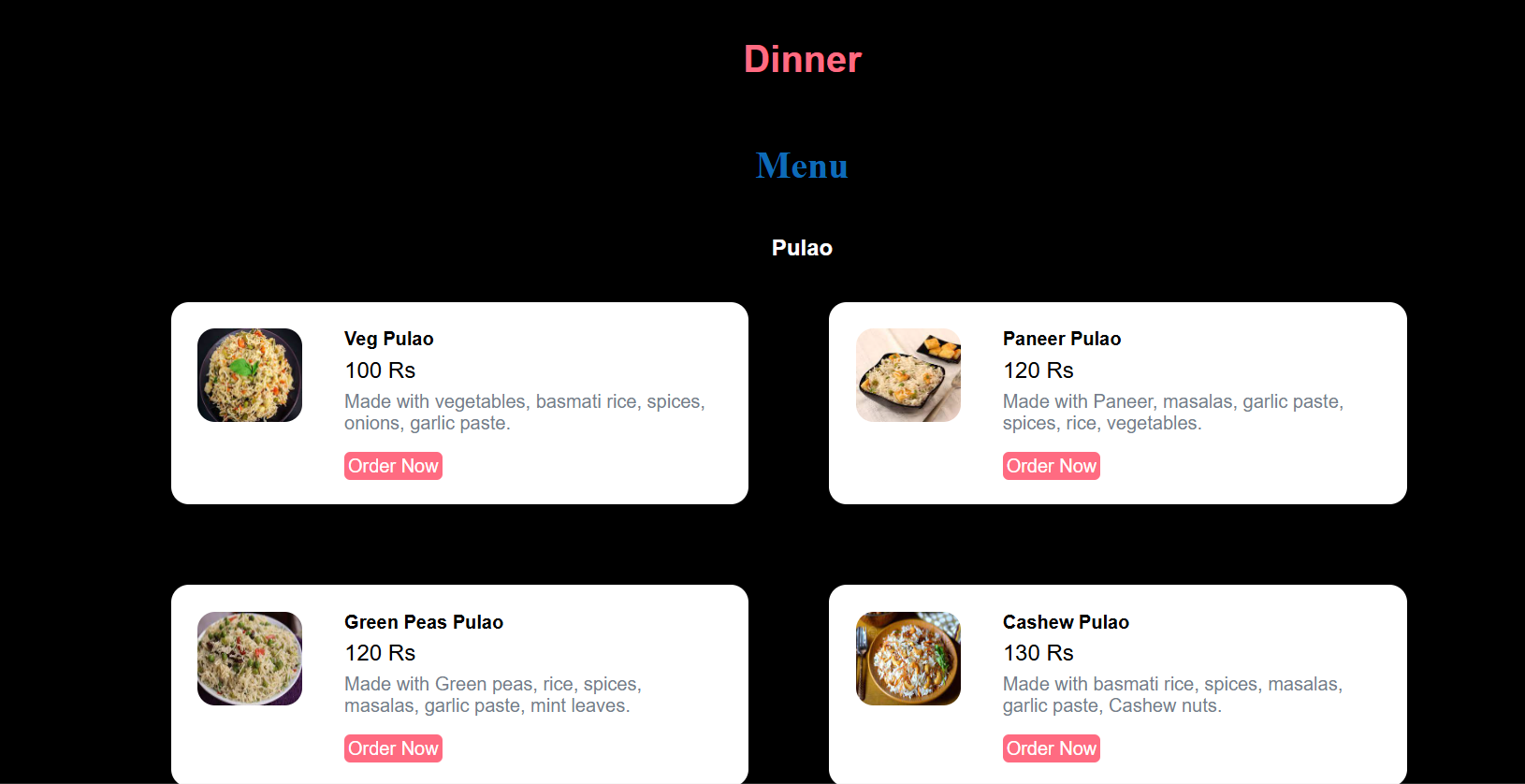
*Figure 6.2.6 Screen of lunch in menu.html page*

Elevate your lunchtime with our delectable selection of soups, crafted to offer warmth and nourishment with every spoonful. Our menu features a variety of soups made from the finest ingredients, perfect for a light yet satisfying meal. Indulge in our classic Tomato Basil Soup, where ripe tomatoes and fragrant basil come together in a creamy, comforting blend. For a heartier option, our Chicken Noodle Soup is packed with tender chicken, fresh vegetables, and delicate noodles simmered in a rich, homemade broth. If you're seeking a flavorful twist, try our Spicy Lentil Soup, a robust mix of lentils, spices, and vegetables that provides a delightful kick. Pair any of our soups with a slice of crusty bread or a side salad for a well-rounded and nutritious lunch experience. Whether you're looking for a quick bite or a leisurely meal, our soups are the perfect choice to keep you energized and satisfied throughout the day.



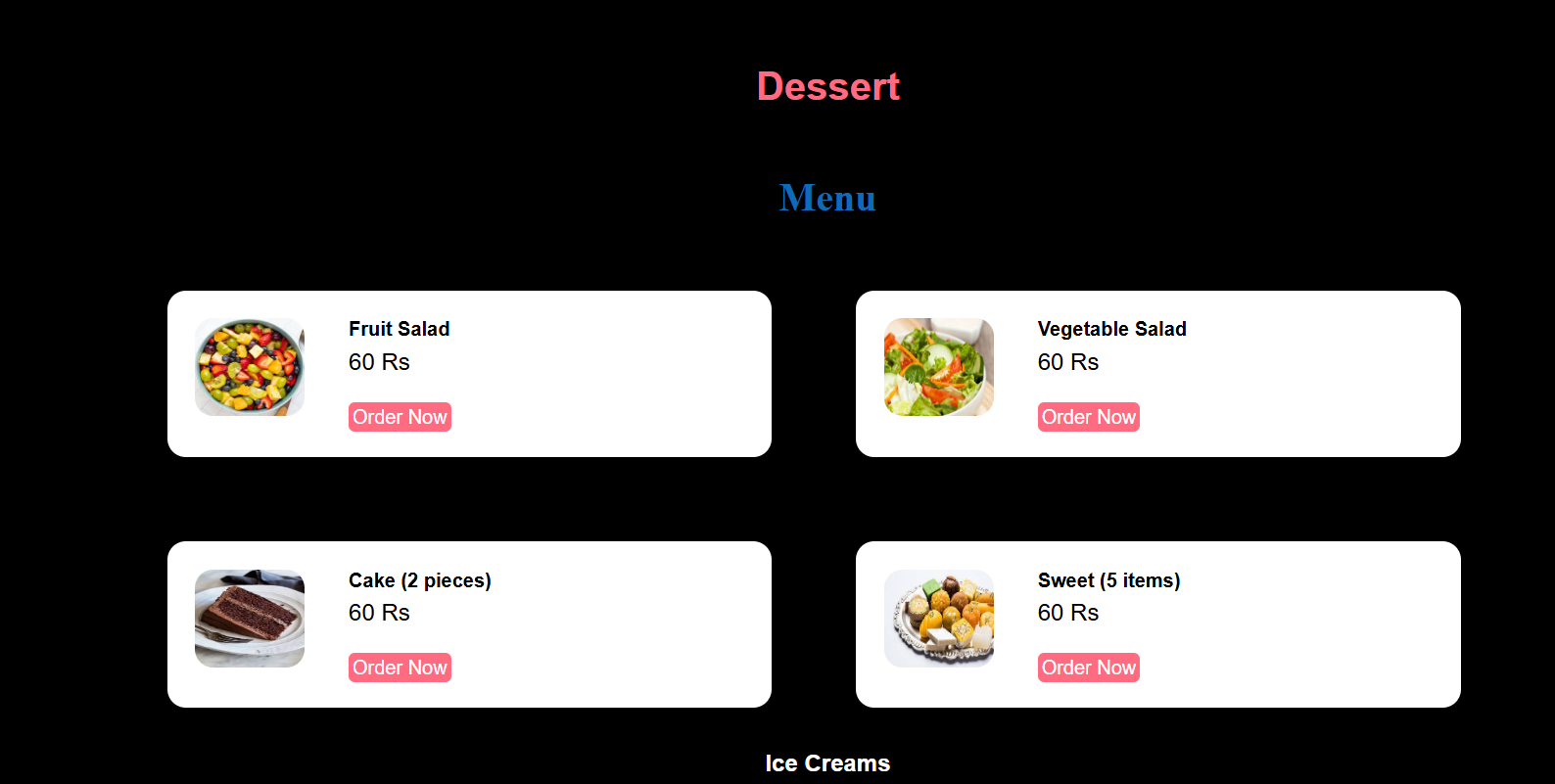
*Figure 6.2.7.Screen of startes in menu.html page*

Begin your meal with our delightful selection of soups, perfect as a warming and flavorful starter. Each soup is prepared with the freshest ingredients to provide a comforting introduction to your dining experience. Our Tomato Basil Soup combines ripe tomatoes and fragrant basil into a smooth, creamy blend that awakens the palate. For a classic choice, our Chicken Noodle Soup offers tender chicken, fresh vegetables, and delicate noodles in a rich, homemade broth. If you're in the mood for something with a bit of spice, our Spicy Lentil Soup features a hearty mix of lentils, spices, and vegetables for a satisfying kick. These soups are ideal as an appetizer, setting the stage for a memorable meal. Enjoy them with a slice of crusty bread or as a complement to our other starters, making your dining experience both delicious and comforting from the very first bite.

**

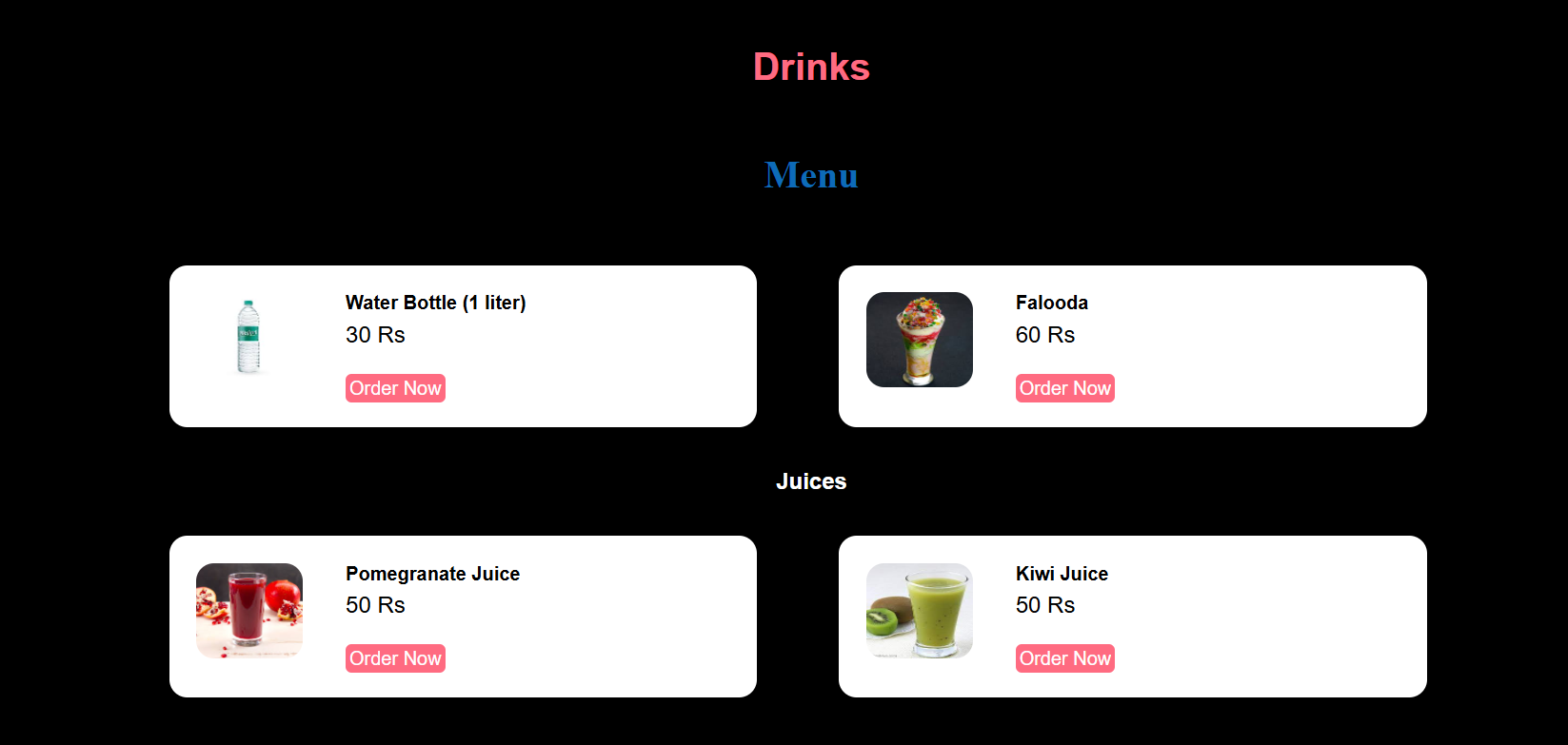
*Figure 6.2.8. Screen of dinner in menu.html page*

Enhance your dinner experience with our exquisite selection of soups, perfect for a warming and flavorful start to your evening meal. Each soup is meticulously prepared using the freshest ingredients to ensure a comforting and satisfying beginning. Our Tomato Basil Soup features a harmonious blend of ripe tomatoes and fragrant basil, resulting in a smooth and creamy texture that delights the palate. For a heartier option, our Chicken Noodle Soup is filled with tender chicken, fresh vegetables, and delicate noodles, all simmered in a rich, homemade broth. If you're in the mood for a bold and robust flavor, our Spicy Lentil Soup offers a hearty mix of lentils, spices, and vegetables, providing a delightful kick. These soups make an ideal appetizer, setting the tone for a delicious and memorable dinner. Pair them with a slice of crusty bread or a side salad to complete your dining experience, ensuring a perfect balance of flavors and warmth from the very first bite.

**

*Figure 6.2.6 Screen of dessert in menu.html page*

Indulge in our irresistible selection of desserts, crafted to satisfy your sweet cravings and provide a delightful conclusion to your meal. Each dessert is prepared with care and premium ingredients, ensuring a decadent and memorable experience. Enjoy our classic New York Cheesecake, featuring a rich and creamy cheesecake filling on a buttery graham cracker crust, topped with your choice of fruit compote or chocolate sauce. For chocolate lovers, our Flourless Chocolate Cake offers a dense and velvety texture, accompanied by a drizzle of raspberry coulis for a perfect balance of sweetness and tang. If you prefer something lighter, our Fresh Fruit Tart showcases a buttery pastry crust filled with pastry cream and topped with a medley of seasonal fruits, offering a refreshing and satisfying option. Whether you're celebrating a special occasion or simply treating yourself, our desserts are the ideal way to end your meal on a sweet note. Pair them with a cup of freshly brewed coffee or a glass of dessert wine for a truly indulgent dining experience.

**

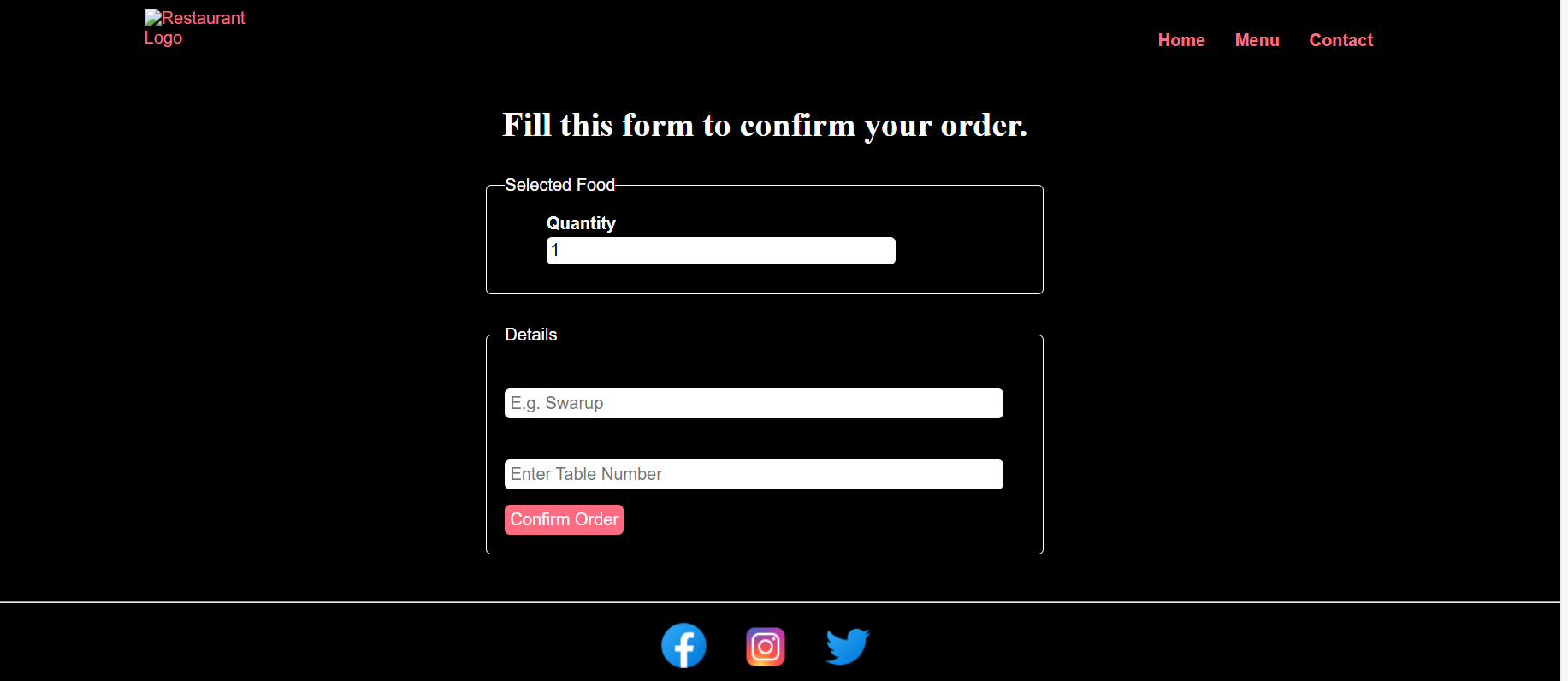
*Figure 6.2.9 Screen of dessert in menu.html page*

Quench your thirst with our refreshing selection of drinks, designed to complement your dining experience with a variety of options. Whether you're looking for a revitalizing beverage or a satisfying accompaniment to your meal, our menu offers something for everyone. Start your day with a freshly brewed cup of coffee or tea, made from the finest beans and leaves for a rich and aromatic flavor. For a cool and invigorating choice, try our assortment of freshly squeezed juices or smoothies, packed with vitamins and natural goodness. If you're in the mood for something bubbly, explore our selection of sodas and sparkling water, perfect for a crisp and refreshing treat. Additionally, our curated wine and beer list provides the perfect pairing for any dish, featuring a range of reds, whites, and craft brews to complement your dining experience. Whether you're enjoying a meal with friends, family, or colleagues, our drinks menu ensures that every sip is as enjoyable and satisfying as the last.

**6.3 contact.html**

*Figure 6.3.1 Screen of contac.html page*

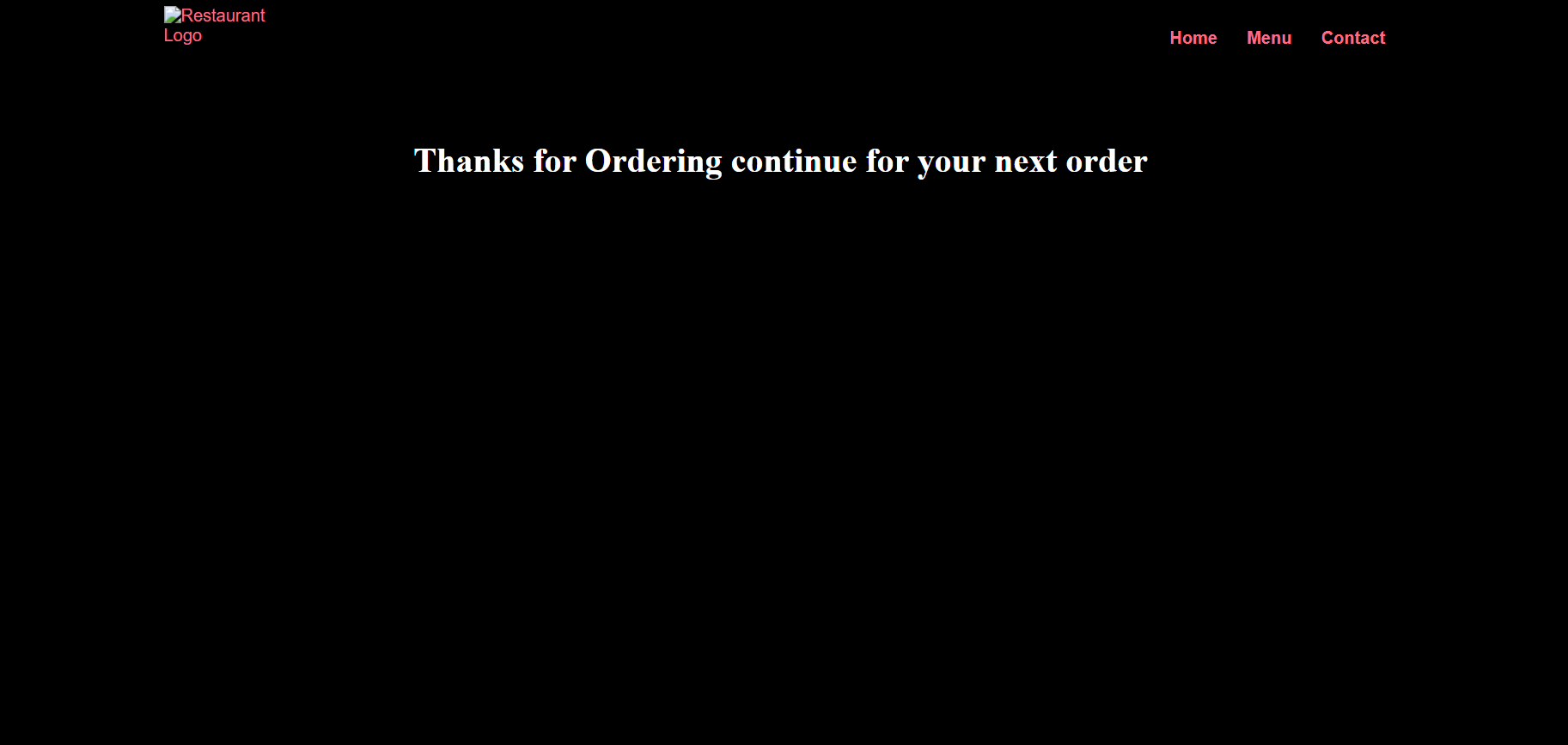
For our QR Code Food Ordering System project, efficient communication with our manager is crucial for smooth operations and customer satisfaction. The manager, Mr. John Doe, can be contacted directly via email at digitaldinner.doe@example.com or by phone at + 91 9392786856. His office hours are from 9:00 AM to 5:00 PM, Monday through Friday. Mr. Doe oversees all aspects of the system's implementation, ensuring timely responses to inquiries, addressing operational issues, and coordinating with staff to maintain quality service. Clear channels of communication with the manager are established to facilitate effective project management and support for both customers and staff alike.



*Figure 6.3.2 order confirm.html page*

The Order Confirmation Page is the final step in our QR Code Food Ordering System, ensuring a smooth and reassuring conclusion to the customer's transaction. Once an order is placed, customers are directed to this page where they receive a comprehensive summary of their selections, quantities, and total cost. This page serves as confirmation that their order has been successfully received and is being processed. It includes a detailed breakdown of all chosen items along with their descriptions and prices, ensuring clarity and transparency. Customers also see the total amount due, including any applicable taxes or fees, and the payment method used for the transaction. Additionally, the Order Confirmation Page provides essential details such as delivery or pickup information, including address or location details if relevant, and estimated times. Each order is assigned a unique order number for easy tracking and future reference. A personalized thank-you message completes the page, expressing appreciation for the customer's order and ensuring a positive end to their ordering experience.

**6.4 continue.html**

****

*Figure 6.4.1 Screen of continue.html page*

The Ending and Continue Page in our QR Code Food Ordering System serves as a pivotal stage where customers finalize their orders and make decisions on their next steps. After confirming their selections on the Order Confirmation Page, customers are seamlessly directed to this page. Here, they encounter a concise summary detailing their chosen items, quantities, and total cost, reaffirming their order details before proceeding. Customers are presented with clear options: they can either proceed to the secure payment gateway to complete their transaction with confidence, or they can choose to add more items by returning to the menu for further selection. This flexibility caters to varying customer preferences and ensures a smooth and satisfying ordering experience. Additionally, the page provides essential information on accepted payment methods, security assurances, and contact details for customer support, ensuring customers feel supported throughout the process. Ultimately, the Ending and Continue Page aims to streamline the ordering process, empowering customers to make informed decisions and effortlessly navigate their way to completing their order with ease.

**7. CONCLUSION**

The implementation of such type of proposed automated system will minimize the number of employees at the back of the counter. Also, the system will help to reduce the cost of labor. The proposed system would lure customers and also adds to the adaptability of maintaining food orders at different tables in the restaurant. The proposed system will have an admin module which will help the restaurant owner to get the required analysis. By encouraging no-contact interaction and personal hygiene, restaurants can lower their risk of transmitting viruses. As a result, diners who find that hygiene and safety standards are satisfactory are more likely to become repeat diners.

**8. FUTURE ENHANCEMENT**

The Objective of our project “QR Code food ordering system”, is to improve the customer dining experience and to automate the process that usually takes place in restaurants that are table booking, selecting menu, ordering, billing, chef receiving order list through waiters, and manager can go through the entire process through his panel.

The workload in restaurants will be reduced, and it also reduce the paper waste and need of the waiters. Using the QR Code that are available in various places or using the app the customer can able to entire the restaurant page, using this he can able to book the table, refer the menu items, select the menu of his interest and place the order through this system only. He can also able to pay the bill through online or offline mode.

Chef will directly get the list of items ordered by the customer along with table number to the customer panel. Using this he can prepare the food and he can update it as it is delivered or it will take time.

Manager can manage the entire restaurant using manger panel. This system will reduce the manual errors in the restaurant like delivering wrong orders, giving the menu cards lately when the restaurant is in rush with lot of customers, reduce time taken for customers, chef and manager. Reduce the paper waste.

This system improves customer satisfaction. It is also less cost in future a common application for all the restaurants will be developed. So, using this customer can select the restaurant of his interest and go through the process that designed in current system. Online food delivery will also be included in future. Automatic serving will also be implemented.

**9.REFERENCES**

**IEEE Reference:**

<https://ieeexplore.ieee.org/document/8316344>

<https://www.ias.ac.in/public/Volumes/sadh/045/00/0034.pdf>

<https://link.springer.com/article/10.1007/s00521-019-04691-y>

<https://ieeexplore.ieee.org/document/10119345/>

**GitHub Reference:**

<https://github.com/Karthikeyu/Indian-sign-language-recognition>

**YouTube Reference:**

<https://youtu.be/8wj0D_wCf3g?si=Qfj3YY5LpMRDbukJ>