Project Report On

SpiceZ: A Retailer Management and Billing System

(Session: 2022 - 2023)

"A dissertation submitted in partial fulfillment of the requirements of 8th Semester 2023 PROJ-CS881 examination in Information Technology of the Maulana Abul Kalam Azad University of Technology"

Submitted by

PROLAY KAYAL (10200220049)

MANAS PRATIM DAS (10200220050)

AVISHAK BAGCHI (10200220045)

ABHIJIT PATRA (10200220054)

Supervised by

ANUSUA MAZUMDER
(Assistant Professor)
Dept. of Information Technology

Department of Information Technology
Kalyani Government Engineering College

(Affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal)

Kalyani - 741235, Nadia, WB

Phone: 25826680 (PBX)
e-mail: contact@kgec.edu.in
Fax : 25821309
কল্যাণী - ৭৪১ ২৩৫
নদীয়া, পশ্চিমবঙ্গ

Kalyani 741 235
Nadia, West Bengal,India
পত্রাঙ্ক /Ref. No.:
তারিখ / Date :

কল্যাণী গভঃ ইঞ্জিনিয়ারিং কলেজ
Kalyani Government Engineering College
(Govt. of West Bengal)

Certificate of Approval

This is to certify that this report of B. Tech 8th Sem, 2022 project, entitled **"*SpiceZ: A* Retailer Management And Billing System"** is a record of bonafide work, carried out by **Prolay Kayal, Manas Pratim Das, Avishak Bagchi, Abhijit Patra** under my supervision and guidance.

In my opinion, the report in its present form is in partial fulfillment of all the requirements, as specified by the ***Kalyani Government Engineering College*** and as per regulations of the ***Maulana Abul Kalam Azad University of Technology***. In fact, it has attained the standard necessary for submission. To the best of my knowledge, the results embodied in this report are original in nature and worthy of incorporation in the present version of the report for the PROJ-CS881 8th Sem B. Tech program in Information Technology in the year 2023.

……
Head Department of Information Technology
Kalyani Government Engineering College

……..
Supervisor
Department of Information Technology
Kalyani Government Engineering College

……
Project Coordinator
Department of Information Technology
Kalyani Government Engineering College

……
Examiner

ACKNOWLEDGEMENTS

I prepared this project report after the partial completion of our project **"RETAILER MANAGEMENT AND BILLING SYSTEM"**.

I am very grateful to **Assistant Professor ANUSUA MAZUMDER**, our project guide (Department of Information Technology, Kalyani Govt. Engineering College) who helped us to undertake the project by providing continuous support and assistance.

I would like to express our heartiest gratitude to **Assistant Prof. Md. Iqbal Quraishi ,** (B. Tech Project Coordinator of the Department of Information Technology, Kalyani Govt. Engineering College) and **Mr. Partha Sarati Banerjee, H. O. D of the Department of Information Technology**, Kalyani Govt. Engineering College, who allowed us to undertake this project.

My special thanks to all the faculty members of Kalyani Govt. Engineering College & my group members, who rendered their help during the period of our study and project work.

Place: Kalyani
DATE:

PROLAY KAYAL
B.Tech (IT)
Roll No : 10200220049

MANAS PRATIM DAS
B.Tech (IT)
Roll No : 10200220050

AVISAK BAGCHI
B.Tech (IT)
Roll No : 10200220045

ABHIJIT PATRA
B.Tech (IT)
Roll No : 10200220054

CONTENTS

FIGURE INDEX

ABSTRACT

The retail management billing system is a comprehensive software solution designed to streamline and automate the billing process in retail establishments. It serves as a central hub for managing sales transactions, generating invoices, and tracking payments, thereby enhancing efficiency, accuracy, and customer satisfaction. This system integrates seamlessly with various point-of-sale (POS) devices and inventory management systems to provide a robust and unified platform for retail businesses of all sizes. The retail management billing system offers a range of features and functionalities to facilitate smooth operations within a retail environment. It enables sales staff to quickly and accurately generate itemized invoices, apply discounts, and process multiple payment methods, including cash, credit cards, and digital wallets. Additionally, the system provides real-time inventory synchronization, ensuring accurate stock updates and preventing overselling. The system's reporting and analytics capabilities enable managers and business owners to gain valuable insights into sales trends, revenue performance, and customer behavior. It generates comprehensive reports on sales volumes, top-selling items, and customer preferences, allowing retailers to make informed decisions, optimize stock levels, and plan marketing strategies effectively. Security is a top priority in the retail management billing system, with robust measures in place to protect sensitive customer data and prevent unauthorized access. The system adheres to industry-standard encryption protocols and ensures compliance with data protection regulations, safeguarding both the retailer and the customer. Overall, the retail management billing system offers a reliable and efficient solution for retail businesses to manage their billing processes effectively. By automating tasks, reducing manual errors, and providing valuable insights, this system empowers retailers to optimize their operations, enhance customer experiences, and drive business growth in a competitive marketplace.

CHAPTER 1

INTRODUCTION

E-billing is the delivery of electronic bills to end consumers (B2C) and providing a payment option for them and it can simply be explained as a technology that enables the replacement of paper with electronic documents delivered through email or a website. Telecommunication Billing is a process of collecting credit usage, aggregating it, applying required charges, and finally generating invoices for the customers. The Telecom Billing process also includes receiving and recording payments from customers. But this billing system in telecommunication is a very sensitive part and it is faced with a lot of challenges like overcharging which makes customers/ users complain. This problem may arise from the rating, that is the rate given to each call line, and the time by inaccuracy of the billing system Most of the billing systems have poor customer service thereby not giving room for customer complaints and attention to their complaints. The retail industry is a dynamic and fast-paced sector where efficient management of billing processes is crucial for the smooth functioning of businesses. Manual billing methods are time-consuming, prone to errors, and lack the necessary features to meet the growing demands of modern retail. To address these challenges, the introduction of a retail management billing system has become essential.

A retail management billing system is a software solution designed specifically for the retail industry to streamline and automate the billing process. It provides a comprehensive set of tools and features that enable retailers to efficiently manage sales transactions, generate invoices, and track payments. This system serves as a central hub, integrating seamlessly with other retail management systems, such as point-of-sale (POS) devices and inventory management systems, to create a cohesive and efficient retail ecosystem. The primary objective of a retail management billing system is to enhance operational efficiency and accuracy in billing operations. By automating tasks that were previously done manually, such as calculating prices, applying discounts, and generating invoices, the system significantly reduces the time and effort required to complete transactions. This not only improves the productivity of sales staff but also minimizes the risk of errors and discrepancies in billing, leading to increased customer satisfaction. Moreover, a retail

management billing system offers advanced features that go beyond traditional billing processes. It allows retailers to accept various payment methods, including cash, credit cards, and digital wallets, providing convenience and flexibility to customers. The system also enables real-time synchronization of inventory, ensuring accurate stock updates and preventing overselling, thus minimizing inventory management challenges. In addition, the reporting and analytics capabilities of a retail management billing system provide valuable insights into sales trends, customer preferences, and revenue performance. Retailers can generate comprehensive reports on sales volumes, top-selling items, and customer behavior, enabling them to make data-driven decisions, optimize their stock levels, and plan marketing strategies effectively. Security is a critical aspect of a retail management billing system. With the increasing risk of data breaches and identity theft, the system implements robust security measures to protect sensitive customer data and ensure compliance with data protection regulations. Encryption protocols, user authentication, and access controls are implemented to safeguard the confidentiality and integrity of customer information. Overall the introduction of a retail management billing system revolutionizes the way retail businesses handle their billing processes. It optimizes operations, reduces errors, provides valuable insights, and enhances the customer experience. By embracing this technology, retailers can stay competitive in a rapidly evolving retail landscape and drive business growth.

1.1 MOTIVATION

The chief motivation behind this project was the objective of the project and the desire to achieve it. We have been trying and have been to some extent successful in this project and aim to get better and better with time. We have been greatly motivated by our supervisor and hope to get more and more from her. The another sources of motivation is our one of the group member he taught us lot of thins basically he has suggest to build up and idea so the idea was based on developed on spices billing system as well as it has to reduce buy sum product also solving sum calculation. We have studied a lot from these papers and have been motivated a lot. We went to our guide for help so that we could extend the ideas and implement our own ideas for retailer management system. Our supervisor was really helpful and helped us a lot for successful completion of our project

1.2 SYSTEM OVERVIEW

The aim of this project is to create a web-based application that should provide service to the user, collect user usage records, generate invoices for each credit expiration, and each billing cycle depending on the billing type, collect payments, and adjust customer's balances. This Billing system project reduces the manual work for managing bills, payments, cash, etc. It collects and manages the details about the customers and their ordered products and their prices. Adds and maintains the records of available products inthe retailer shop. Maintains the prices for the products that are available in the retail shop. It also excels in the instant calculation to display the total amount to be paid by the customer. Maintains the customer's choice of products, prices, and quantity. Performs the calculation of the amount to be paid by the customer. Displays the amount to the customer.

1.3 LITERATURE SURVEY

M Mahaputra Hidayat et.al: Culinary business is a business opportunity that is most in-demand, E Bill Restois a restaurant billing system that was developed by involving several selling places/restaurants with the name of a brand that is connected to the parent company by a database server. With an integrated system, all revenue from restaurant sales can be monitored in real-time. The system design is made by implementing the RESTFUL API architecture with security access tokens The Master Application is a provider of Embedded Data Service Web resources on 3 Restaurant Information Systems, It does the synchronization of 3 Web Service Clients, Data From the Master-Slave Side was obtained by testing 3 data sampling, where both applications are tested QoS (Quality of Service). This billing system should be simple and easy to understand considering the Indian population. The people who work do the billing don't always seem to have the skill or intelligence to work with complex mechanisms. To conclude, This paper helps to provide a simple billing system for anyone to understand it. **[1]**

W.Amer et.al.: The energy sector of any country plays a major role in its economy in today's world. The reduction of Transmission and Distribution losses is a key discussion point at all forums. In parallel to such efforts the automation of theft monitoring and generation of e-Billing is a requirement of the time. The automation in metering and billing will not only help tackle the problem of distribution losses to some extent but will also help in using the manpower of electricity distribution companies in a more effective manner. The application of an Automated Meter Reading (AMR) system, e-Billing, and e-Monitoring using Machine to Machine (M2M) connectivity is the primary theme of this paper. It explains the design of a prototype meter for AMR application, its M2M connectivity to the central server, and generation of e-bills for the customers. Finally to conclude this paper use the above mentioned technology to reduce the distribution and transmission loss by providing a automated billing system. **[2]**

R. Raju et.al : The technology of automation has brought out major changes in almost all the fields. The aim behind innovations today is to reduce the manual work and to make the process efficient as well as accurate. One of the systems that has remained conventional since a long time is the electricity bill generation. There are a number of issues that arise due to manual billing which includes incorrect computation/calculations, improper meter reading, delayed bill delivery, rounding off issues etc. Another major drawback of manual billing is the storage of the

bills and maintaining a history of electricity consumption. To conclude, this paper provides a automated billing system with proper computation to generate a electricity bill. **[3]**

Yen-Cheng Chen et.al. : The new billing approaches are manly to apply the integrated concept of data warehouse with relevant billing data; in addition, use the methods of mining association rule to sort out the Billing Quantities Pattern and then figure out the billing quantities. Moreover, employ the Decision Tree algorithm of data mining to find out the unit billing price. As a result, the new billing approach is made of the methods of data warehouse and date mining. This study is mainly focused on improving the operation of current billing system to establish the new functionality of the Billing quantities and Billing price. As for the benefit of these two new functions, it is not only able to lead into clients' billing systems, but it is also capable of upgrading the efficiency in rapid setup; especially for the enterprises that already possessed billing system internally but not yet implemented. To conclude this paper uses data mining technique to improve billing system performance in semiconductor industry. **[4]**

1.4 EXISTING SYSTEM

A retailer management billing system typically includes several components and features to manage the billing process efficiently. Here are some common elements found in existing retailer management billing systems:

- Point of Sale (POS): The system includes a POS terminal or software to handle sales transactions. It allows retailers to scan barcodes, process payments, and generate invoices or receipts for customers.
- Inventory Management: Retailers need to track their inventory levels accurately. The billing system integrates with inventory management to monitor stock levels, update product availability, and trigger reordering when necessary.
- Customer Management: The system maintains a customer database, storing information such as names, contact details, purchase history, and loyalty program data. This data helps retailers in personalizing customer interactions and implementing targeted marketing strategies.
- Pricing and Discounts: The billing system allows retailers to set pricing for their products, including regular prices, sale prices, and any promotional offers or discounts. It should also have the capability to apply discounts automatically during the billing process.
- Billing and Invoicing: The system generates invoices or bills for customers, detailing the purchased items, quantities, prices, taxes, and any applicable discounts. It may also support electronic invoicing or integration with accounting software.
- Payment Processing: Integration with payment gateways or processors enables secure and seamless payment acceptance. The system should support various payment methods, such as cash, credit cards, mobile payments, or digital wallets.
- Reporting and Analytics: Retailers rely on comprehensive reports and analytics to gain insights into sales performance, inventory turnover, customer behaviour, and profitability. The billing system provides predefined or customizable reports and data visualization tools.
- Integration with Other Systems: A robust billing system integrates with other business systems, such as accounting software, CRM (Customer Relationship Management) systems, or e-commerce platforms. It allows seamless data flow and avoids duplication of effort.
- Security and Compliance: Strong security measures, including data encryption, access controls, and compliance with relevant data protection regulations, are essential to protect sensitive customer and financial information.

CHAPTER 2

METHODOLOGY

The proposed system makes use of eleven modules that work together to build an efficient retail billing system Home Module, Sign-up Module, Product Module, Cart Module, Login Module, One-time password Module, Wishlist Module, Payment Module, About Module, Contact Module, and Notification page. The Behaviour and interaction of the above-mentioned modules are represented in the following figures.

2.1 Home Module

A home page is a webpage that serves as the starting point of website. It is the default webpage that loads when you visit a web address that only contains a domain name.

The home page is located in the root directory of a website. Most web server allow the home page to have one of several different filenames. Examples include index.html, index.htm, index.shtml, index.php, default.html, and home.html. The default filename of a website's home page can be customized on both Apache and IIS servers. Since the home page file is loaded automatically from the root directory, the home page URL does not needs to include the filename. There is no standard home page layout, but most home pages include a navigation bar that provides links to different sections within the website. Other common elements found on a home page include a search bar, information about the website, and recent news or updates. Some websites include information that changes every day. For example, the Tech Terms home page includes a daily quiz and tech term of the day.

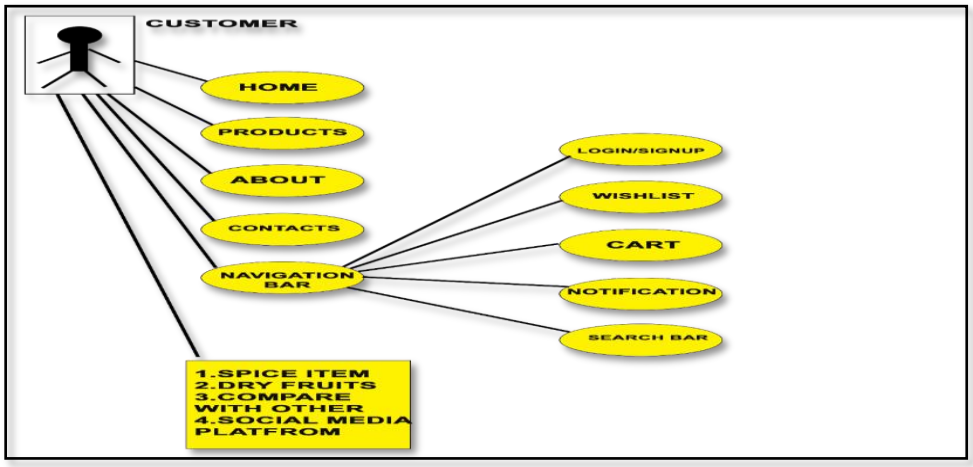

Fig.2.1.1

2.2 Sign-up(registration) Module

Sign up module contain a form whenever user entering into a website it's always required to generate a profile of individual user who can register through entering email id and password .

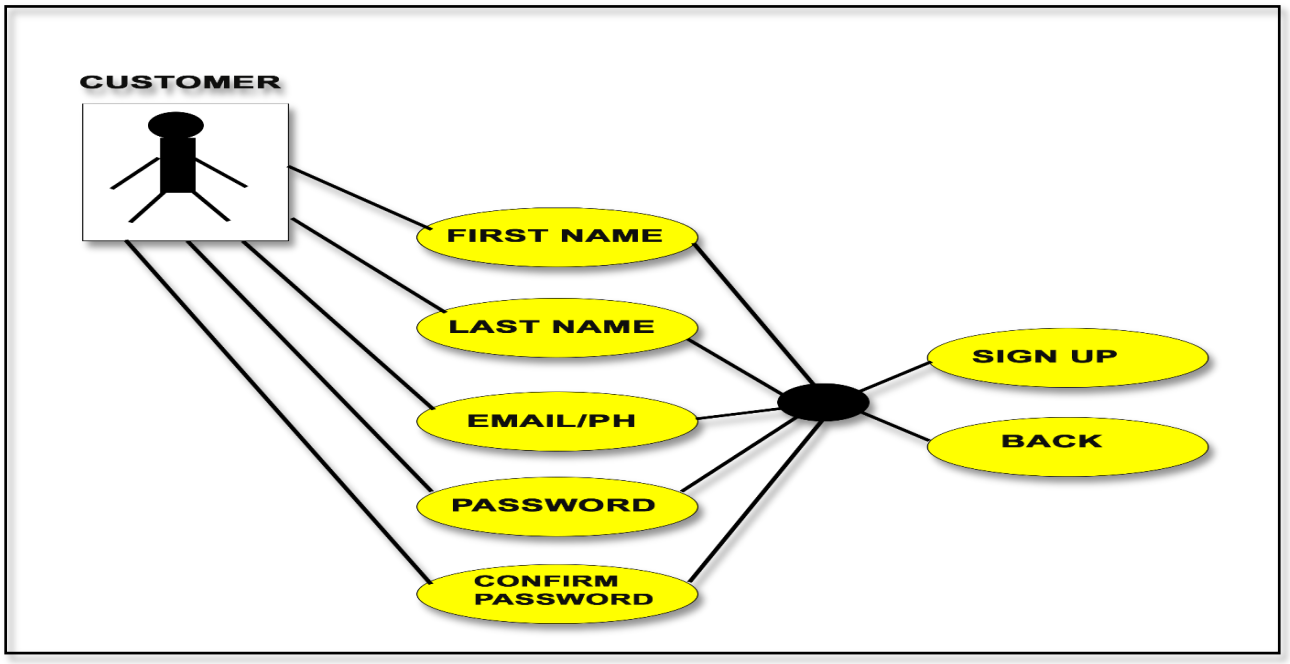

Fig.2.2.1

2.3 Product Module

Product discovery is a primary tool that retailers use to engage with their customers on an e-Commerce website. Product collection modules help retailers build compelling shopping experiences by providing an intuitive visual interface that can be used to quickly author product collections.

Product collection modules represent physical products and services on the website. A product collection module is typically linked to a details page where customers can purchase a product or service, or learn more about it.

The sources for product collections can be lists of the following four types:

Editorial lists of products that are manually defined in Dynamics 365 Commerce as related products for a product, or product lists

Algorithmic lists, such as lists of new, best-selling, or trending products

Recommendation lists that are based on machine learning

Personalization lists that support personalized results for a customer. Customers must be signed in to the e-Commerce site to see personalized results. Guest users don't see personalized results. Customers can opt out of personalization from the account management page.

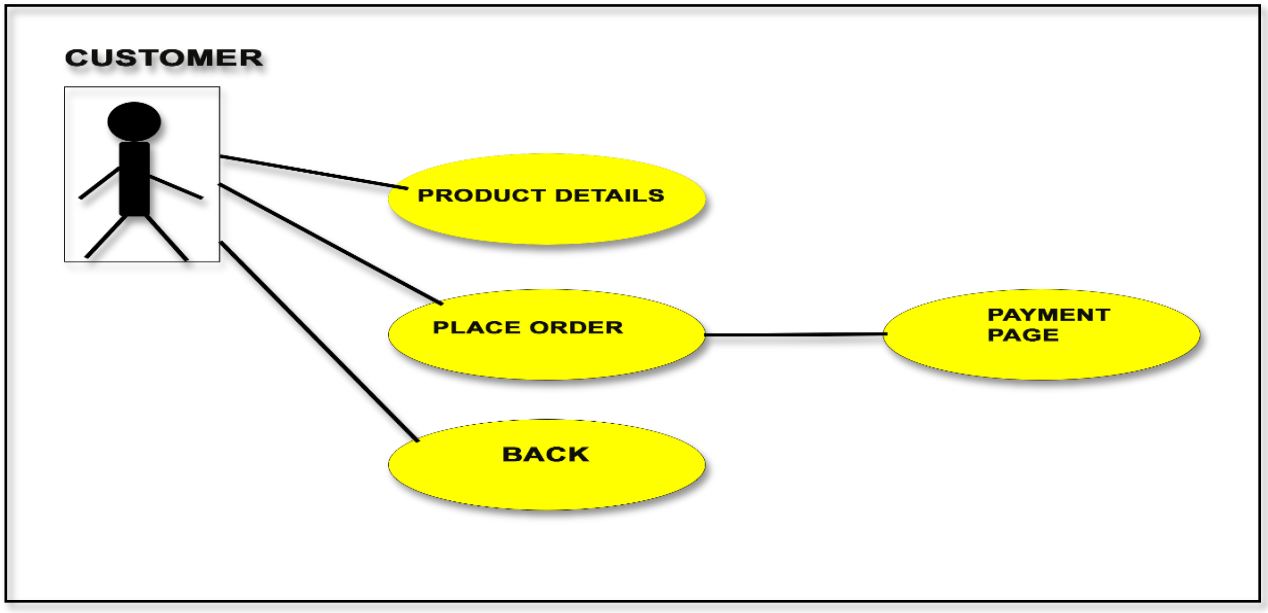

Fig.2.3.1

2.4 Cart Module

A cart page is an essential part of an e-commerce website. It is the page where users can pile up what they want to buy from the website and then simply checkout by paying online. To comprehend what a cart page does, think of it as a normal shopping cart in a store. People can keep adding whatever they want to buy in the shopping cart, and later, check out at the counter. Similar is the case with a cart page, only that the shopping is done online on an e-commerce website.

A cart page offers great ease to the user. It allows them to check out everything in one go instead of paying individually for every item they buy. In addition to the ease, users can also save a great deal of time while shopping. It helps a lot, especially if the users are buying multiple items from the website.

Cart pages on e-commerce websites are far easier to use in their most contemporary format. Users can simply keep browsing through the website online. As soon as they find something they want to purchase, a small ‘shopping cart’ icon is available by the product. By clicking

on it, that particular item gets added into the shopping cart. Users can add as many items as they want in their shopping cart.

Once done with the shopping, this is where the cart page comes into play. Users can visit the cart page on the e-commerce website they are shopping from and see all the items they chose to buy. This page shows the individual prices of each of the products a user is buying, the quantity in which it is being bought, as well as the total amount of all the items being purchased. Customers can then proceed to checkout and receive a receipt of their payment via email.

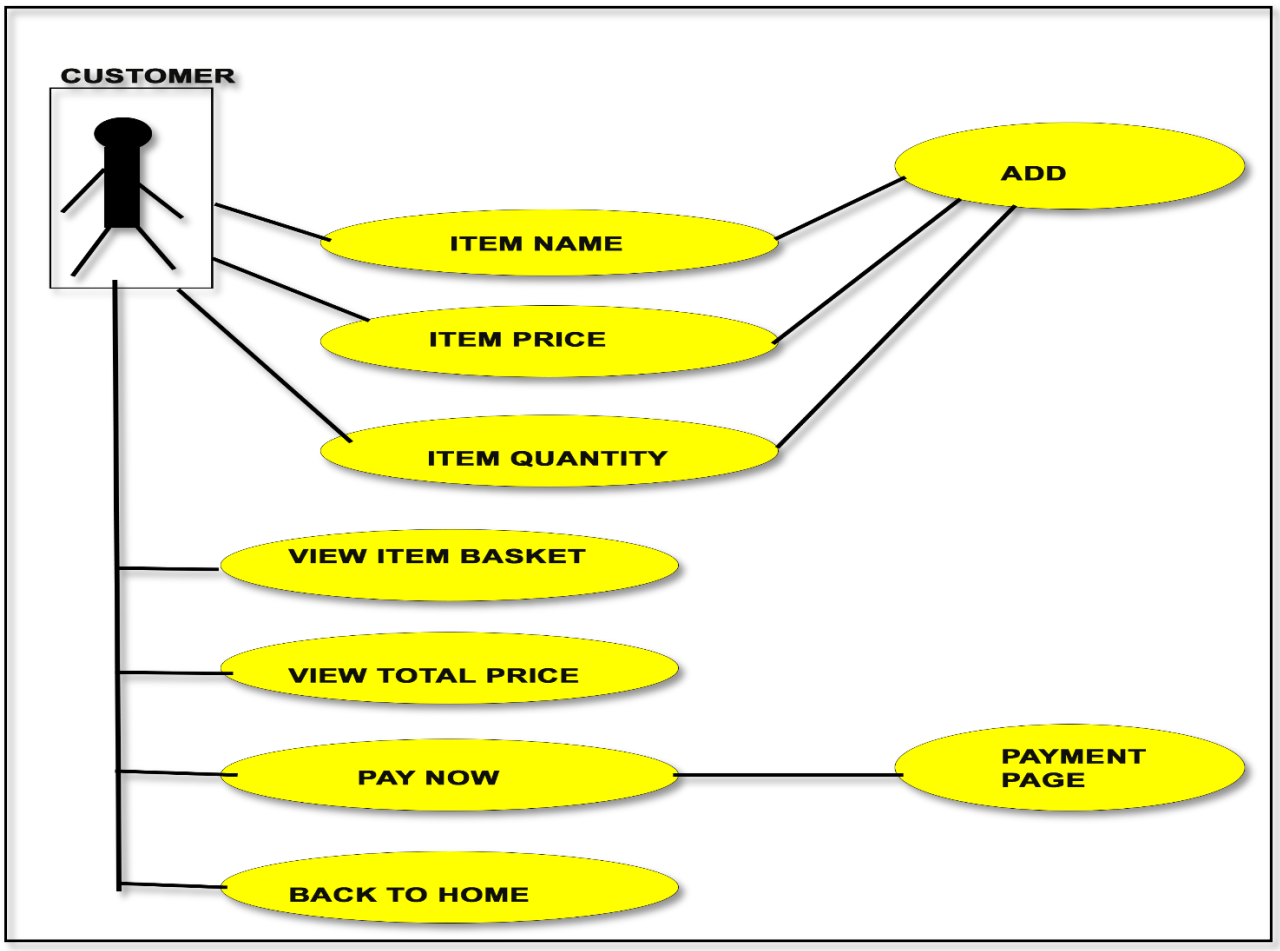

Fig.2.4.1

2.5 Login module

Login/Sign up page can be counted as a gateway to extensive user interaction. Usually Login system prevents unauthorized access to private data and allows elaborate communication. It requires username and a password for user identification and authentication. You get to communicate with the admin or get user access to the platform through a login system. For example, if you want to join Twitter, you have to get authenticated by them before giving you access to their platform. If you don't have an account, you have to sign up first and log in to the platform.

As for signing up, users have to fill up some input fields like First Name, Last Name, Gender, Email, Mobile Number, Password, etc. Many registration forms are not user-friendly, and users always want to go through a small authentication system. So while developing an authentication system, you have to keep it as simple as you can.

To craft a simple sign-in/sign-up form, you should be ware of some key features. First, you have to clarify where to log in, and it's important to differentiate between login and registration forms. If there is an option to sign in with external accounts (for example, Facebook), it is more user-encouraging. Secondly, you should put an option for "Forget password" on the login page as it's quite normal that many are going to forget their password without any particular reason. It would be best if you put all the features to fulfill user's satisfaction in a simple way. A recent study found that seventy-seven percent(77%) of users agreed that websites should offer social logins and sixty-five percent(65%) of consumers return to a website that automatically welcomes them through social login.

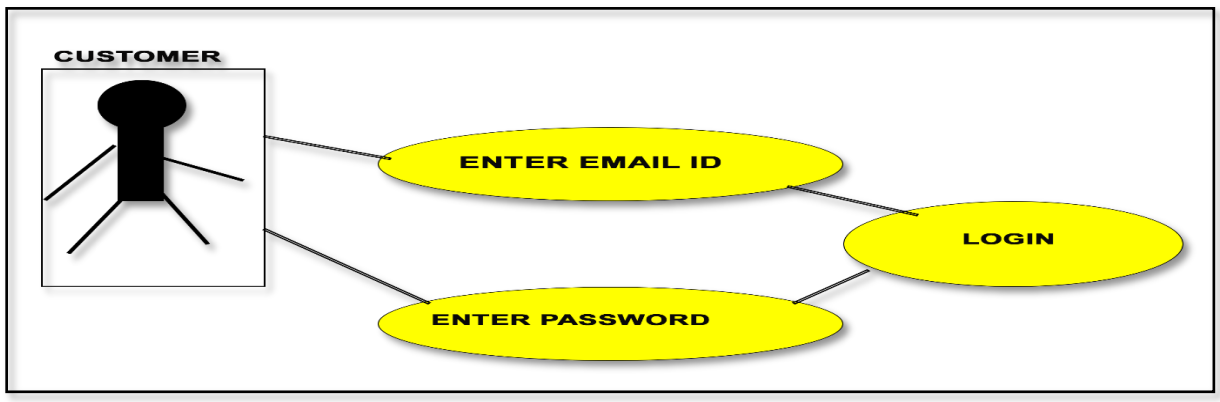

Fig.2.5.1

2.6 One Time password module

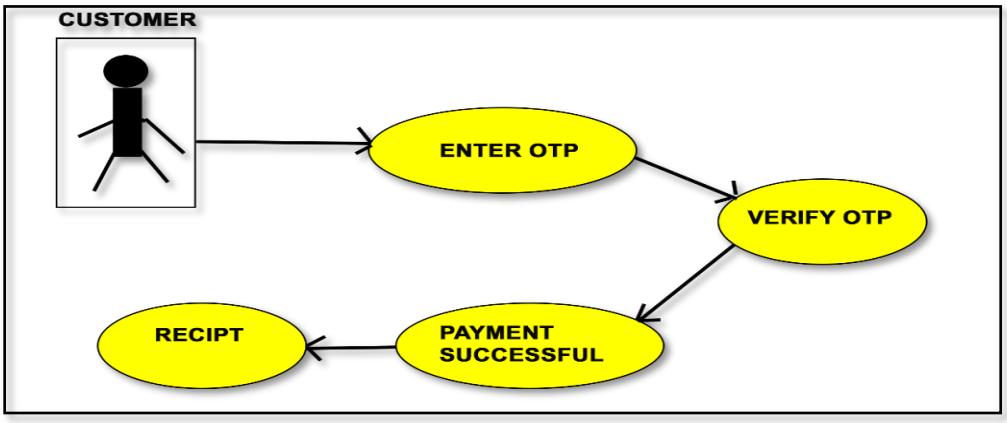

Fig.2.6.1

2.7 Wishlist module

Wishlist are among one of the most important features of an e-commerce website. They offer opportunities for both customers and business owners alike. Common sense urges us to think they are suited only by giants such as eBay or Amazon. We think that in fact, they provide so many advantages that they should be incorporated into each web-shop.

Wishlist on e-commerce websites are features that allow the creation of collections with desired products saved by clients, in their user's account.

Basically, they are used when users have an interest in your products, but they didn't intend to make a purchase at exactly that time. Having the option of saving an item and order it later can have big implications for your business. And this is a topic we will discuss in this blog post.

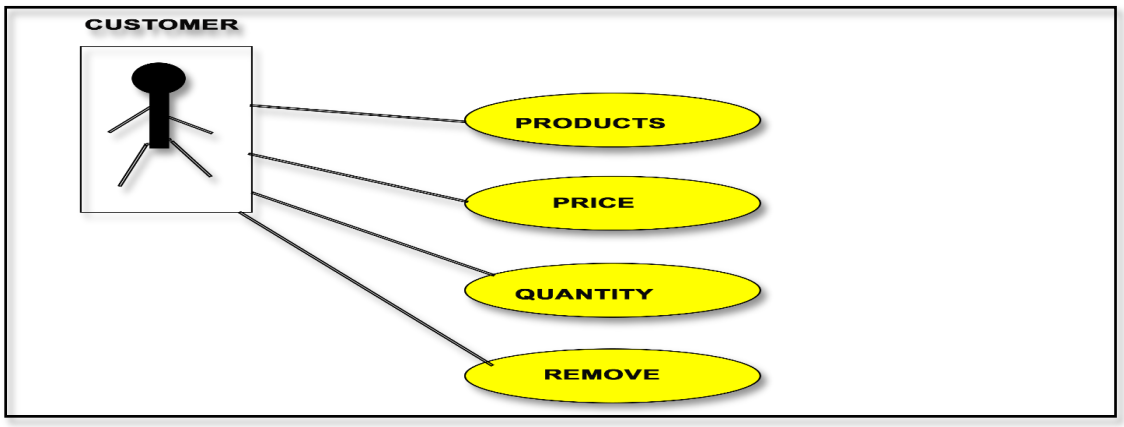

Fig.2.7.1

2.8 Payment module

The payment page is a web page that allows customers to purchase items easily and securely. After adding the items to the shopping basket, the user must be redirected to the payment page and select the payment method as well as to insert the data which is necessary for the successful operation. This procedure is commonly done on the website from which the consumer orders items/services.

The payment pages involve the data about the holder of the account i. e. first and last name, email along with phone number, and card number along with the expiration period. Such a page is the most substantial step while the customer makes an order because after filling in this information the client agrees and confirms it. The money will be withdrawn from the holder's card after the system will process the data.

Types of payment pages:

There are two types of payment pages:

HPP. That is when a customer is redirected to an external link so to accomplish the payment.

API. That is when a customer pays for services and products inside the website.

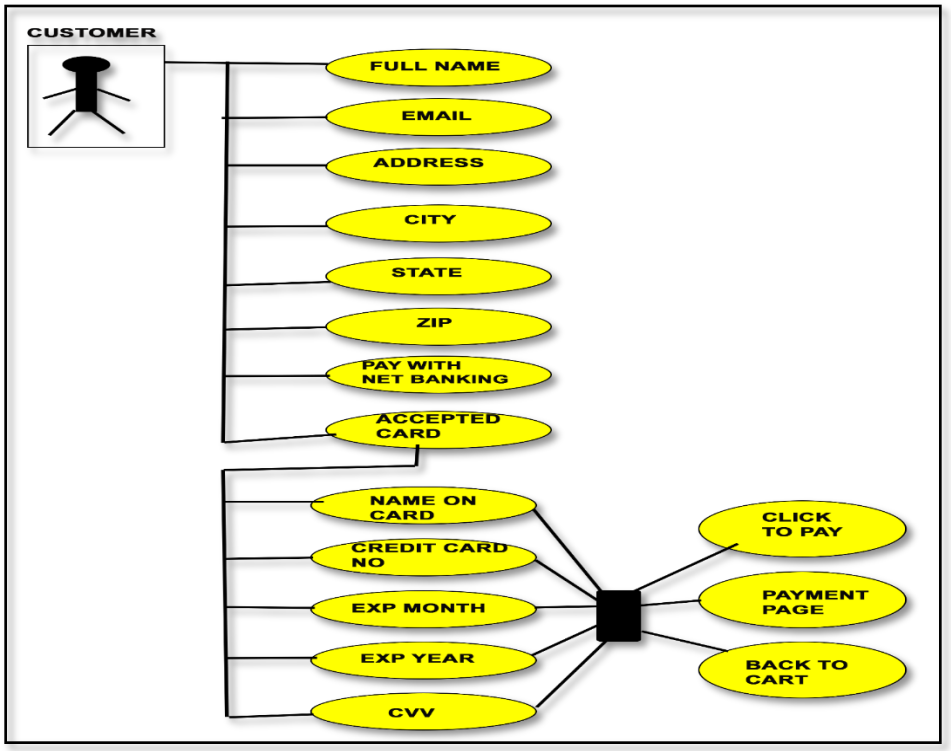

Fig.2.8.1

2.9 About Module

About us page is commonly used by all types of businesses to give customers more insight into who is involved with a given business and exactly what it does. The history of a business is often provided, and the histories of the people in charge are usually expressed through short articles, usually accompanied by photographs.1

Depending on the specific company, some information about goals, attitude or other aspects of culture that aren't strictly tied to business practices are included as well. The about us page is often a reflection of the purpose and personality of the business and its owners or top employees. Finally, the page can also incorporate contact or locational information. One way to view the about us concept is as a text self-portrait or short autobiography created by a business.

The primary purpose of an about us page is to inform the reader about the company and its operations. This is a straightforward goal that nearly all businesses have to fulfill in some fashion or another. However, there are other reasons why about us pages are common fixtures on business websites. The text on these pages is a marketing tool for a business, enticing potential customers with both the history and the aspirations of a business, as well as adding a human element. Additionally, about us pages are incorporated into search-engine marketing

efforts as a way to find potential customers through Web searches.

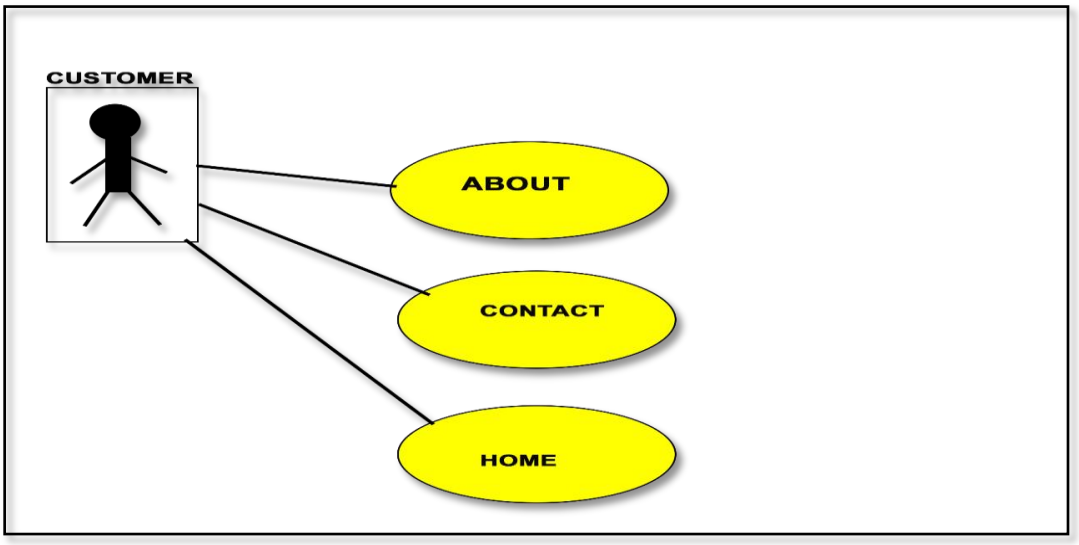

Fig.2.9.1

2.10 Contact Module

A Contact Us page is essential to building a brand's website as it allows visitors to contact you easily without leaving their browser.

They also give you the opportunity to capture leads and improve customer service.

Generally, visitors can also leave feedback or ask questions through these channels. You'll receive valuable information about your customers' preferences and expectations if done correctly.

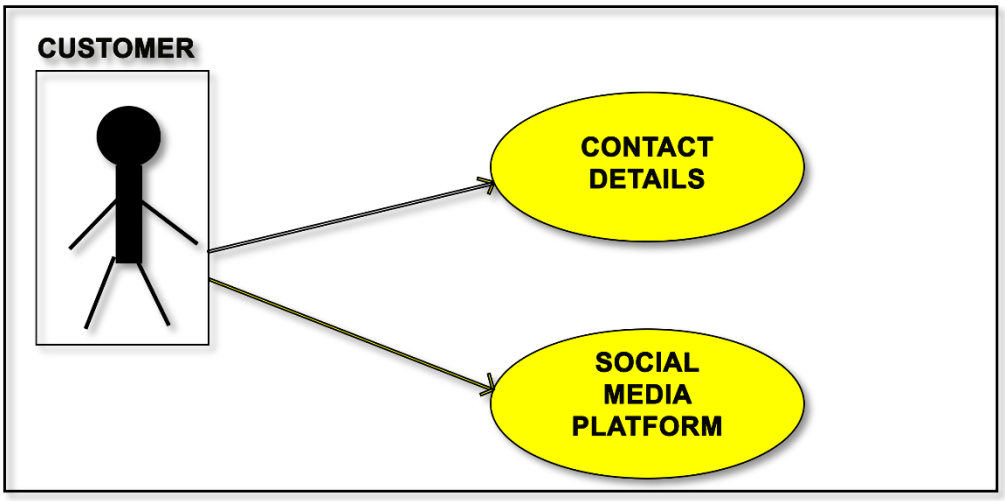

Fig.2.10.1

2.11 Notification page

A notification is a message, email, icon, or another symbol that appears when an application wants you to pay attention. Notifications are a way to let you know that something new has happened so you don't miss anything that might be worth your attention and appears whether you are using an application or not. An application can use notifications to let you know things that are happening when you're not using it, so you don't miss important information or activity that's taking place in the app.

CHAPTER 3

RESULT OUTPUT

3.1 HOME

The home module contain no of section navigation bar: it's contain four section itself home, product, about, contact. **ii**. and header section contain login/signup, notification, cart, Wishlist. **iii.** the body section contains category of the product available in our shop. where user can search that required product also visit the product details and user would buy any one of that. **iv**. footer section contains all contacts of us.

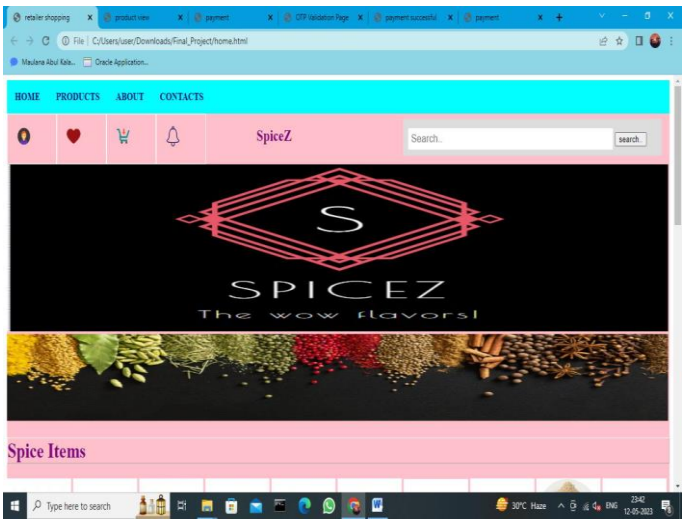

Fig. 3.1.1

Fig.3.1.2

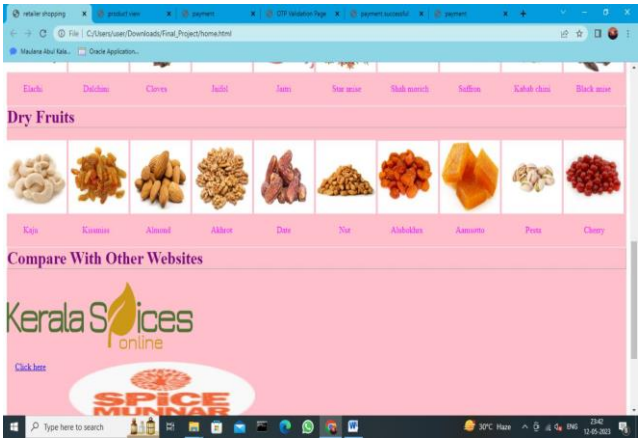

Fig. 3.1.3

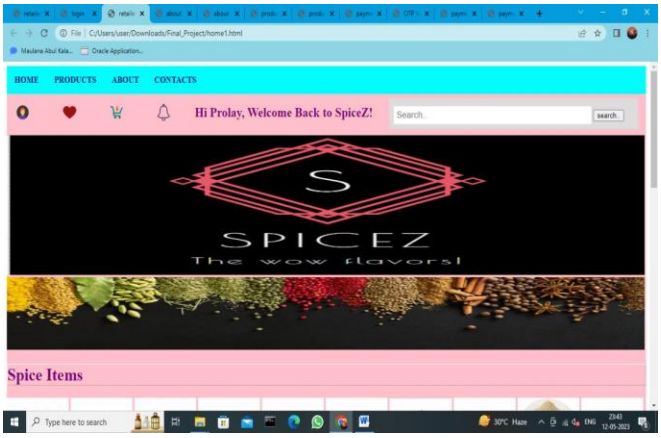

Fig. 3.1.4

3.2 SIGNUP PAGE

This is sign up page here users can register their accounts.

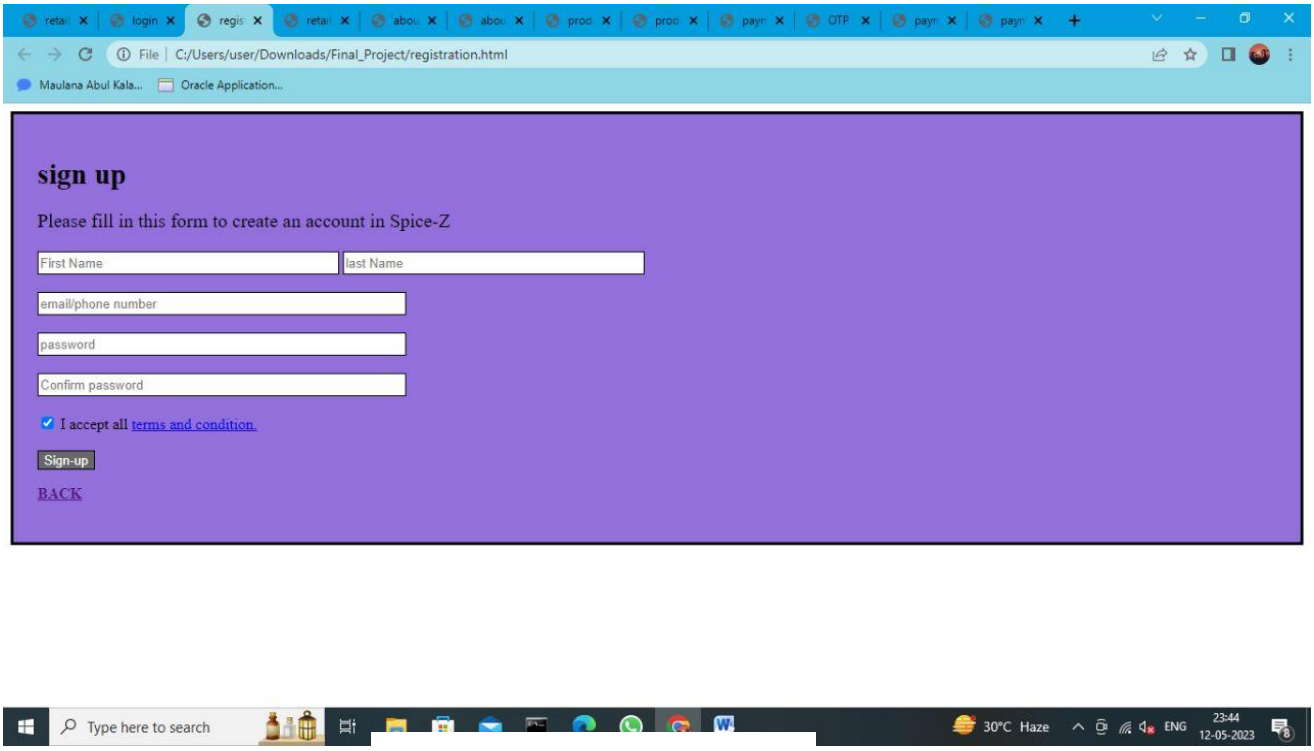

Fig.3.2.1

3.3 LOGIN PAGE

This is login page here users can login their account by using their user id and password.

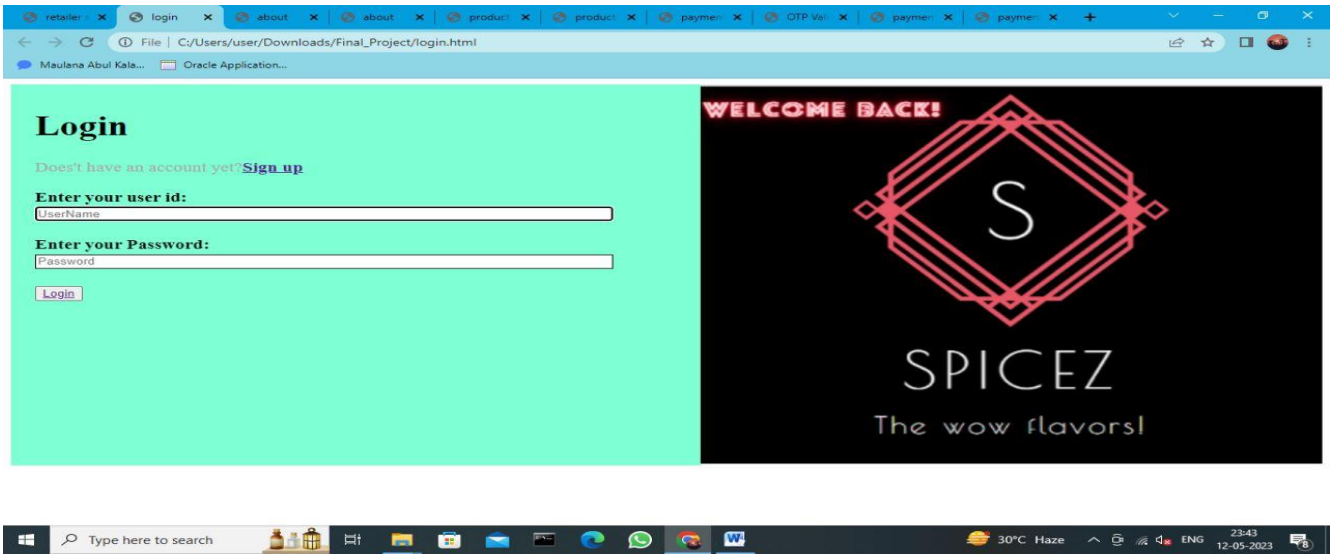

Fig.3.3.1

3.4 PRODUCT PAGE

product section contains product details also user can see product price and user can select quality of that required product from product page .product section contains product details also user can see product price and user can select quantity of that required product and user can buy that particular item or use can add more items respectively .

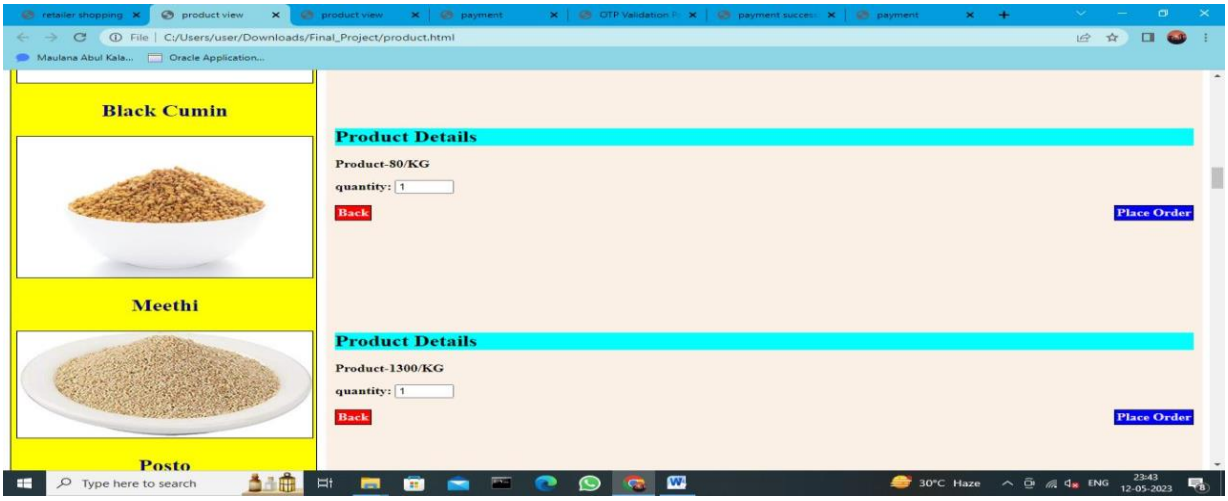

Fig.3.4.1

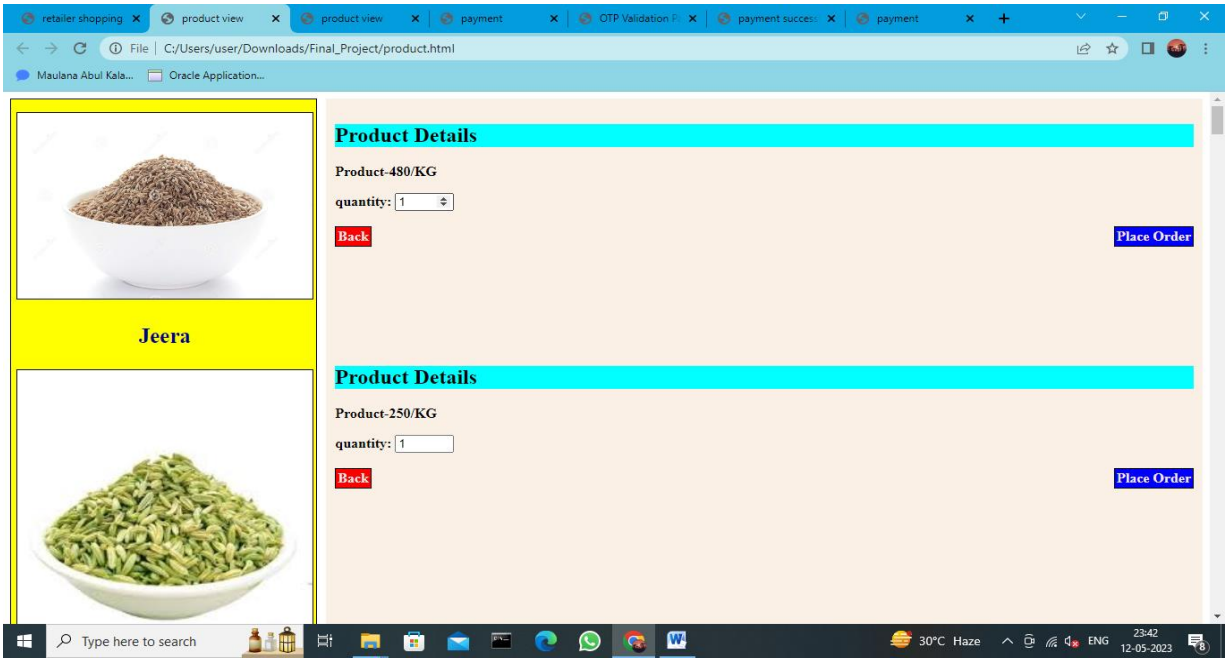

Fig. 3.4.2

3.5 PAYMENT PAGE

User can pay with the help of internet banking and card also.

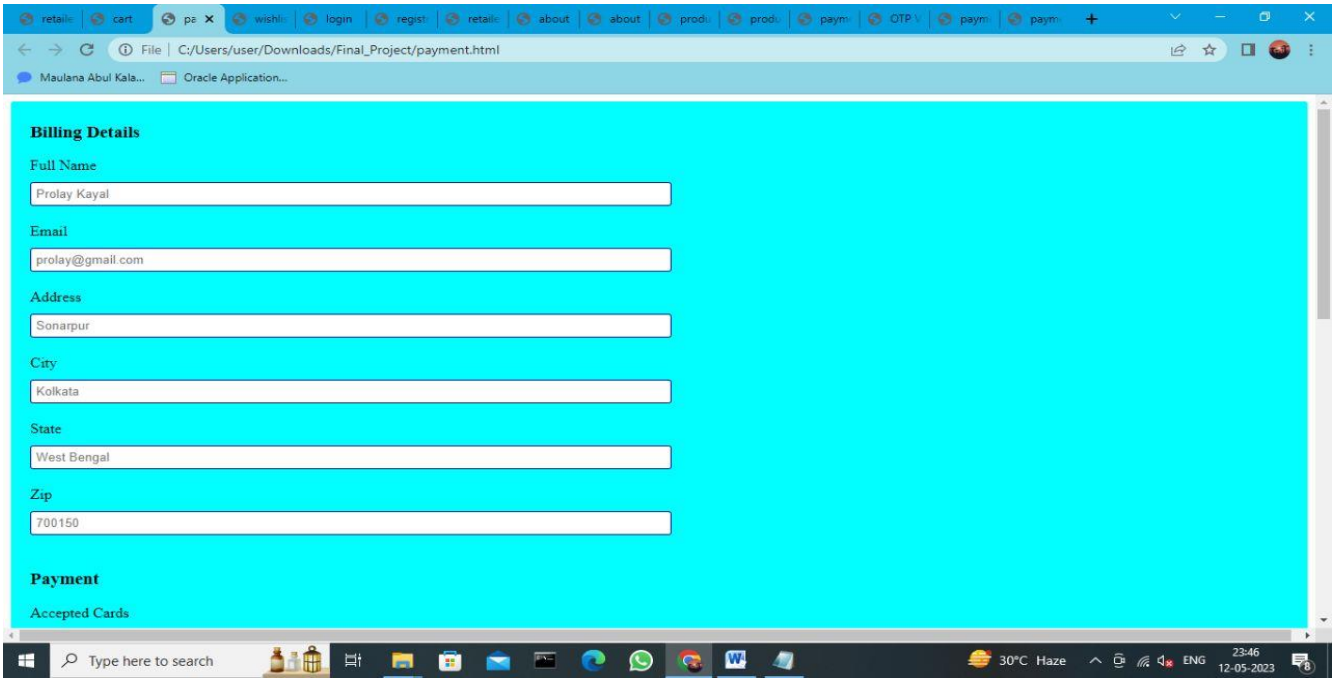

Fig.3.5.1

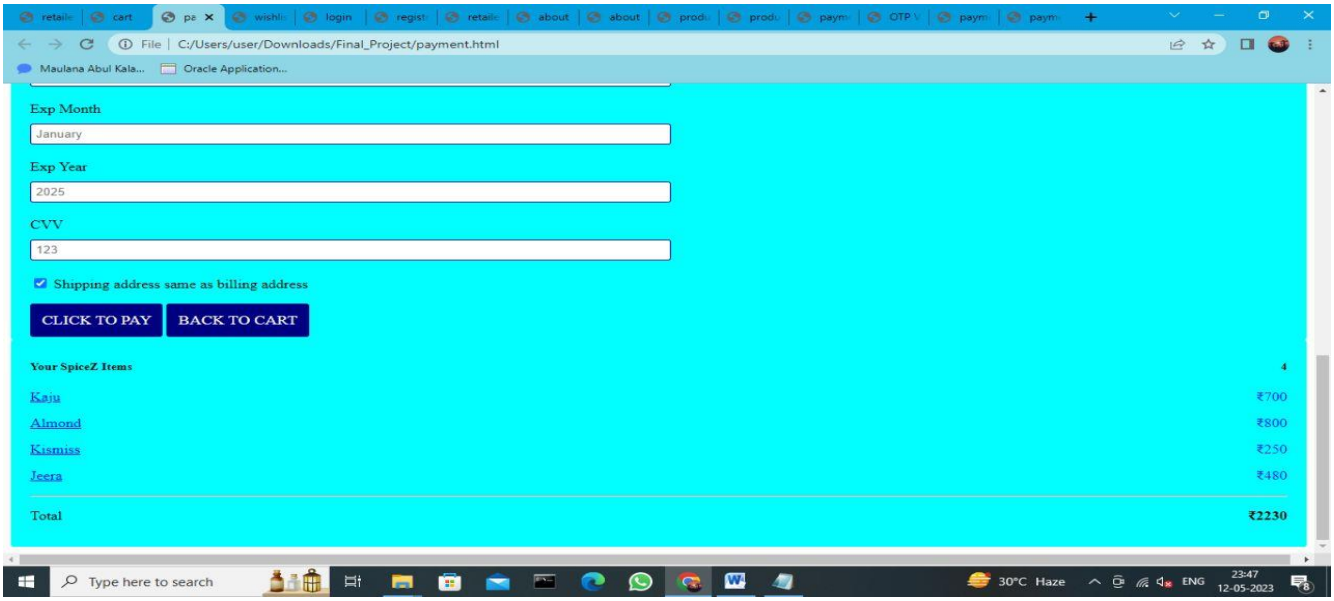

Fig.3.5.2

3.6 OTP PAGE

OTP (One-Time Password) authentication is a secure method that provides a temporary, single-use code for user verification. It adds an extra layer of protection by generating a unique password that expires after a short time. This process helps prevent unauthorized access and enhances the security of online transactions and account logins.

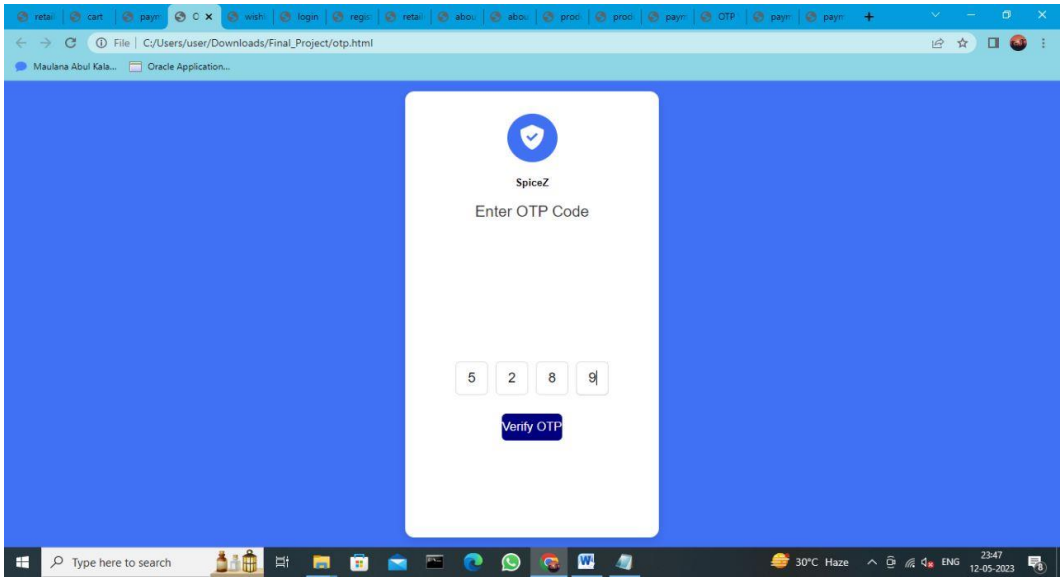

Fig.3.6.1

3.7 INVOICE PAGE

This is the final page which generates invoice of the ordered items.

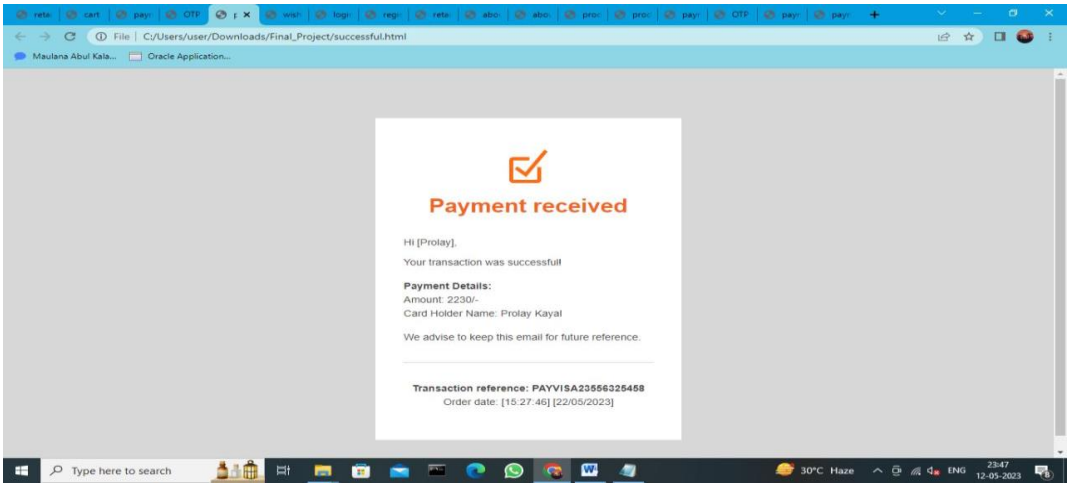

Fig.3.7.1

3.8 WISHLIST PAGE

User can add their interested items in this page. This page also contains products name, price, quantity. Also user can remove the items from Wishlist page.

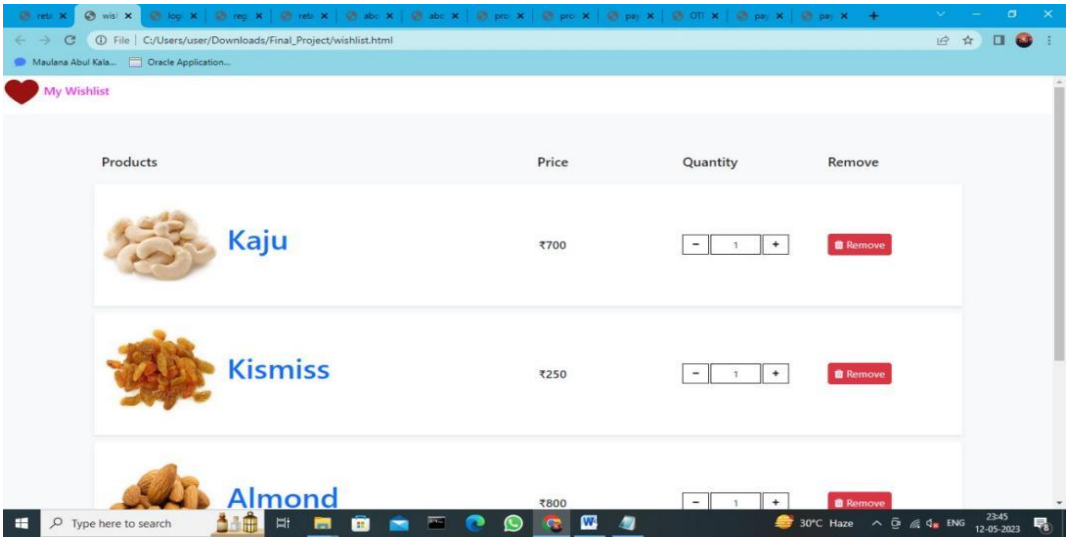

Fig.3.8.1

3.9 CART PAGE

User can add theirs product into the cart with product details like name,price,quantity and also user can pay directly with the help of pay now button.

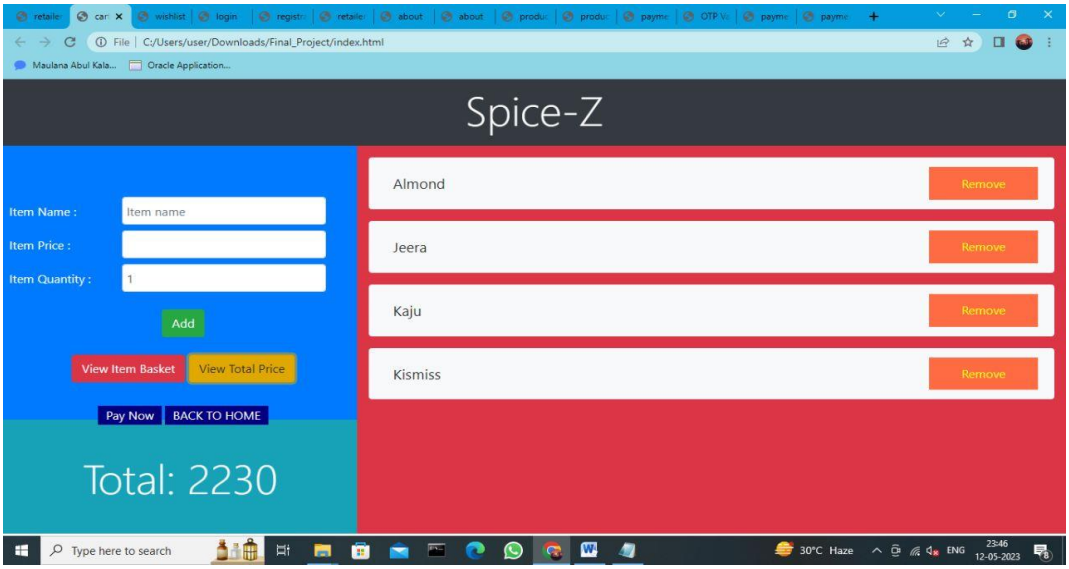

Fig.3.9.1

3.10 ABOUT PAGE

This section has been containing exact details of our company also the details of members and founder of our company.

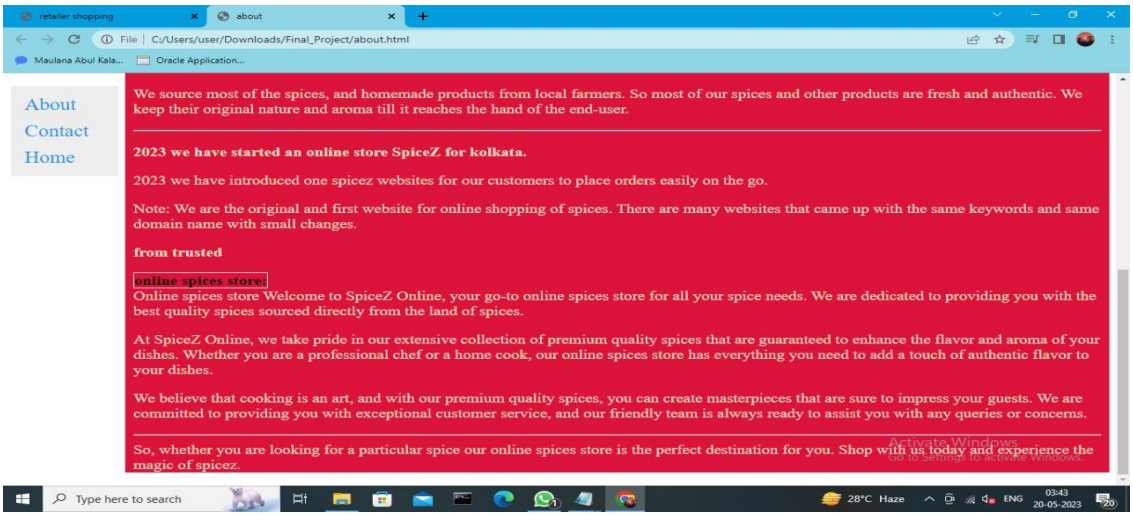

Fig.3.10.1

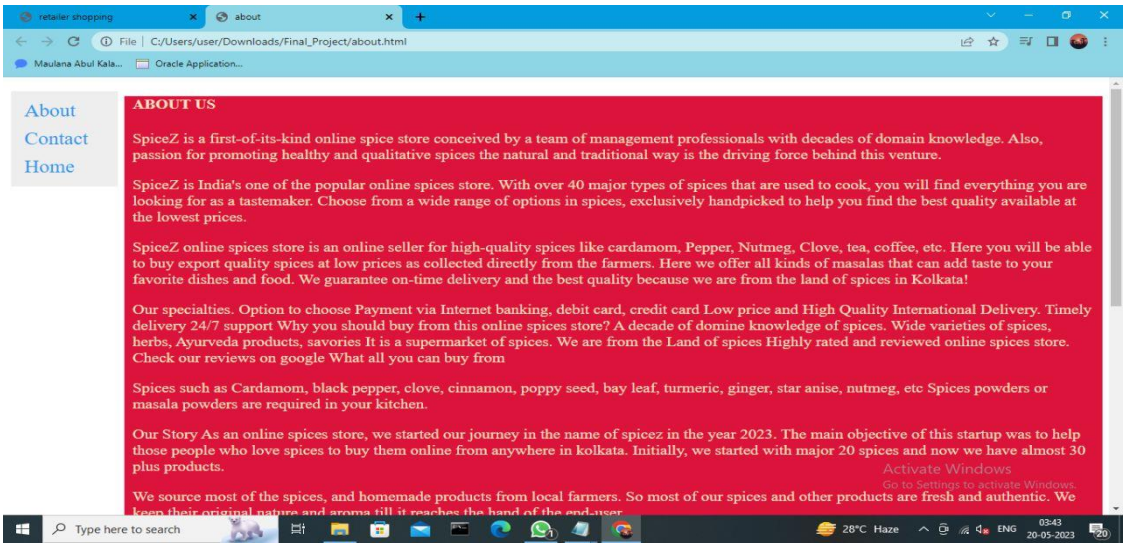

Fig.3.10.2

3.11 CONTACT PAGE

Contact section would allow to connect with us whenever user will getting some trouble then always welcome to send use a mail or phone .we always ready for user with 24*7 customer service.

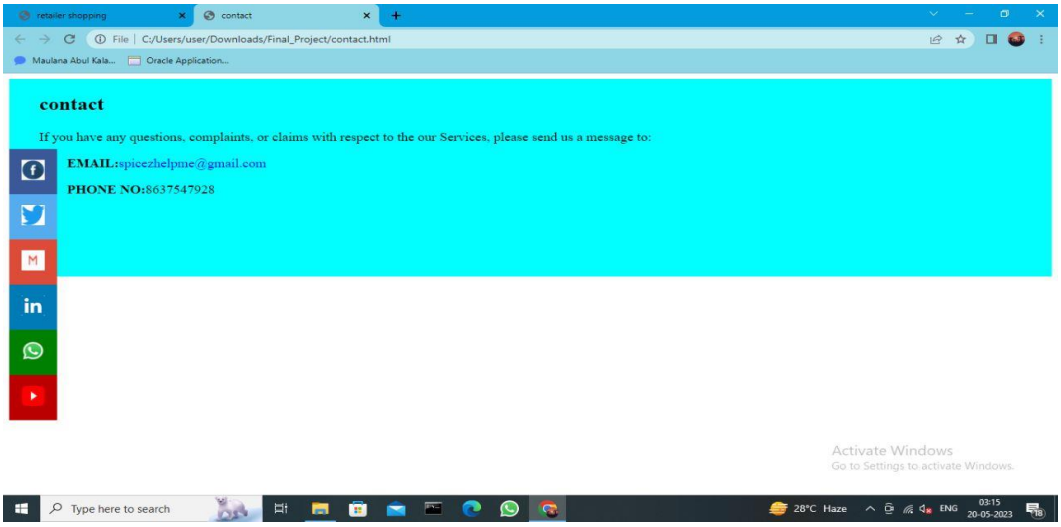

Fig.3.11.1

3.12 NOTIFICATION PAGE

This is the notification page here user can get alert like reminder, update, new offers etc.

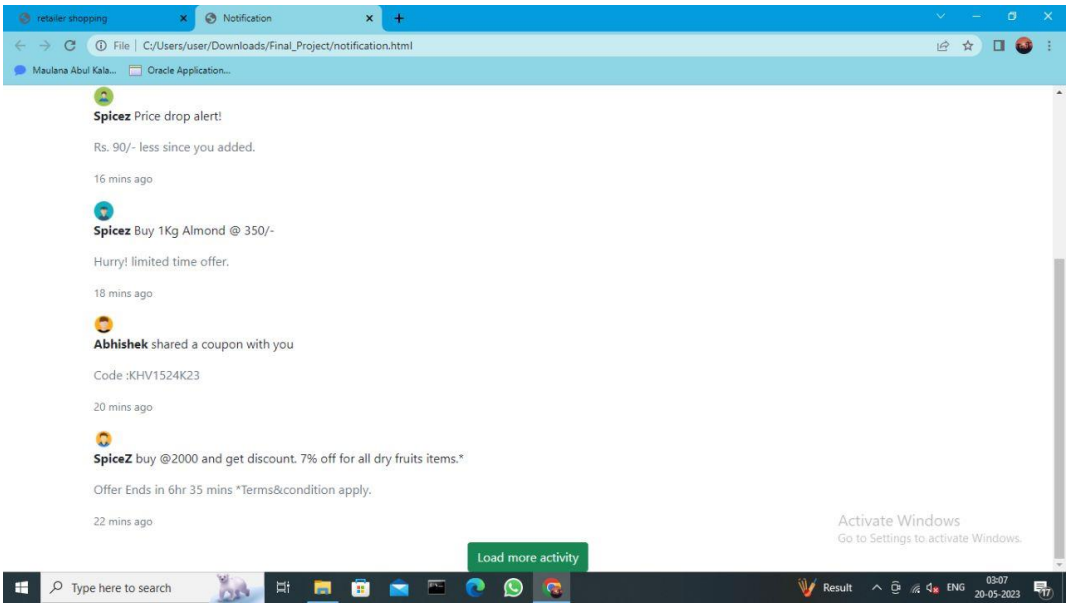

Fig.3.12.1

CHAPTER 4

4.1 IMPLEMENTATION

Browsers that can support basic HTML 5.0 can run the system with ease. This system is so simple that it doesn't need any other additional software to be run properly.

This system uses 9 modules.

1. Home
2. Product
3. Wish list
4. Cart
5. Contact
6. About
7. Log-in/Sign-up
8. Notification
9. Payment

These modules collaborate together and make the system work efficiently. Each module does a significant job to ensure the perfect data flow and user experience. The behaviour of all the mentioned modules is explained. This project gets implemented by using notepad/VS Code/any IDE for each HTML as well as CSS file. this project consists of nine modules each of which has been structured using html code, presented more attractively using CSS, and interactive using JavaScript code. In the first module, html code for the home page helps the customer to redirect to the menu page and he/she can exit the home page if he/she wants to by clicking the back button. when the customer clicks the menu button, the next page will be shown. This action is provided by HTML and customers can view the products that are available in the retail shop. CSS has been used here to attract the customer by adding various colours and aligning some beautiful pictures of products in this menu. this page contains an place order button so when a customer clicks it he will be redirected to the payment page which contains the picture of the product page as well as a form for collecting the customer and his/her details of products. All of these have been created using HTML code and aligned more perfectly by using some appropriate CSS styles. But as of now, the details will be simply collected so here Javascript is used to check whether the detail that has been entered in this form is in the correct format or not. if not a pop message will be displayed to alert the customers as well as to calculate the number of products

that have been ordered by the customer. After the details of the customer and his/her products have been checked, the customer can able to click the place order button. After this button gets clicked, Javascript helps to display a bill on the next page which contains some fields like products name, product quantity, and product price as well as the total amount which has been calculated. Thus this project uses Html, CSS, and Java-script to help the customer in viewing the menu, order the products as well as show the accurate amount to be paid.

4.2 FUTURE SCOPE

The software has a very high potential for future modifications and improvements, the code is so simple and easy to implement so that it can be easily deployed in other areas such as small shops viz. general stores, spice business etc. The introduction of newer technologies could also be a further future improvement let's say the use of sensors for automated billing could be something easy and a really effective method if deployed. As we are well aware the world is going digital now and it makes sense to go paperless. Customers nowadays have very little patience and any company would lose a lot of money if a customer is made to wait for a long time for something as simple as a checkout bill. Hence using modern technologies can be extremely vital for the reputation of the company and the customers will be encouraged to purchase more in said location. A further improvement can be made with the integration of a database, to keep track of customer details, which only makes sense if it's a large organization but can still be implemented with easy .In future we would be adding a database that help us to accumulate the customer details and make easier to access individual user also we are adding functional notification section where user can see recommended items respectively.in future we will modify the entire web- base application from old styling to new style by adding some animation by using Java script. initially we had added 2 product category but in future we should add more different categories products item .Also we are providing delivery and taking return or replacement of that delivered product items.

4.3 FLOW CHART

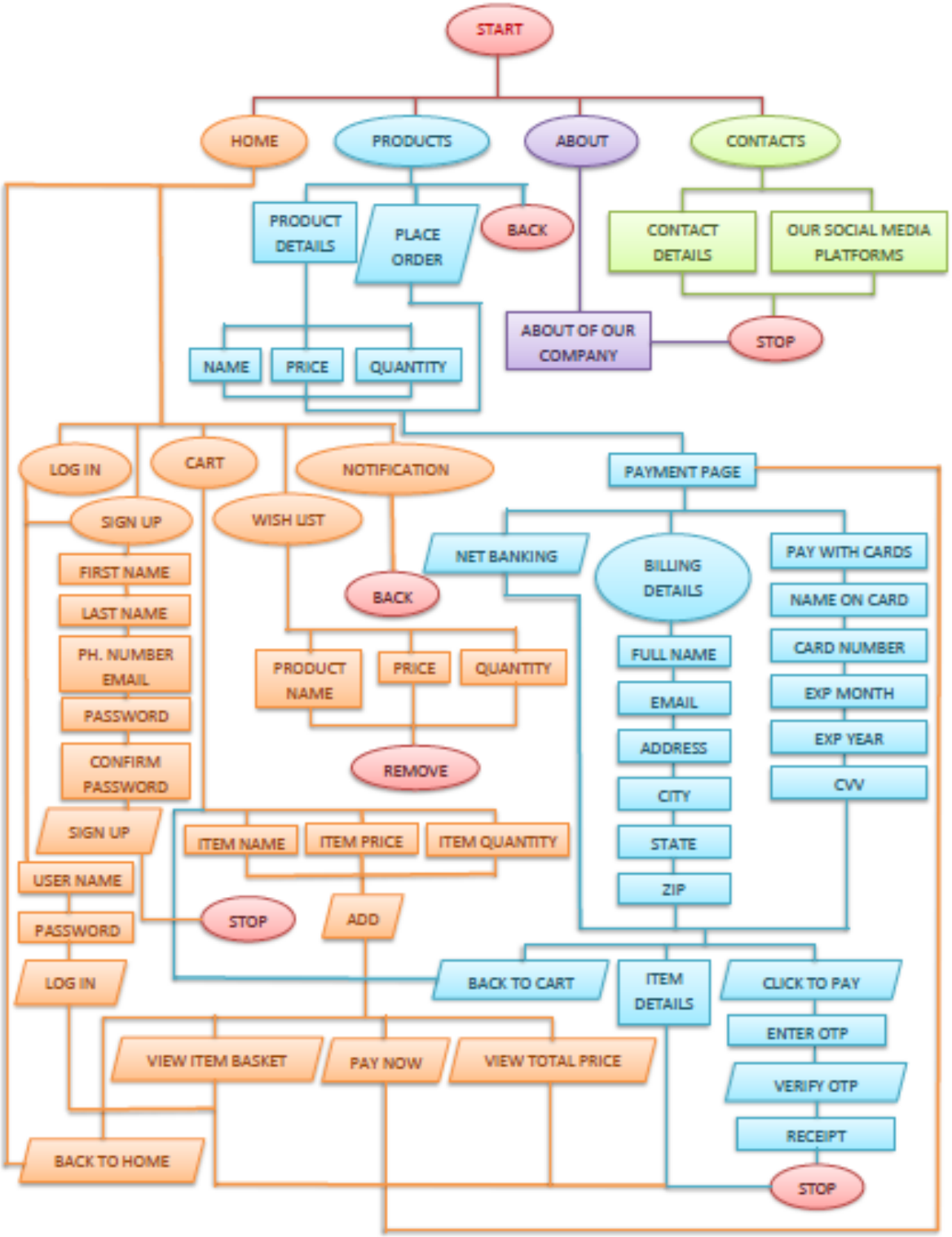

Fig.4.3.1

CONCLUSION

The retailer management and billing system is an essential component of a retail business that streamlines operations and ensures accurate financial transactions. In conclusion, implementing a robust retailer management and billing system offers several benefits:

Efficient Inventory Management: The system helps track inventory levels in real-time, automates inventory replenishment, and generates reports on stock levels. This ensures that retailers can efficiently manage their inventory, reduce stockouts, and avoid overstocking.

Streamlined Sales Process: The system simplifies the sales process by providing a user-friendly interface for creating and managing sales orders, invoices, and receipts. It enables quick and accurate billing, reducing errors and improving customer satisfaction.

Accurate Financial Records: The system automates financial calculations and generates accurate invoices and financial reports. This ensures proper recording of sales, expenses, and profits, facilitating better financial analysis and decision-making.

Customer Relationship Management: The system allows retailers to store customer information, track purchase history, and analyze buying patterns. This information enables personalized marketing strategies, enhances customer service, and promotes customer loyalty.

Enhanced Operational Efficiency: By automating routine tasks such as inventory management, sales tracking, and financial calculations, the system improves overall operational efficiency. Retailers can allocate their resources more effectively, reduce manual errors, and focus on core business activities.

Integration with Other Systems: A well-designed retailer management and billing system can integrate with other business systems such as accounting software, point-of-sale systems, and customer relationship management tools. This integration eliminates redundant data entry, improves data accuracy, and enables seamless information flow across different departments.

Scalability and Adaptability: The system should be scalable to accommodate business growth and adaptable to changing business requirements. Retailers can easily expand their operations, add new locations, and introduce new product lines without major disruptions to the management and billing processes. In conclusion, a comprehensive retailer management and billing system can significantly improve operational efficiency, enhance financial accuracy, and strengthen customer relationships. It empowers retailers to streamline their business processes, make informed decisions, and drive long-term growth and success.

REFERENCES

[1]. Design of Restaurant Billing System by- M Mahaputra Hidayat, R Dimas Adityo, Alek SiswantoDOI:10.1109/ICoSTA48221.2020.1570615039https://ieeexplore.ieee.org/document/9079304

[2]. Comprehensive e-Monitoring, e-Management and e-Billing (eM2B) system with zoom-in and zoom-out capabilities to reduce electricity distribution losses for developing countries by- W. Amer, Y. Attique, A. Nadeem ,Abdul Ghafoor DOI: 10.1109/SYSTEMS.2010.5482353 https://ieeexplore.ieee.org/document/5482353

[3]. A Comparison of Smart Electricity Billing Systems-by R. Raju, P. Madhumathy, N. Nithiya veni,G.PavithraDOI:10.1109/ICSCAN49426.2020.9262437https://ieeexplore.ieee.org/document/9262437/

[4]. Using data mining technique to improve billing system performance in semiconductor industry by -Yeh-ChengChen, Yu-Teng Chang, Y-S Kan, R. S. Chen, S. F. Wu DOI: 10.1109/INFOCT.2018.8356830https://ieeexplore.ieee.org/document/8356830/