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SMART RESTAURANT MANAGEMENT SYSTEM

Under the guidance of

DR.S.PHANI KUMAR$_{Ph.D}$
ASSOCIATE PROFESSOR

Batch No:1923ITP006

Presented By:

N PAVITHRA	**(19K61A1238)**
B SARIKA	**(19K61A1210)**
P HEMANTH	**(19K61A1243)**
B SAI KIRAN	**(19K61A1211)**

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ABSTRACT

Now a days technology is increasing rapidly in many areas, people are always craving for faster and easier day to day tasks. Improving the business techniques in food industry like restaurants and hotels will help to increase the customer satisfaction and also reduce the time taken to the user for various activities like waiting for table, menu, and also helps for manager and chef to perform their functions easily. Smart restaurant system application will reduce the manual errors which always takes place in manual restaurants like wrong food serving, billing etc. In smart restaurant system the details of restaurant was opened, here the customer can login to book the table, select the menu, and place the order without intervention of waiter. The manger can update the table status, menu status and other updates regarding restaurant manager panel..

INTRODUCTION

A smart restaurant system is one that has been put up to advance the food sector by doing away with some of the drawbacks of conventional systems. By automating the process, the developed approach will save people and the world time and energy while looking for the best restaurants in their selected locations and will reduce the amount of time spent in restaurants.The methods that are followed by restaurants nowadays are pen and paper- based methods. In this method, firstly they will print a menu of the restaurant using paper that is paper- based menu card.

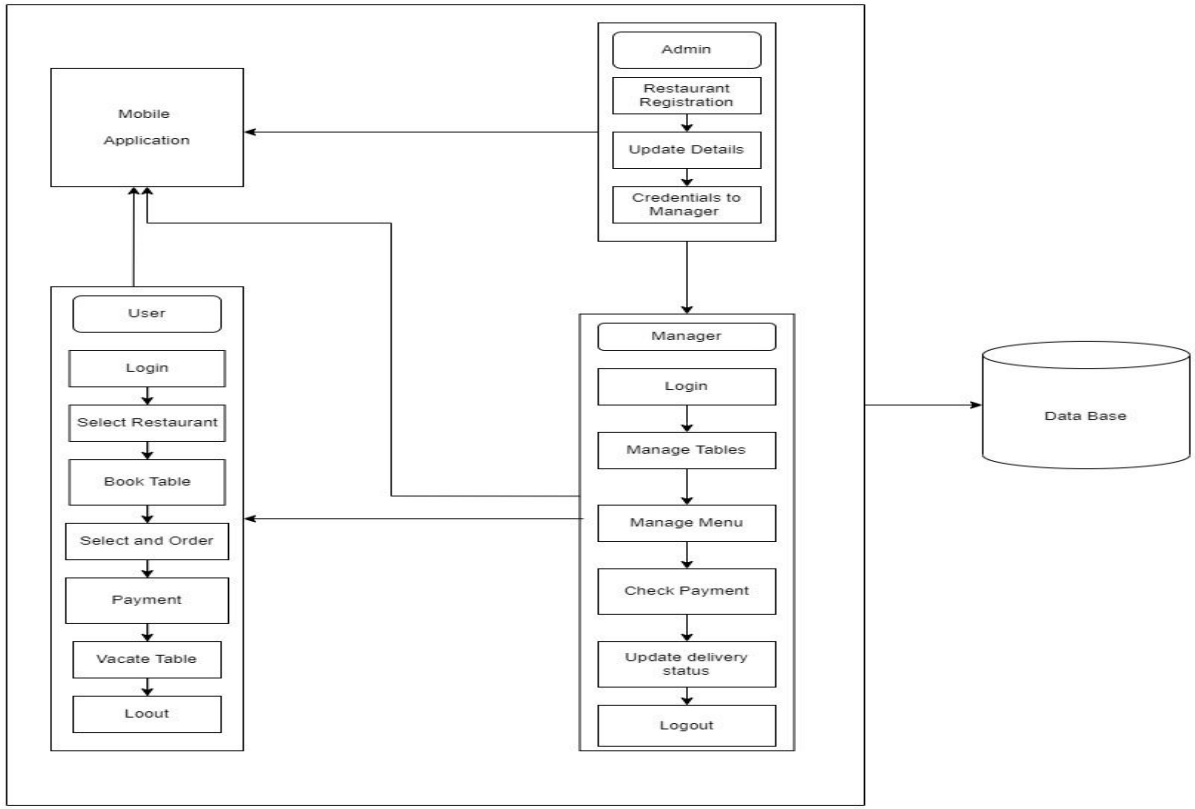
PROBLEM STATEMENT

Existing system results in a lot of inconvenience to both the customers and management so system is proposed that will help the management to increase the services and management and the customers cannot wait for waiters to take orders and it also reduces the time for both customers and restaurant staff and improves customer satisfaction. To solve those problems a smart restaurant system was implemented. Using this system customer satisfaction and restaurant productivity were increased. It saves time and energy for both customers and restaurant staff also. It also reduces pen and paper waste. It reduces the manual errors and waiters required in restaurants.

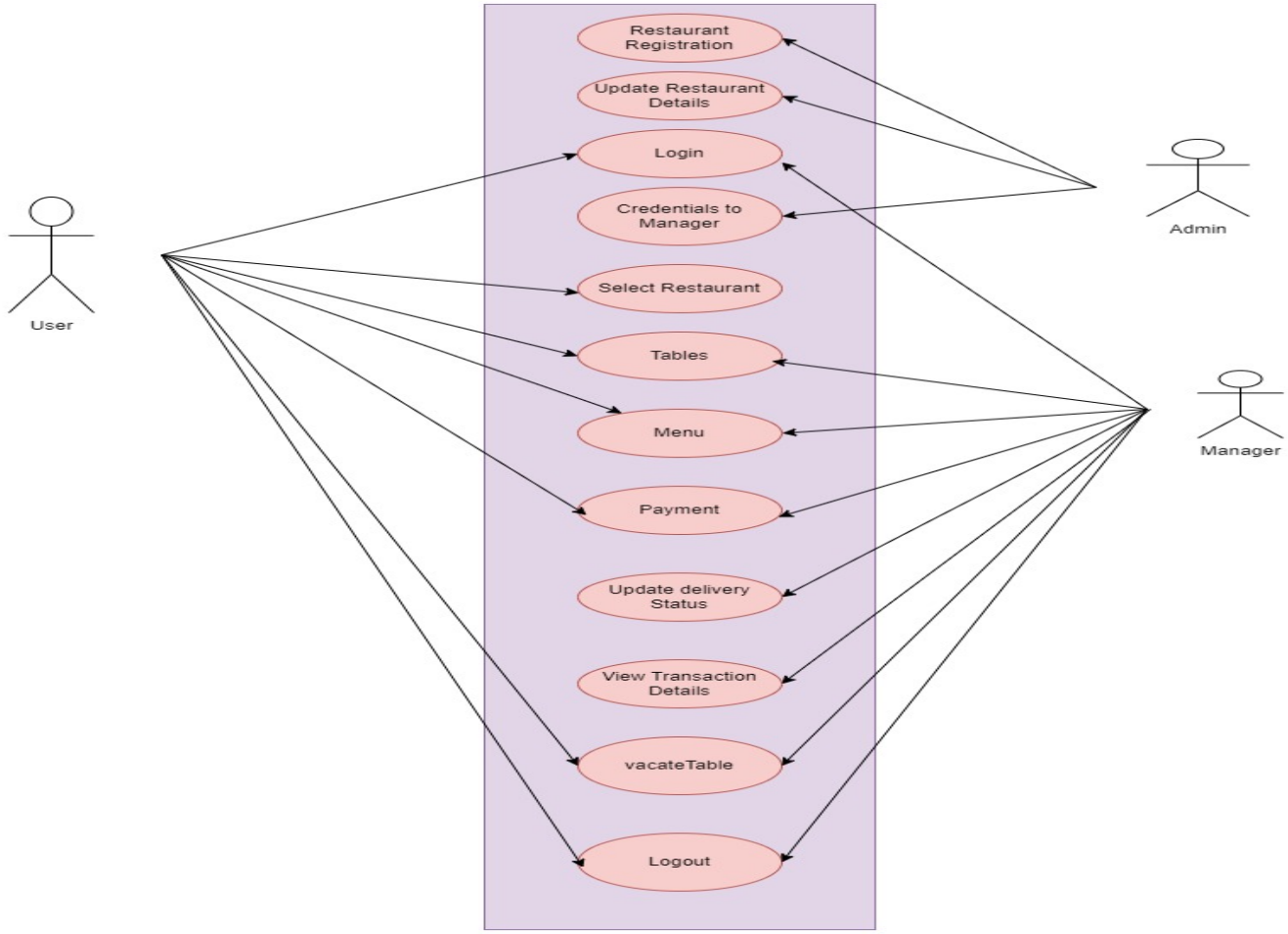
METHODOLOGY

- Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage.
- Once the work begins, teams cycle through a process of plan--ning, executing, and evaluating. Continuous collaboration is vital, both with team members and project stakeholders.
- The system can be categorized into three modules there are admin,manager,user

Architecture Diagram



Usecase Diagram



METHODOLOGY

- Admin module
- Manager module
- User module

USER

- Go to the website
- Login to the application
- Select location and restaurant
- Find the availability of tables for reservation
  - Choose table
  - Select menu
  - Select categories
  - Payment
  - Vacate table

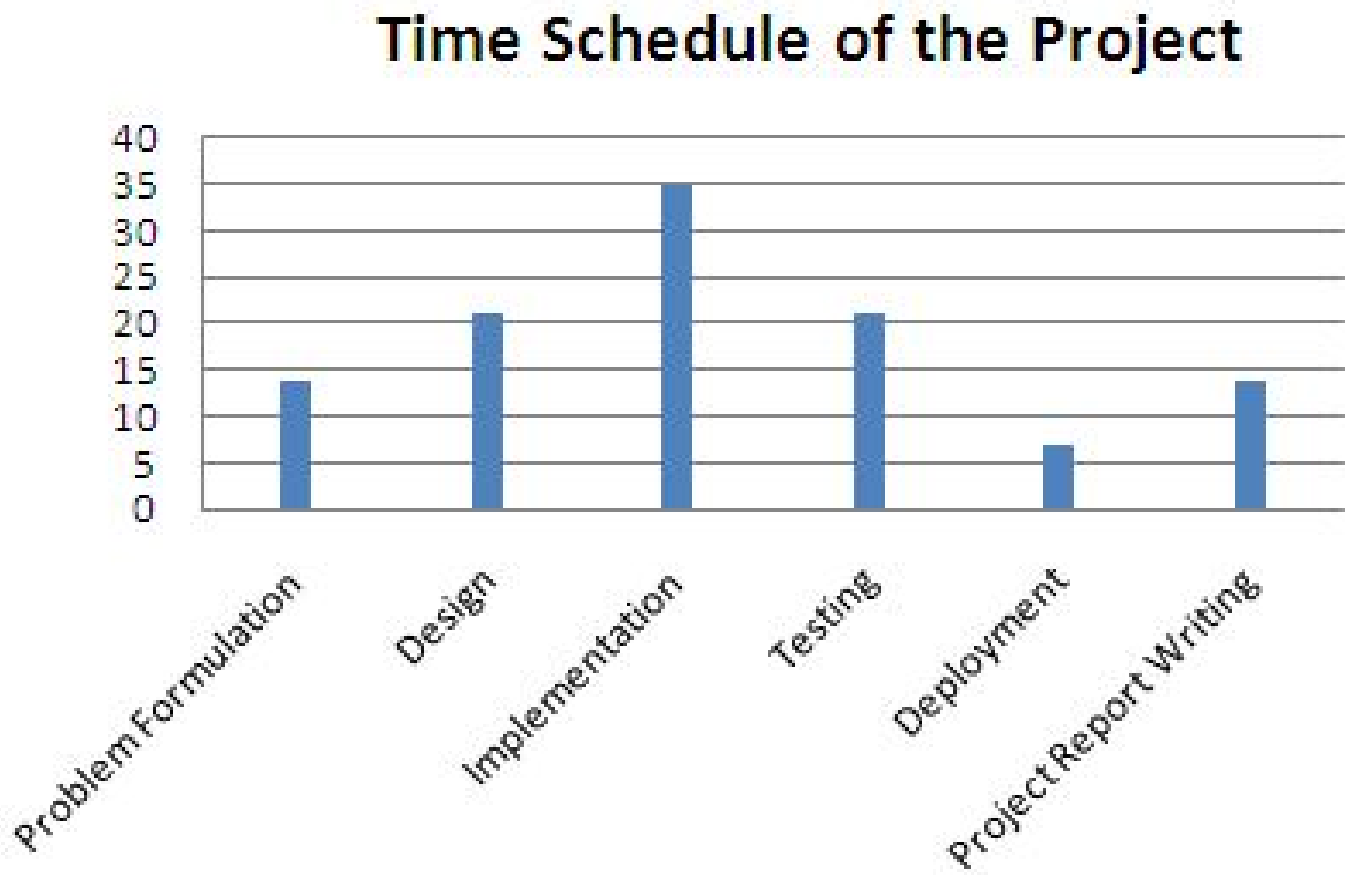
ADMIN

- Go to the website
- Login to the application
- Update the user details

MANAGER

- Register the restaurant in the website
- Sign in to the application
- Update the restaurant status and details

GANTCHART


Time Schedule of the Project
40
35
30
25
20
15
10
5
0
Problem Formulation
Design
Implementation
Testing
Deployment
Project Report Writing

LITERATURE SURVEY(PAPER-1)

Title,Author names	Foody-Smart Restaurant Management and Ordering System, Vindya Liyanage, Achini Ekanayake, Hiranthi premasiri, Samantha Thelijjigoda
Abstract	This app shows the real time map of the restaurant Current reservation status is indicated by the color change of the table.
Methodology	Mobile App, IOT sensor, cloud database, server 3D max, NLP Users can install this mobile app on their devices and register to the app

PAPER-1...

Algorithms /Languages	Mobile App, IOT sensor, cloud database, server 3D menu, NLP Users can install this mobile app on their devices and register to the app
Conclusion	Even though there are many online restaurant management websites like 'Yelp' reservation which can check availability of the restaurant through a website not an mobile application which can check availability of the tables easily and tracking their location and let them reserve tables easily.
Results	By using the relevant technologies the time wastage is reduced and the accuracy and confidentiality is maximized.

PAPER-2

Title,Author names	QR code based dining system, Syed Ramees,Sreerag M2,Urmila PIllai L V3,Anjaly A J4,Abitha Abbas5
Abstract	The method proposed in this paper is that accessing the QR code for the ordering of the food in the restaurant. With smart-phones, the customer can scan the QR code which is set on the table, and open the current menu to order the food.
Methodology	Cwos , rtf, admin/manager panel , kitchen panel, robot section

PAPER-2...

Algorithms /Languages	JavaScript, PHP, MySQL, and Android studio
Conclusion	The objectives of the project "QR code-based Smart Dining System" is to increase the customer's dining experience by fastening the existing restaurant services and to simplify the ordering and bill payment systems to minimize the workload of the restaurant and hotel owners.
Results	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.

PAPER-3

Title,Author names	Smart Restaurant System Using Android,Smart Restaurant System Using Android
Abstract	The digital menu will provide interactive user interface with which user will easily place his order by itself.
Methodology	Mobile App, 2D GUI Admin Application, user Application, Kitchen unit , Pay Bill application

PAPER-3...

Algorithms /Languages	Applications are usually developed in Java programming language using the android software development kit.
Conclusion	In future, the ordering system can be made to be speech recognize ordering system. The user can just say the thing they wanted and the computer will automatically order for them.
Results	This will remove the manual process of food ordering and thus reduces the number of restaurant staff saving cost of labor to a great extent.

TECHNOLOGIES

A programming language called Dart is used to create mobile applications for many operating systems, including iOS and Android. These are a few examples of how Dart is applied to the creation of mobile applications:

Framework: The well-liked mobile app development framework Flutter makes use of Dart as its main language. With a single codebase, Flutter enables developers to create native mobile apps for both the Android and iOS platforms. Flutter uses Dart to create UI elements, manage user input, and control app state.

Server-side development: Dart can be used to create server-side programmes that power mobile applications. For instance, you could use Dart to create a backend server that manages authentication, database access, and other services required by your mobile app.

FIREBASE: Firebase is a mobile and web application development platform developed by Google. It provides a real-time database, authentication, analytics, storage, and hosting services. Firebase helps developers to build high-quality apps quickly and easily, and it provides a range of tools and services to help them do so. Firebase is used by millions of developers around the world to create amazing apps.

HARDWARE AND SOFTWARE REQUIREMENTS

HARDWARE REQUIREMENTS:

- Processor – Above i3
- Hard Disk – 40 GB
- Ram – 16GB RAM

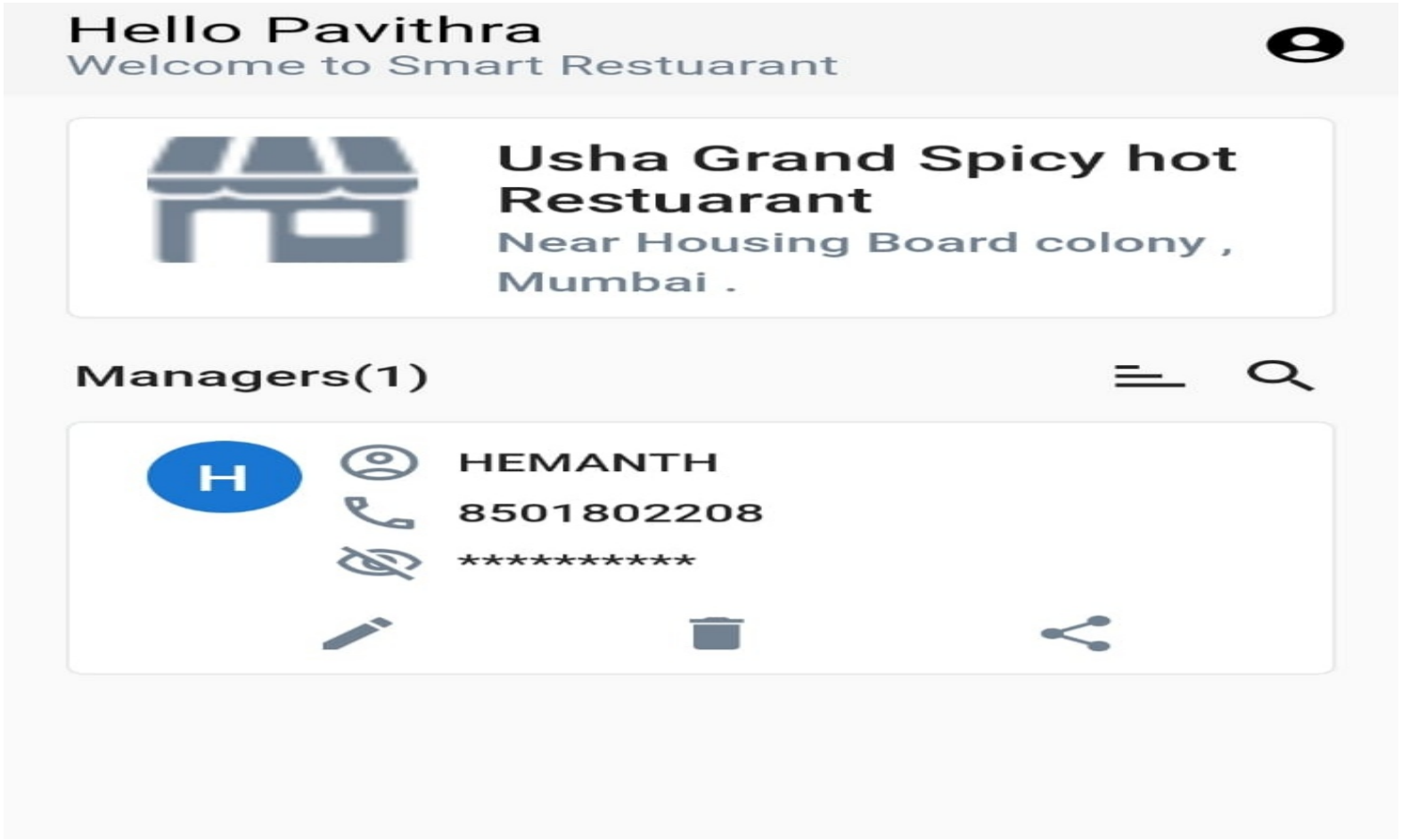
SOFTWARE REQUIREMENTS:

- Operating System : Windows 11
- Coding Language : Dart
- Back-end: Firebase
- Front-end; Flutter
- IDE : Visual studio editor, Android studio

EXPERIMENTAL RESULTS

ADMIN

MANAGER


Hello Pavithra
Welcome to Smart Restuarant
Usha Grand Spicy hot Restuarant
Near Housing Board colony , Mumbai .
Managers(1)
H
HEMANTH
8501802208
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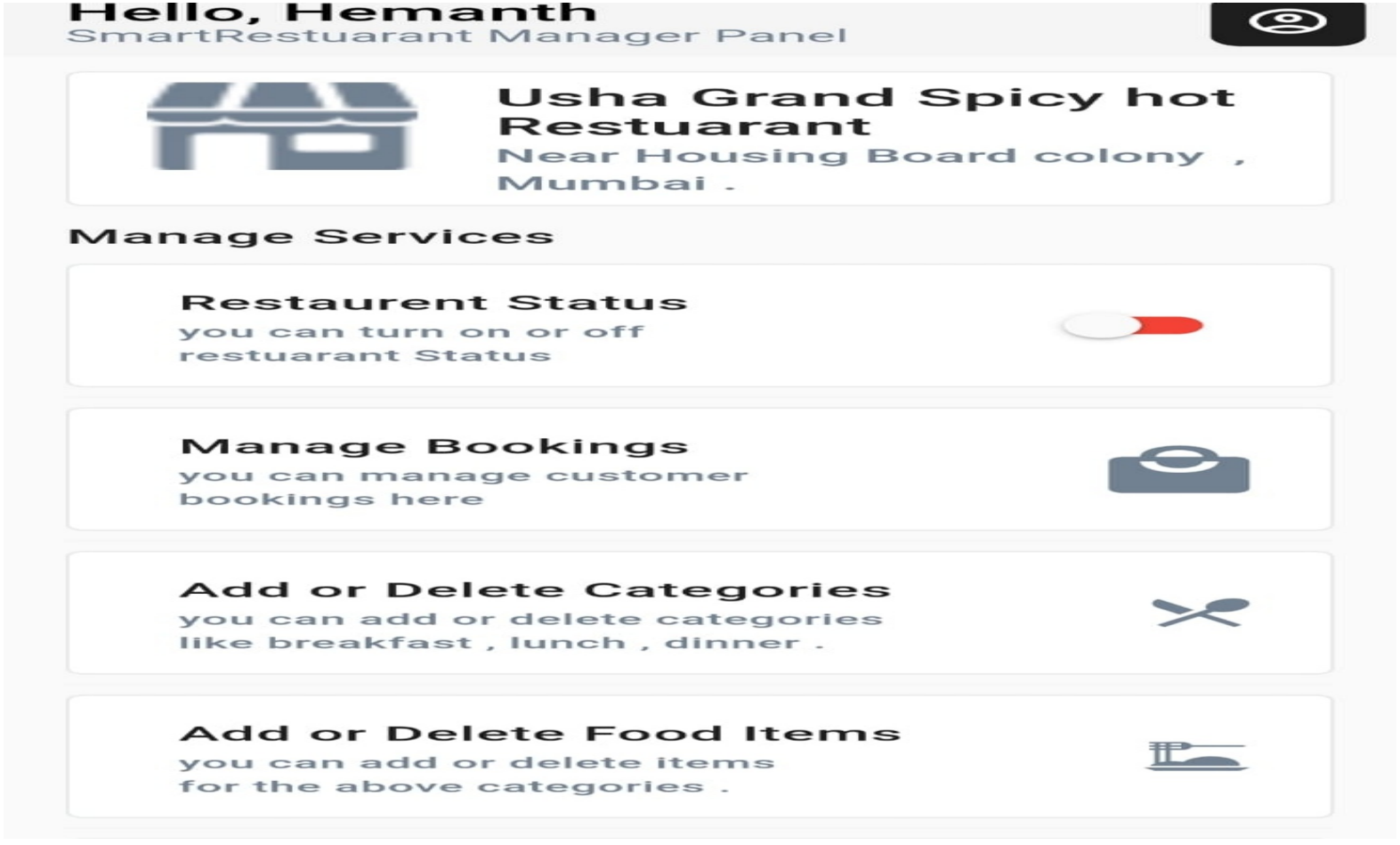
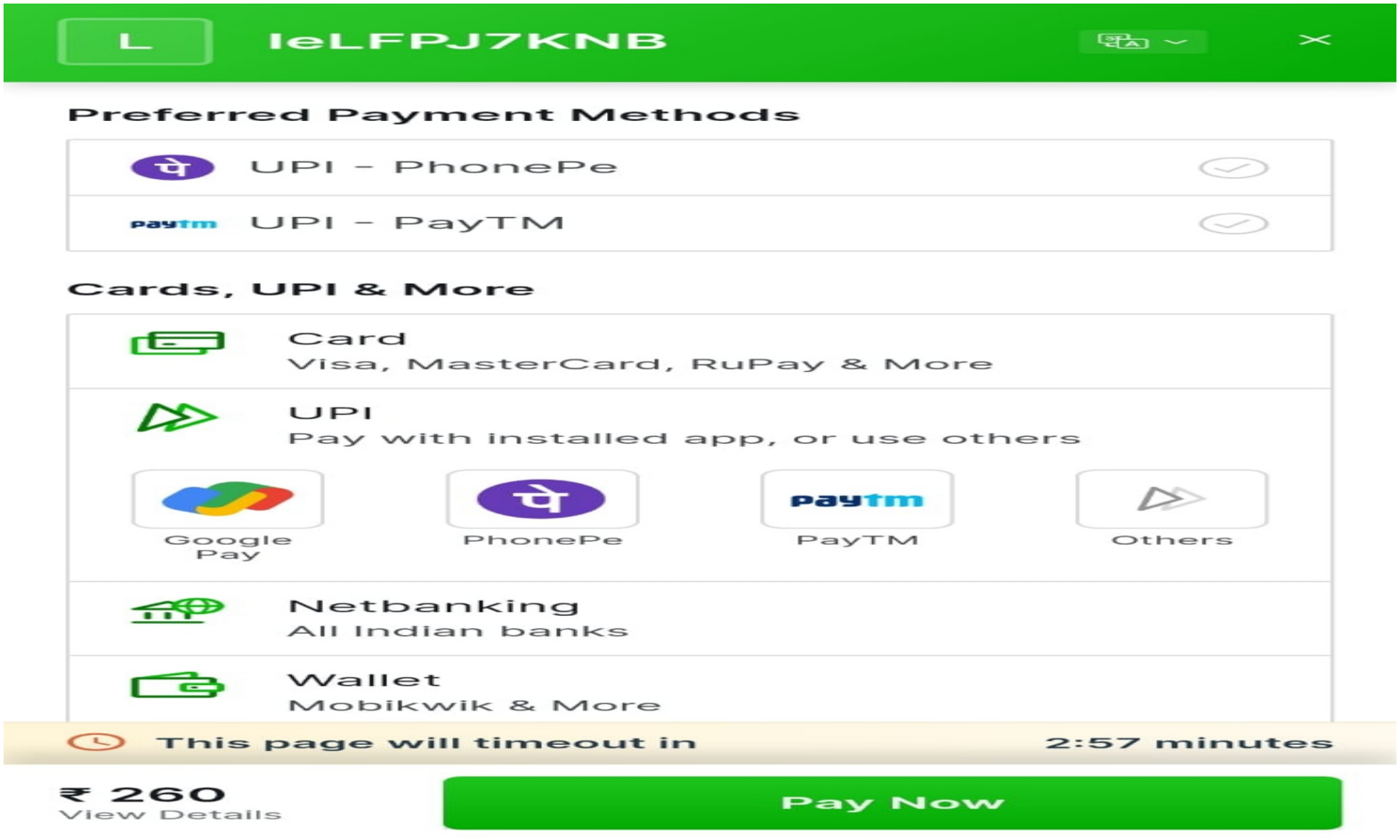

Hello, Hemanth
SmartRestuarant Manager Panel
Usha Grand Spicy hot Restuarant
Near Housing Board colony , Mumbai .
Manage Services
Restaurent Status
you can turn on or off restuarant Status
Manage Bookings
you can manage customer bookings here
Add or Delete Categories
you can add or delete categories like breakfast , lunch , dinner .
Add or Delete Food Items
you can add or delete items for the above categories .

SLOT BOOKING

FOOD ORDERING

PAYMENT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IeLFPJ7KNB
Preferred Payment Methods
UPI – PhonePe
UPI – PayTM
Cards, UPI & More
Card
Visa, MasterCard, RuPay & More
UPI
Pay with installed app, or use others
Google Pay
PhonePe
PayTM
Others
Netbanking
All Indian banks
Wallet
Mobikwik & More
This page will timeout in
2:57 minutes
₹ 260
View Details
Pay Now

CONTRIBUTION OF THE CANDIDATE

Project Associate (PA)	Problem Formulation	Design	Implementation	Testing	Deployment	Project Report Writing
PA1 19K61A1238	Yes	Yes	Yes	Yes	Yes	Yes
PA2 19K61A1210	Yes	Yes	Yes	Yes	Yes	Yes
PA3 19K61A1243	Yes	Yes	Yes	Yes	Yes	Yes
PA2 19K61A1211	Yes	Yes	Yes	Yes	Yes	Yes

COMPARISION WITH THE EXISTING SYSTEM

As the restaurant systems around the world are following the traditional restaurant system that contains paper-based menu cards and uses pen and paper to take the orders from customers, and the orders are written are taken to the kitchen for food preparation. Online ordering systems allow customers to place orders and make payments online. These systems can help reduce wait times, improve the customer experience, and increase revenue. They can also be integrated with POS systems to streamline the ordering process.

CONCLUSION

The goal of our project Smart Restaurant System is to enhance the eating experience for customers while automating typical restaurant procedures including table reservations, menu selection, ordering, and paying. The manager may also oversee the entire process through a control panel. It will lessen the workload in restaurants, as well as the requirement for servers and paper waste. The user can locate the restaurant using this system, reserve a table, view the menu items, choose the menu of interest, and place an order using this system solely. He has the option of paying the bill offline or online. Using the manager panel, the manager may oversee the entire restaurant. This technology will shorten wait times for both customers and the manager while also reducing manual errors in the restaurant. Customer satisfaction is improved by this system.

SCOPE FOR FUTURE WORK

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 declined in future.Automatic serving will also be implemented.In order to lessen the workload for managers, we should create an app for chefs.

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THANK YOU