



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

ONLINE MENU BOOKING IN HOTEL

¹Sarika Kadlag, ²Aishwarya Sonawane, and ³Prof. G.G. Raut
¹MCA STUDENT, ²MCA STUDENT, ³ASSISTANT PROFESSOR
Department of MCA(Engg)
Gokhale Education Society's R. H. Sapat College of Engineering
T. A. Kulkarni Vidyanagar, College Road, Nashik, MH India- 422005

Abstract

The project is based on a Web Application that can be used by customer for menu booking of their choice in the hotel as per their convenience. In manual system, everything depends upon waiter & booking diary and there is no automated system for keeping the records. The objective is to build a system for menu booking to assist workers with solving basic issues with their manual system. Today's generation encourages high tech services especially over the Internet. Hence the project is developed proficiently to help hotel owners automate their business operations. The menu will be available in the customer's seating area under the suggested system. Menu will be available in display of the screen/Tablet. The customers do not have to wait for the servants to take their order. For customers, this is a highly convenient and easy technique. Wireless connectivity will be used to send the placed order to the chef's display. This system gives customers a personalized service experience where they can choose what they want, when they want it from dining to ordering to payment and feedback. This system increases quality and speed of service. This system also increases attraction of place for many customers.

Keywords – Web Application, menu booking, high tech services, automated system, wireless connectivity.

1. Introduction

The project's goal is to create an automated web-based system for hotel food ordering. Technology has completely changed and raised people's standards of living. It has completely transformed the way that everyday tasks are completed in the past, making life more efficient and easier. However, it is less noticeable in the food industry, particularly in the sections of hotels, restaurants, cafes, and the like where food is ordered and served. The hotel still uses the traditional manual procedure of having waiters wait to accept orders on paper. Using a pen and paper method, the waiter notes the orders based on the preferences of the customers, gives them to the kitchen cooks, maintains a record of them, and then prepares the bill. Although this procedure is routine and straightforward, human mistake could occur. The customer may become dissatisfied and the hotel may suffer costs if the waiter makes a mistake in recording the customer's requests or serves meals and orders beyond the deadline. An online menu booking system is suggested as a solution to the shortcomings of the manual procedure. This app is a handy way to book menu items for self-service. The admin (hotel management) can also use this application to help with dynamic menu and price editing. Along with the orders, it also provides data analytics so that the administrator may view them clearly from

anywhere, at any time. The intention is to save clients' time. This work aims to give fine dining experience to the customer. This system provides efficiency and accuracy with cost effectiveness for hotels.

2. Existing System

With the current system, pen and paper-based procedures must be completed manually by staff or supervisors, resulting in paper and ink waste. The current menus are pen and paper based, which, again, results in paper waste whenever an update-even a minor one--is needed. We have to deal with the waiter for every little question or doubt, which results in more labour than is necessary and increases their pay. To solve all of these issues, we thus determined that it was necessary to implement some improvements in the current system.

3. Literature Review

B. Naveen Kumar, B. Sai Varun (2020)"Table Booking and Restaurant Management System Using Android Application(opss)". In this paper, an android application project allows the users to make a reservation of a table at a specific restaurant. Along with flexibility of date and time as Well as ordering the food instantly following by reservation of table. Customer time is saved as it also includes the option of take away by using their mobile phone or laptops from anywhere with the help of internet connectivity. In this system, chef doesn't have the access. If the customer cancels the order and as chef doesn't have the access then the food will get wasted.

Shreya Umap, Shiwani Surode, Prajakta Kshirsagar, Manjusha Binekar (2018)"Smart Menu Ordering System in Restaurant". In this article, a Matrix keypad-based ordering system for restaurants is proposed, this system provides an efficient device that helps to all people, especially dumb/illiterate to communicate easily and also it is a user-friendly device. It will also reduce manual service given by waiters and serving staff, and also eliminating the human mistakes. But it is difficult to ensure that the system is maintained and updated regularly.

On paper "Implementation of Smart Restaurant with e-menu Card" by Piyush C. Mankar. In this an integration of touch technology in restaurants based on android technology is proposed. It is a wireless food ordering system using android devices. It is easy to install because of wireless interface. No need of a person to take order from the table. But it requires trained personnel to use the system.

Sowndarya H K, Abhinaya R, Prathiba B S (2017) "Survey on intelligent food menu ordering system". This paper presents the limitations of traditional paper-based systems, including mistakes in orders, delays in food preparation, reliance on waiters, and difficulties in managing tables and menus. It also presents a review of related papers, summarizing various proposed systems and their contributions to the field. This review helps identify existing technologies and their limitations. It doesn't clearly mention how the proposed system was developed, tested, or evaluated.

Niraj L. Ghanawat, Kajol B. Kinage, Anuja A. Harshe, and Kunal P. gundle "digital smart system for restaurants using wireless technology". This study suggests a touch-based digital ordering system that uses Bluetooth, GSM, and an Android device. Routine task automation in a wireless context is supported by Android. This results in a cost-effective and user-friendly solution for eateries as well as customers. The restaurant app and the customer app are the two primary components of the Touch Based Digital Smart system. The purpose of the Android customer app is to identify consumers based on the table number on which the app is installed. The restaurant app comes in second. It has five users – reception, manager, cashier, chef and parker. An automated touch based digital Smart system for the restaurant is proposed to overcome the traditional method of pen and paper. This system changes the manual process of food ordering and thus reduce manpower and saves cost of labour. But it didn't mention the use of Dijkstra's algorithm and K-means

clustering without explaining how they are applied in the context of the proposed system. It may be difficult to ensure that the system is maintained and updated regularly.

4. Methodology

1. Analysis of Needs:

1.1 Hotel Manager Conversation:

- Conduct meetings with new customers, the kitchen staff, and hotel management.
- List particular needs in writing.

1.2 Functional objectives such as:

Menu Display: Price-listed menu items are listed.

- Booking System: Able to book items. Registration, login, and profile maintenance are all part of user authentication.
- Admin Panel: Used to control user accounts and menu items.

1.3 Non-functional Objectives:

- Performance: Manages heavy traffic and loads quickly.
- Security: It will Protect transactions and user data.
- Scalability: The capacity to expand as the user base increases.
- Usability: Interfaces with quick and simple use.

2. Choosing the technological stack:

2.1 Frontend:

For web-based frontend - JavaScript, CSS, and HTML.

- Spring Boot: For server-side rendering.

2.2 Backend:

Java is the main language used for programming.

- Spring Boot: Used to create the backend program.

2.3 Database:

Relational database MySQL is used to store data.

3. Development:

3.1 Development of the Frontend:

Construct dynamic applications using HTML, CSS, and JavaScript.

3.2 Application Development for Backend:

- Spring Boot: Construct the project's organizational framework.

3.3 Setting Up a Database:

- Schema Setup: Establish relationships, tables, and indexes.

5. Applications

1. Simple Booking Procedure.
2. Easy-to-use interface.
3. Customer convenience.
4. Editing and Personalization Options.
5. Gathering Feedback.
6. Dining without contact.

6. Advantages

1. A responsive and easy to use Web based application with an interactive user interface in hotel.
2. This helps to reduce the paper usage.
3. The system will help to reduce labour cost involved.
4. This application saves time of customer and hotel staff.
5. Because it is a machine, the system will be less likely to make mistakes.
6. Provide guests with a convenient way to browse through the hotel's menu options.
7. Gather feedback from guests about their dining experiences through the online booking system to identify areas for improvement and enhance customer satisfaction.

7. System Requirements

Hardware Requirements:

Operating System - Windows10

Processor - Intel core i5

Installed RAM - 4 GB

Software Requirements:

Language - JAVA SE

IDE - Net beans 12.1

Build Tool - APACHE Tomcat, Open NLP

Database - MYSQL, JDBC

8. Details Of Architecture

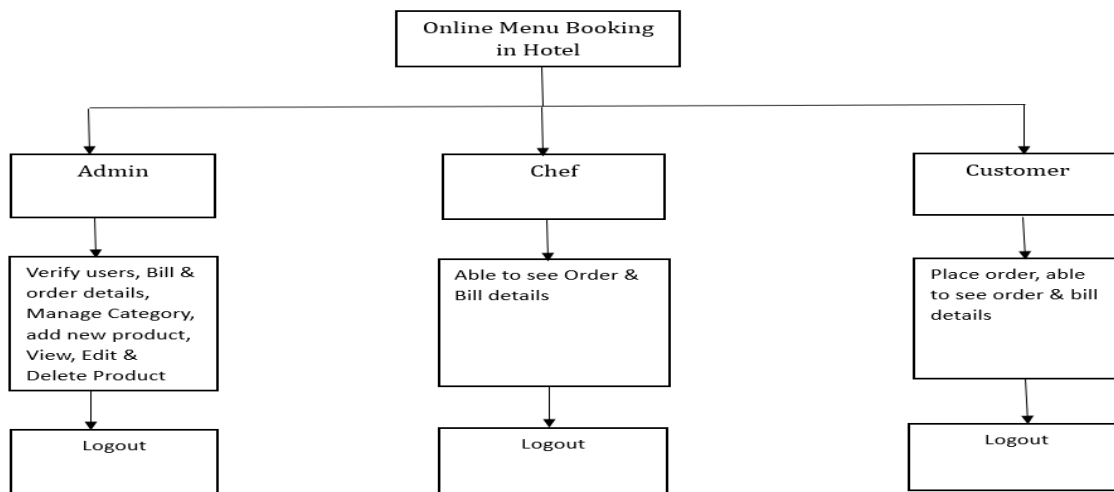


Fig 8.1 System Architecture

Fig 1.1 shows the system architecture of our proposed system. There are three components in this web application: An admin, The chef, and a customer.

Admin

The hotel manager is in charge of the admin module. The user can be confirmed by the admin. The administrator can view customer order and billing information. The administrator has the ability to add new products to the menu, manage categories, and view, modify, and remove products from the system.

Chef

The hotel's chef will use the Chef module. The customer's order and bill details will be visible to the chef.

Customer

This module will be used by the customer to place orders based on their preferences. The customer will also be able to view the order and billing information for the order they placed.

9. Results and Discussion

1. Welcome Page:

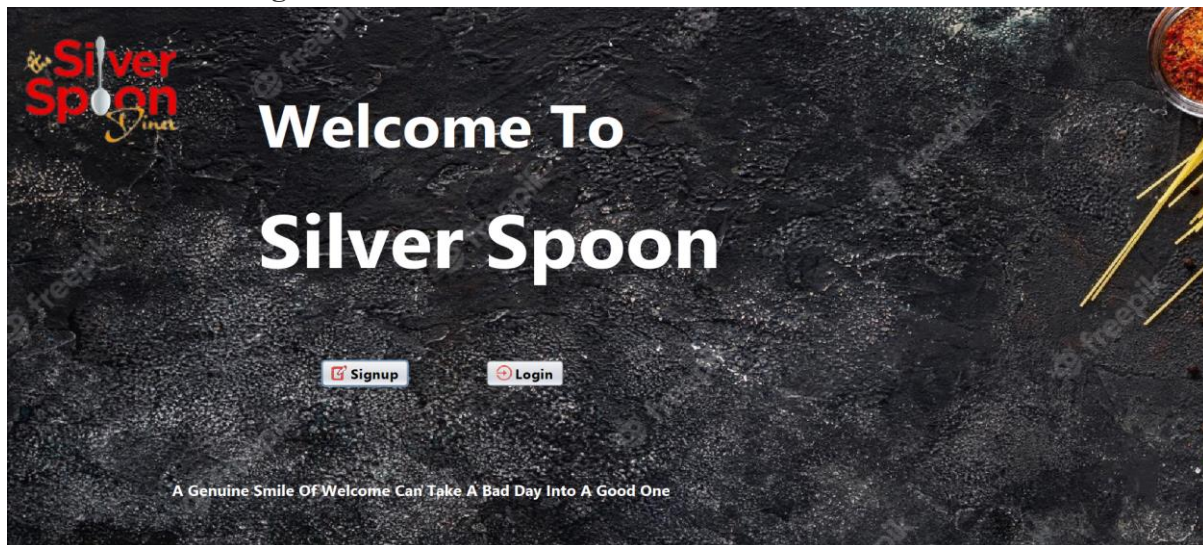


Fig 9.1: This is the welcome page. When the new customer visits the hotel, the customer needs to signup first and then login into the system. Customer will be able to see the above GUI.

2. Signup Page:

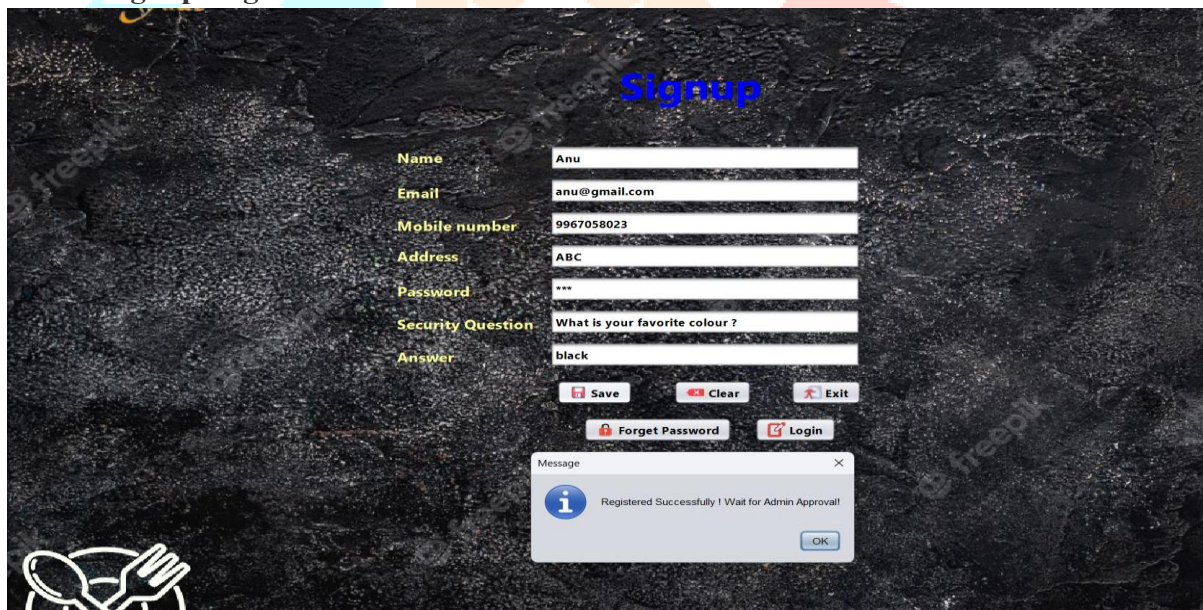


Fig 9.2: This is the signup page where customer has to insert the personal information. And then click on save button and one popup box will get displayed on screen informing “Registered Successfully”. He/she could see above GUI.

3. Login Page:

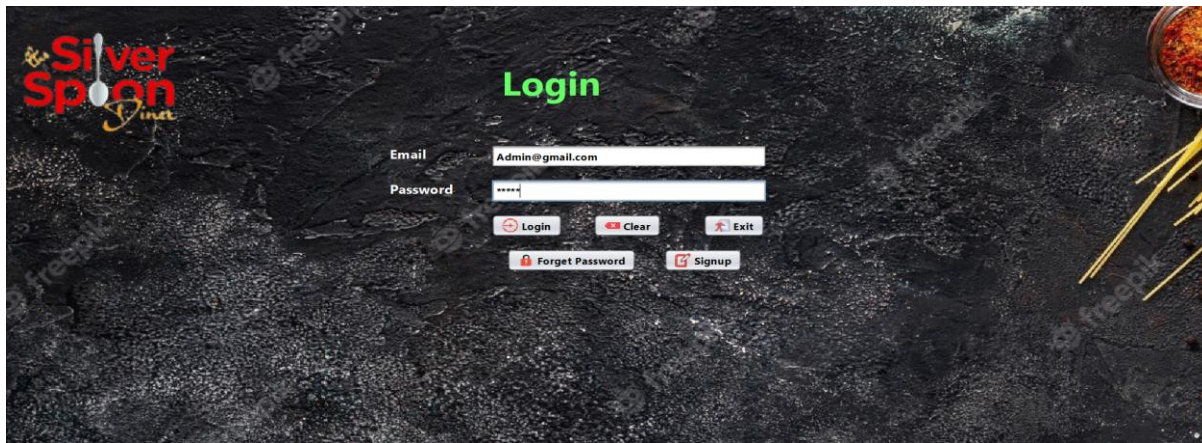


Fig 9.3: This is the login page where customer has to insert email id and password for login into system. And then click on login button. He/she could see above GUI.

4. Admin Page:



Fig 9.4: This is the admin page. Admin can verify users, manage category, add new product, view, edit and delete products. Admin could see above GUI.

5. Kitchen Page:

ID	NAME	MOBILE NUMBER	EMAIL	DATE	TOTAL AMOUNT	CREATEDBY
3	vihaan	9970575925	vihaan@gmail.com	28-05-2024	300	vihaan@gmail.com
4	vihaan	9970575925	vihaan@gmail.com	28-05-2024	300	vihaan@gmail.com
5	sarika	1234567890	sarika@gmail.com	28-05-2024	360	sarika@gmail.com
6	vihaan	1234567890	vihaan@gmail.com	28-05-2024	450	Vihaan@gmail.com

Click On Row To Open Bill

Fig 9.5: This is the kitchen page where chef will login.

6. Customer menu booking page:

NAME	PRICE	QUANTITY	TOTAL
Paneer Masala	180	1	180
Plain Roti	10	1	10
Plain Rice	50	1	50
Basundi	100	1	100
Sweet Lassi	50	1	50

Grand Total RS 390

Generate Bill & Print

Fig 9.6: This is menu booking page for customer. Here, customer can search menu by category, then select the quantity and then place the order. The above GUI is for menu booking.

7. Manage Category Page:

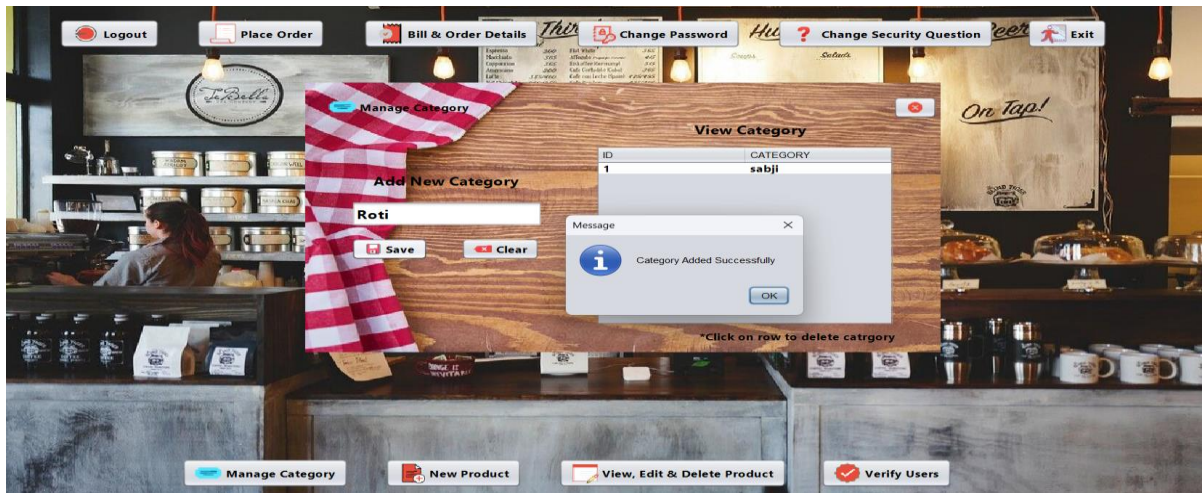


Fig 9.7: This is managing category page for admin. Here, admin will able to add new category in the system. The above GUI is for manage category.

8. New Product Added Page:

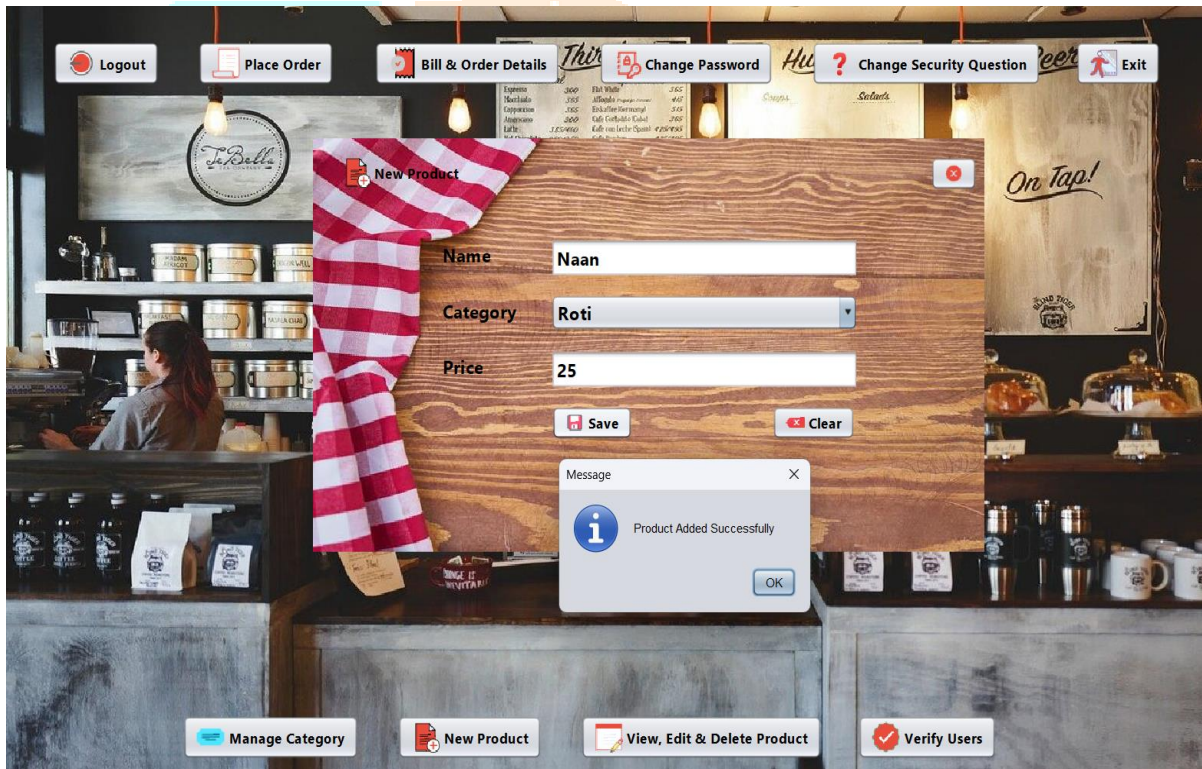


Fig 9.8: This is adding new product page for admin. Here, admin will able to add new product in the system. The above GUI is for adding new products.

9. View, Edit & Delete Product Page:

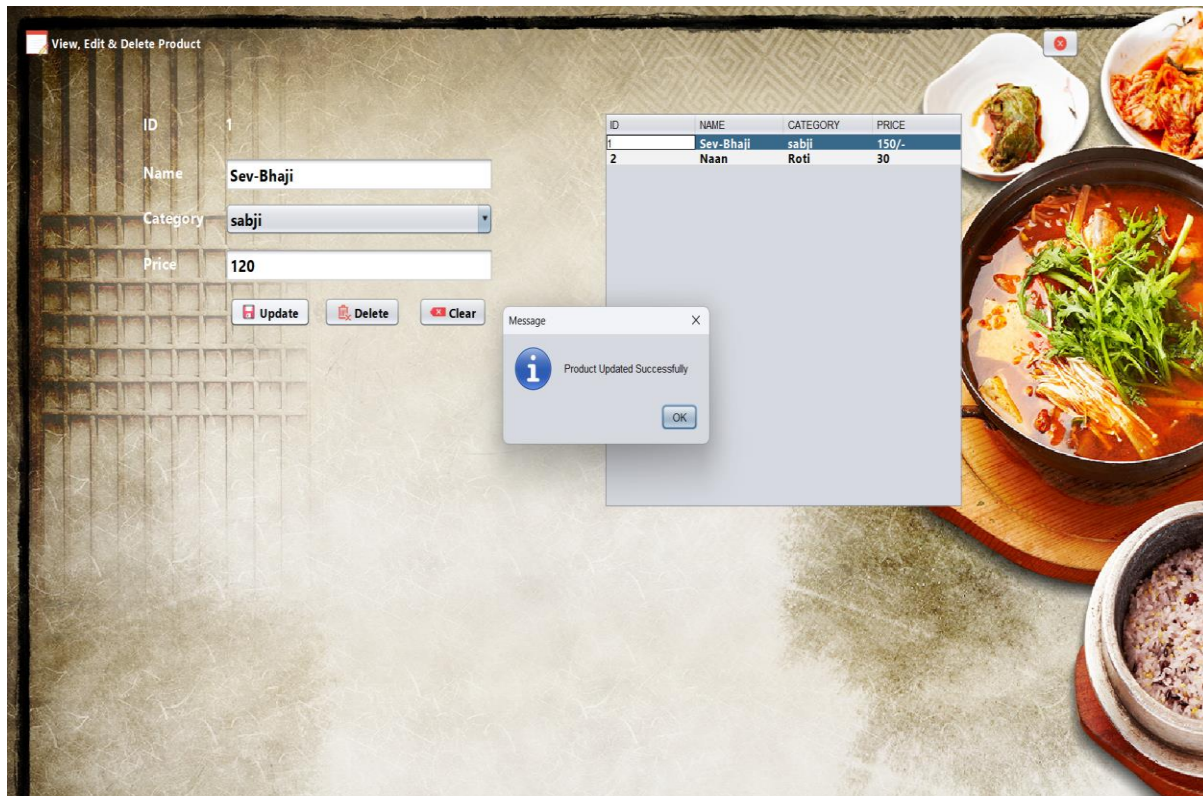


Fig 9.9: This page will be used by admin. Here, admin will be able to view, edit and delete product from the system. The above GUI is for view, edit & delete product.

10. Bill & Order Page:

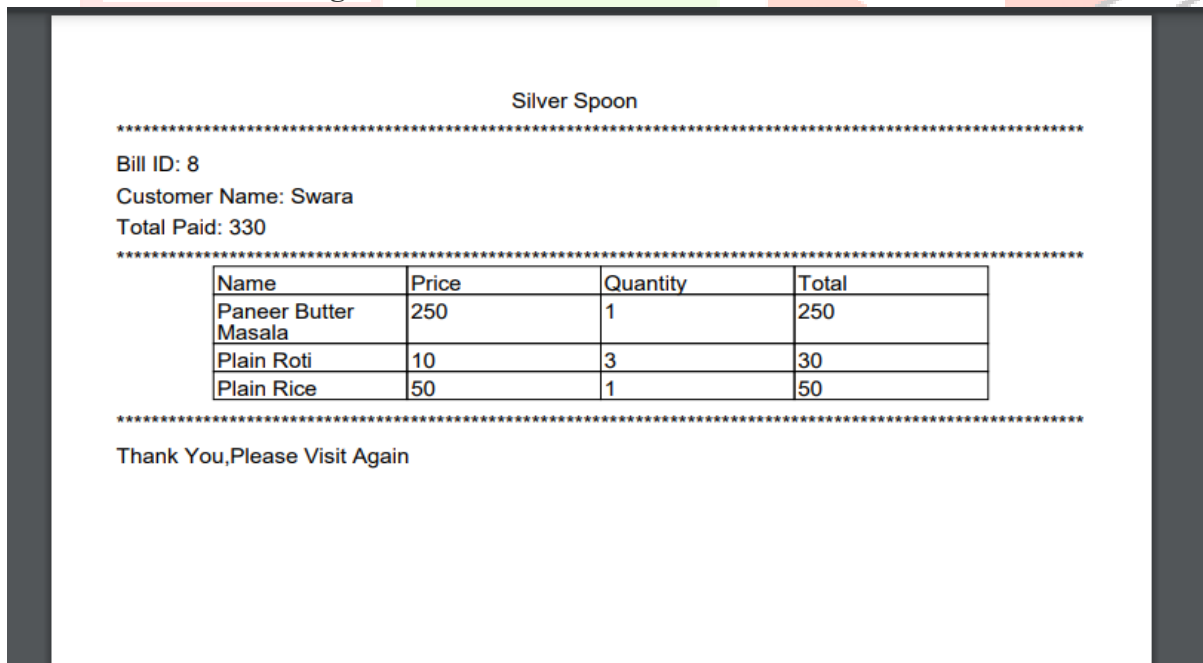


Fig 9.10: This is the bill page, it displays the hotel name, bill id, customer name, total amount and order details. The above GUI is Bill and Order details.

11. Exit Page:

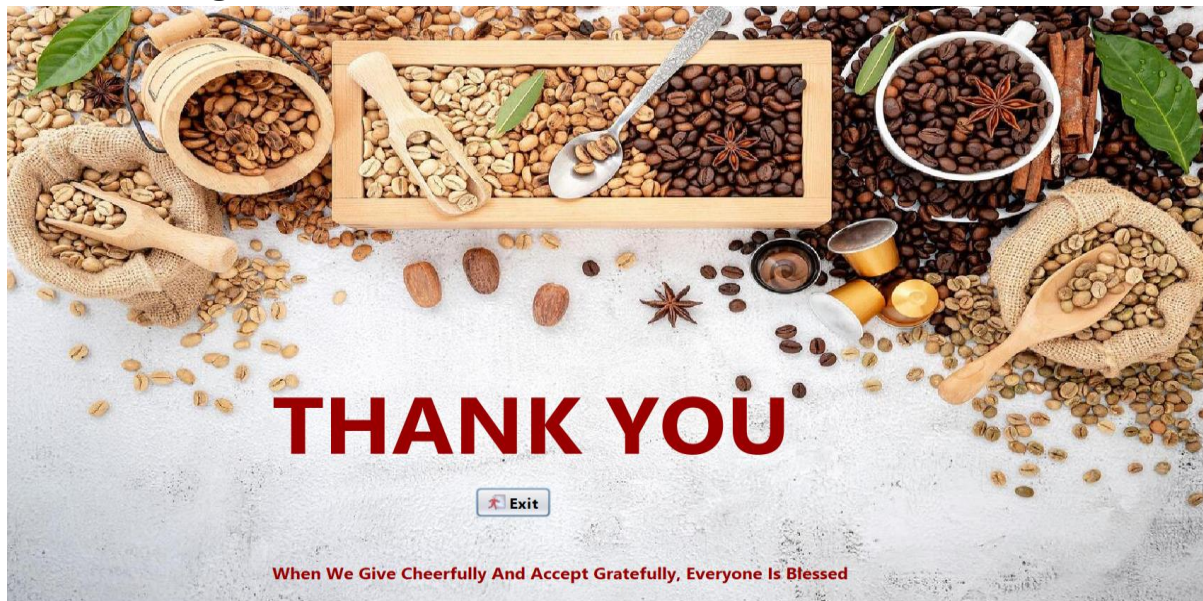


Fig 9.11: This is the exit page of the system.

10. Future Scope

- Secured payment system with various payment methods.
- Presenting graphical floor plan for table management and reservation.
- Adding support for food order delivery tracking.
- Advanced inventory control with material storage and expiry information.
- Managing customer loyalty membership and discount voucher.
- Converting the system to progressive web application.

11. Conclusion

An online menu booking system for the hotel is proposed to overcome the traditional method of pen and paper. This system changes the manual process of food ordering and thus reduce manpower and saves cost of labour. It requires only one time investment in installing the devices in the hotel. It eliminates human errors due to automation. It saves time. This system provides customers a user-friendly, convenient and attractive user interface. Thus, the proposed system is advancement in the field of food industry by automatically managing the system using wireless technology. This automated system saves time, reduce human errors, reduce manpower and gives customer satisfaction, thus beneficial for both hotel and customer. This system provides efficiency and accuracy with cost effectiveness for hotel.

12. References

1. B. Naveen Kumar, B. Sai Varun, "Table Booking and Restaurant Management System using Android Application(opss)", International Journal of Engineering Applied Sciences and Technology, Vol. 4, Issue 12, ISSN No. 2455-2143, April 2020.
2. Kunal P. Gundle, Anuja A. Harshe, Kajol B. Kinage, Niraj L. Ghanawat, "Digital Smart System for Restaurants Using Wireless Technology", International Research Journal of Engineering and Technology (IRJET), Volume: 03 Issue: 12, Dec-2016.
3. Ricachelle U. Buenaventura, Aris E. Ignacio, Julian Antonio S. Laspoña, Mobile Ordering Application for a Generic Fast-Food Restaurant, International Journal of multidisciplinary: applied business and education research, 2021.
4. Pritish Patil, Aakash Patil, Nikhil Patil, Rohit Mungase, S.S. Shinde, Food Kiosk: Smart Food Ordering System for Restaurants, IJARIE-ISSN(O)-2395-4396, 2021.
5. Shreya Umap, Shiwani Surode, Prajakta Kshirsagar, Manjusha Binekar, "Smart Menu Ordering System in Restaurant", IJSRST, Volume 4, Issue 7,2018.
6. A. S. Ingle, A. N. Ade, P. M. Chandane, D. B. Bhagat, V. R. Dolase, "IoT Based Menu Ordering System", International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 10 Issue XII, Dec 2022.
7. Sowndarya h k, Sbhinarya r, Prathiba b s, "Survey on Intelligent Food Menu Ordering System", International Research Journal of Engineering and Technology (IRJET), Volume: 04 Issue: 04, Apr-2017.