MINI PROJECT - II

(Session: 2021-22)

Project Report
On

"BREAD AND BYTES"

Institute of Engineering & Technology

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Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology . Project **"Bread And Bytes"**, in partial fulfilment of the requirements forth award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr.Mandeep Singh , Technical Trainer, Dept. of CEA, GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled “Bread And Bytes”, carried out in Mini Project – II , is a bonafide work by Khushi Varshney and Shivani and is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science& Engineering).

Signature of Supervisor :

Name of Supervisor : Mandeep Singh

Date : 26 may 2022

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Acknowledgment

Presenting the ascribed project paper report in this very simple and official form ,we would like to place my deep gratitude to GLA University for providing us the instructor Mr Mandeep Singh , our technical trainer and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap,the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You

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Abstract

This snacks shop management system is the key to running a successful product business. Tracking stock regularly can help avoid stock errors and other problems. This project focuses on the idea of bringing all the details regarding business on a single platform instead of making separate notebooks and sheets for different type of work. This project also helps in saving nature by saving paper and reducing manual work. It is more productive with increased profits. It saves time which could also be spent on other activities.

Introduction

Context :

"Bread And Bytes" has been submitted in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mr. Mandeep Singh. This project has been completed on time and was executed in modules, meetings were organized to check the progress of the work and for instructions and guidelines.

Motivation :

The primary purpose of is this snacks shop management system is to ensure there is enough goods or materials to meet demand without creating overstock. This application would keep a proper track of stocks , sales and purchases . It would help the admin to save money by firing a accountant or a person specifically hired to manage stocks and sales.

Objective :

The main objective of this application is to bring both small and mass businesses online and to benefit them from the internet. It is a wise choice to make. We understand the need of accountants and different clerks to see after the business stocks , sales ,profits , etc . but what if we are cheated ? This project can come out to be a great solution for such situations .

Existing System :

In day-to-day life, it is very difficult to find trustworthy accountants and clerks for our personal businesses. Generally, whenever we own a business we manage all the files for different purposes like stocks , sales , purchases and the bills generated. This process is very time consuming and difficult to perform manually. So why not eliminate the need of these accountants and clerks to maximize the profit and minimize the chances of faulty data handling.

Software Requirement Analysis

Problem Statement:

The Snacks Shop Management System is a simple web-based application platform for snacks shops that can help them to manage their stocks and day-to-day transaction with their customers. This automated platform was developed using PHP/OOP and MySQL Database. It allows the management to store their product stocks and has a POS Feature.
The following were used to develop this user-friendly features and functionalities:

- XAMPP v3.3.0 as my local webserver that has a PHP Version 8.0.7
- PHP Language
- MySQL Database
- HTML
- CSS
- JavaScript
- jQuery
- Ajax
- Bootstrap v5 Framework

Hardware and Software Requirements:

Hardware Requirements

- Processor : Intel i3
- Operating System : Windows 7/8/10
- RAM : 4+GB
- Hardware Devices : Computer System
- Hard disk : 64 GB
- Display : 1366 x 768

Software Requirements

- Supported Operating System- Microsoft Windows 7/8/10/11
- Software required – xampp, VS studio.
- Implemented – Front-end and Back-end technologies.
- Browser – Google Chrome

What does a Snacks Management System consist of?

- **Cloud Point of Sale system:**

POS systems today have come a long way. It's no more synonymous to the Billing system anymore. There are various other functions associated with POS systems today. You can use mobile handheld POS systems in your shop. Orders are generated instantly and automated KOTs are sent to the kitchen. Cloud POS systems work offline, give real-time updates and are highly secure. They are operational on mobile phones and tablets.

- **Sales and Accounting software:**

Finance and accounting software helps in regular tracking of shop sale and expenses. Stock purchase and inventory management become simplified. Better insight is gained on profitable and best-selling items, profits and much more.

- **Snacks Data Records :**

The shop management system provides you with your snacks' data. Daily sales,

staff, accounting, customer, delivery reports and more can be run on your snacks' POS system. Data comparison is another feature that will give you a better insight into your ways and methods. All information is on a single platform and can be accessed from anywhere. Next time you plan on introducing a new dessert, you'll know exactly how to market it given the past reports.

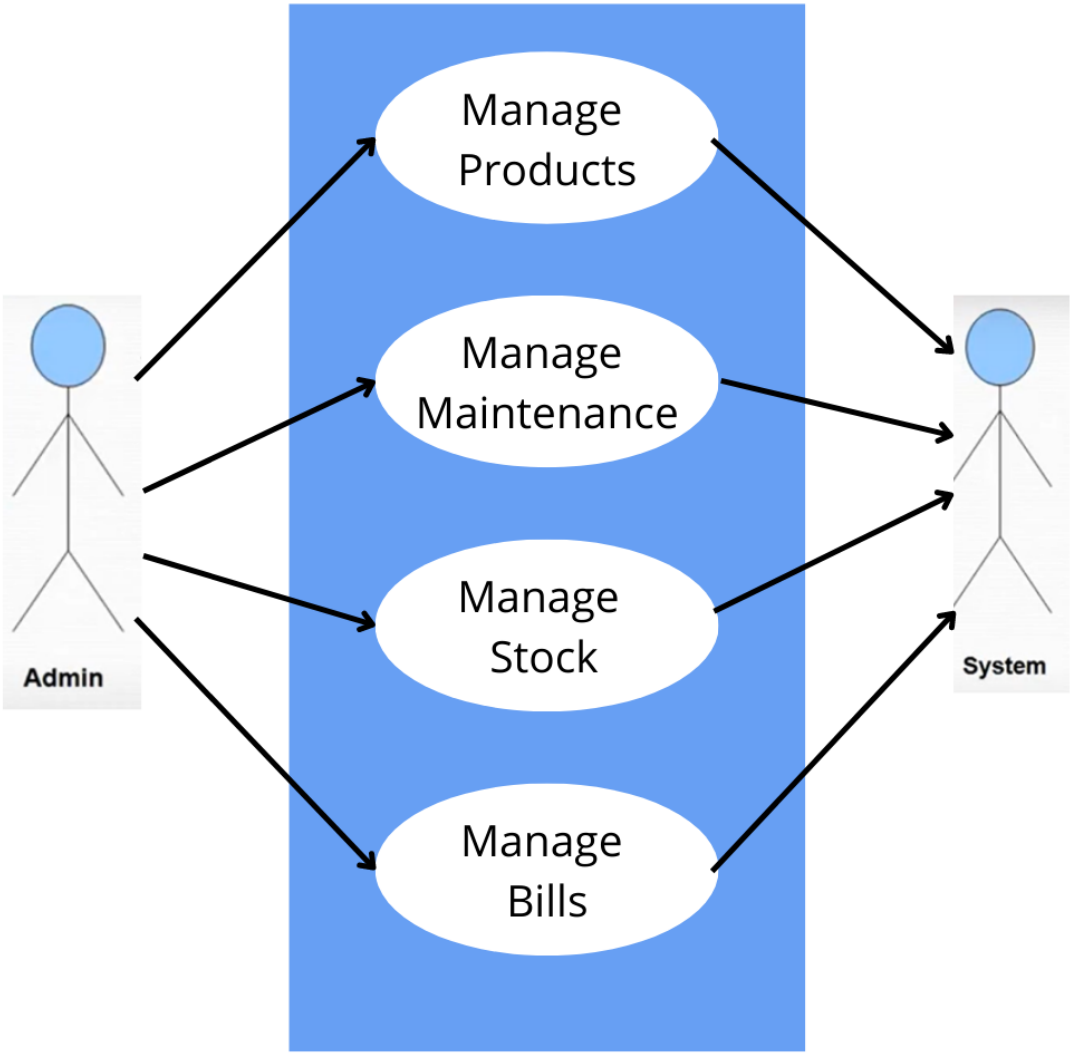
Modules and Functionalities

1. **Login Page** : Firstly the admin needs to login to the account using the credentials(Username and password) provided by the developer .
2. **Home Page** : This page has all the important or we can say overall details of the shop like categories , products , total stocks and Today's sale . Here we can view our product based on product name , product code and category , we can look for available quantity of the product and can restock from then and there .
3. **Products Page** : Here we can look for the complete description of our product along with it's name , product code , category , price , quantity left , status and action . Using action , we can view details , edit and delete our product . We can also add up items directly using add new option on top right corner of the main box .
4. **Stocks Page** : This page shows details of products added like , the date they were added on , their expiry , their quantity , name along with the product code and actions . using actions we can edit or delete products and can add new products using add new option on top right corner of the main box .
5. **POS Page** : This is mainly the transaction page . From here we add products to be purchased and finally generate the bill . In transaction we have payable amounts , tendered amount and change .
6. **Sales Page** : This page has a complete history of receipts printed or the bills generated .
7. **Maintenance Page** : Here we can add more categories to our snacks store .

Software Design

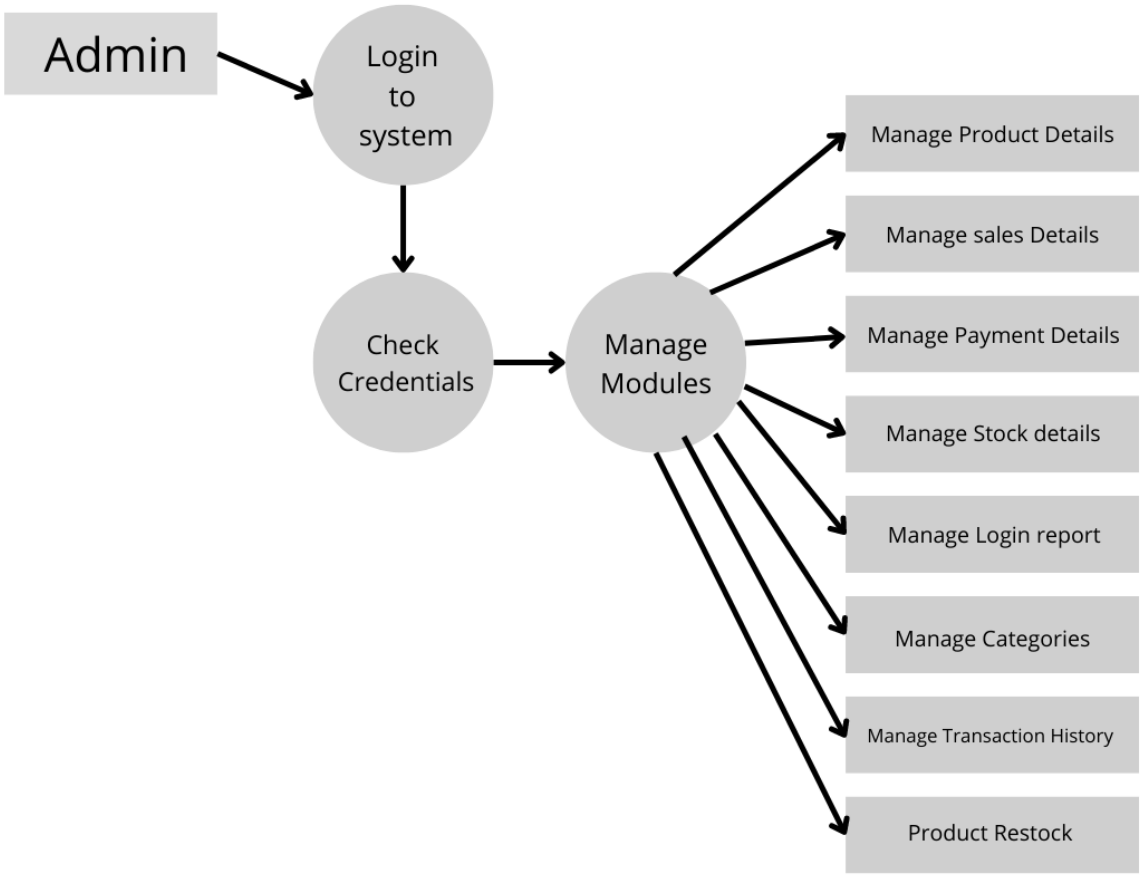
1. Use case Diagram between admin and System :

A use case diagram is a graphical depiction of a user's possible interactions with a system. A use case diagram shows various use cases and different types of users the system has and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses.



2. Data Flow Diagram :

A data-flow diagram is a way of representing a flow of data through a process or a system (usually an information system). The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow — there are no decision rules and no loops. Specific operations based on the data can be represented by a flowchart.



Technology Used

Full-Stack :

Full stack technology refers to the entire depth of a computer system application, and full stack developers straddle two separate web development domains: the front end and the back end.

The front end includes everything that a client, or site viewer, can see and interact with. By contrast, the back end refers to all the servers, databases, and other internal architecture that drives the application; usually, the end-user never interacts with this realm directly.

- ***XAMPP*** : XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.
  XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply on an operating system by a developer, with the advantage that common add-in applications such as WordPress and Joomla! can also be installed with similar ease using Bitnami.

- **PHP Language** : PHP (recursive acronym for PHP: Hypertext Preprocessor is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML

- **MySQL Database :** MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a

computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.

- **HTML :** Originally, HTML was developed with the intent of defining the structure of documents like headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers. Now, HTML is being widely used to format web pages with the help of different tags available in HTML language.

Applications of HTML

i. **Web pages development** - HTML is used to create pages which are rendered over the web. Almost every page of web is having html tags in it to render its details in browser.
ii. **Internet Navigation** - HTML provides tags which are used to navigate from one page to another and is heavily used in internet navigation.
iii. **Responsive UI** - HTML pages now-a-days works well on all platform, mobile, tabs, desktop or laptops owing to responsive design strategy.
iv. **Offline support** -HTML pages once loaded can be made available offline on the machine without any need of internet.
v. **Game development**- HTML5 has native support for rich experience and is now useful in gaming development arena as well.

- **CSS :** Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.
  CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics; enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, which reduces complexity and repetition in the structural content; and enable the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

- **JavaScript :** JavaScript often abbreviated JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. Over 97% of websites use JavaScript on the client side for web page behavior, often incorporating third-party libraries. All major web browsers have a dedicated JavaScript engine to execute the code on users' devices.

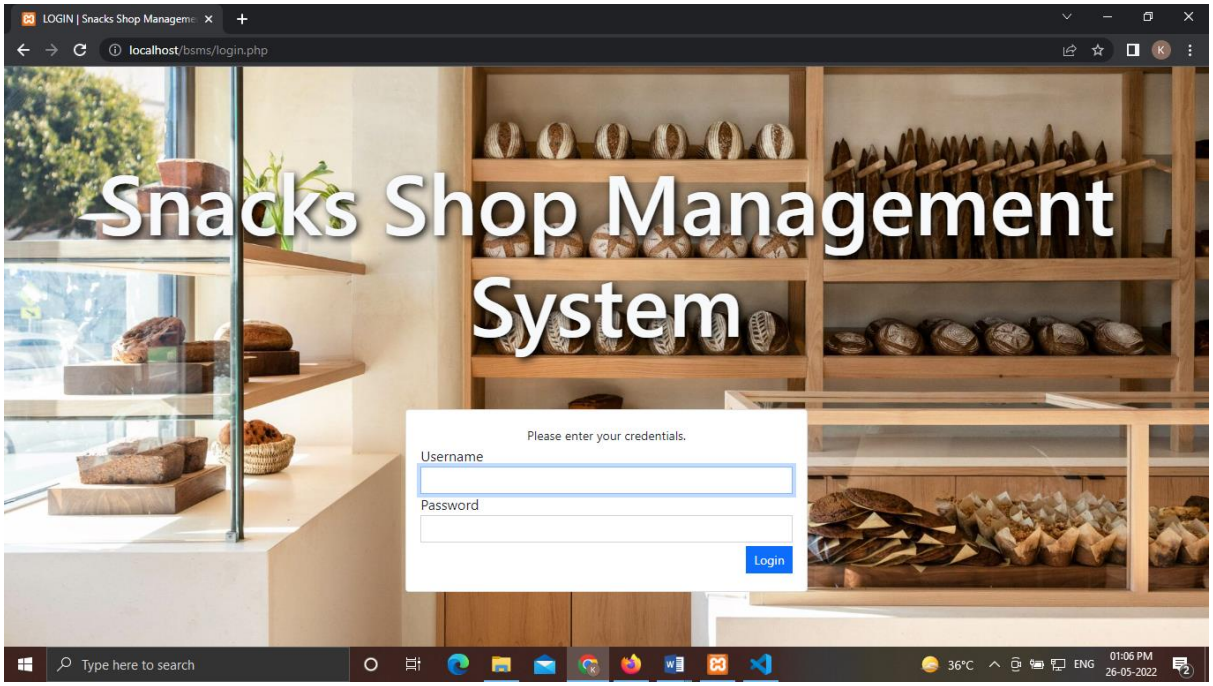
- **jQuery** : jQuery is a JavaScript library designed to simplify HTML DOM tree traversal and manipulation, as well as event handling, CSS animation, and Ajax. It is free, open-source software using the permissive MIT License. As of May 2019, jQuery is used by 73% of the 10 million most popular websites. Web analysis indicates that it is the most widely deployed JavaScript library by a large margin, having at least 3 to 4 times more usage than any other JavaScript library.

- **Ajax** : Ajax is a set of web development techniques that uses various web technologies on the client-side to create asynchronous web applications. With Ajax, web applications can send and retrieve data from a server asynchronously (in the background) without interfering with the display and behaviour of the existing page. By decoupling the data interchange layer from the presentation layer, Ajax allows web pages and, by extension, web applications, to change content dynamically without the need to reload the entire page. In practice, modern implementations commonly utilize JSON instead of XML.

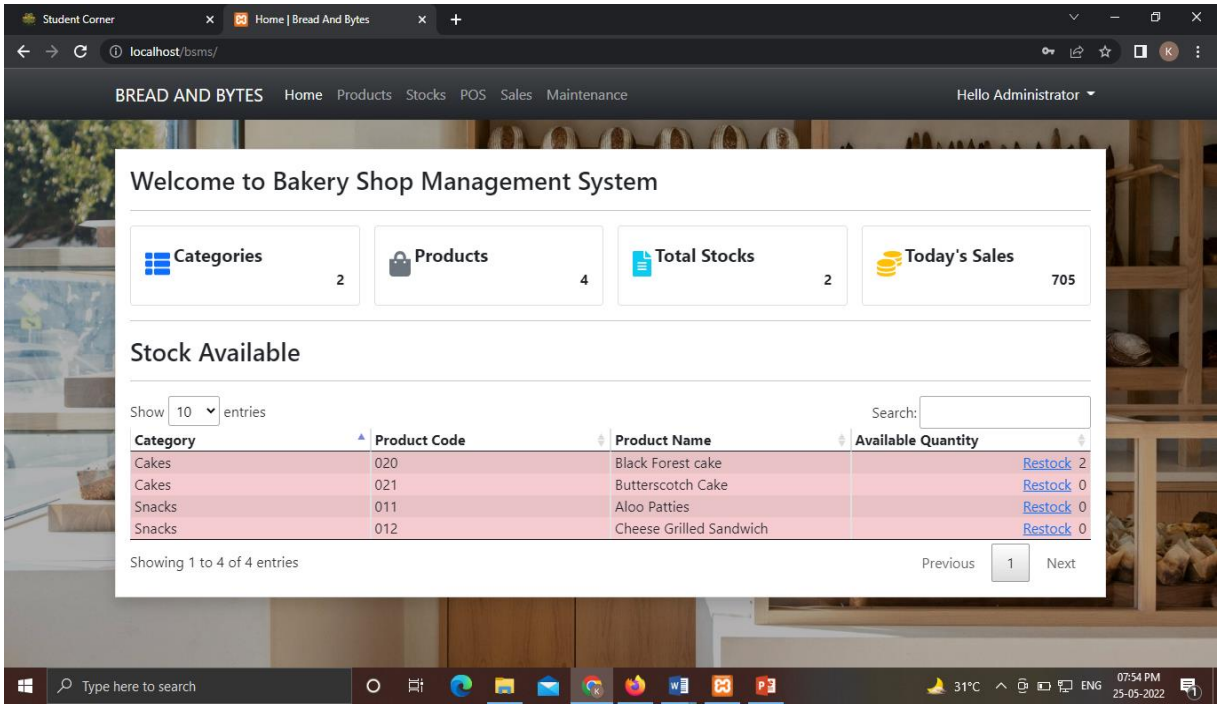
- **Bootstrap v5 Framework:** Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains HTML, CSS and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

Implementation

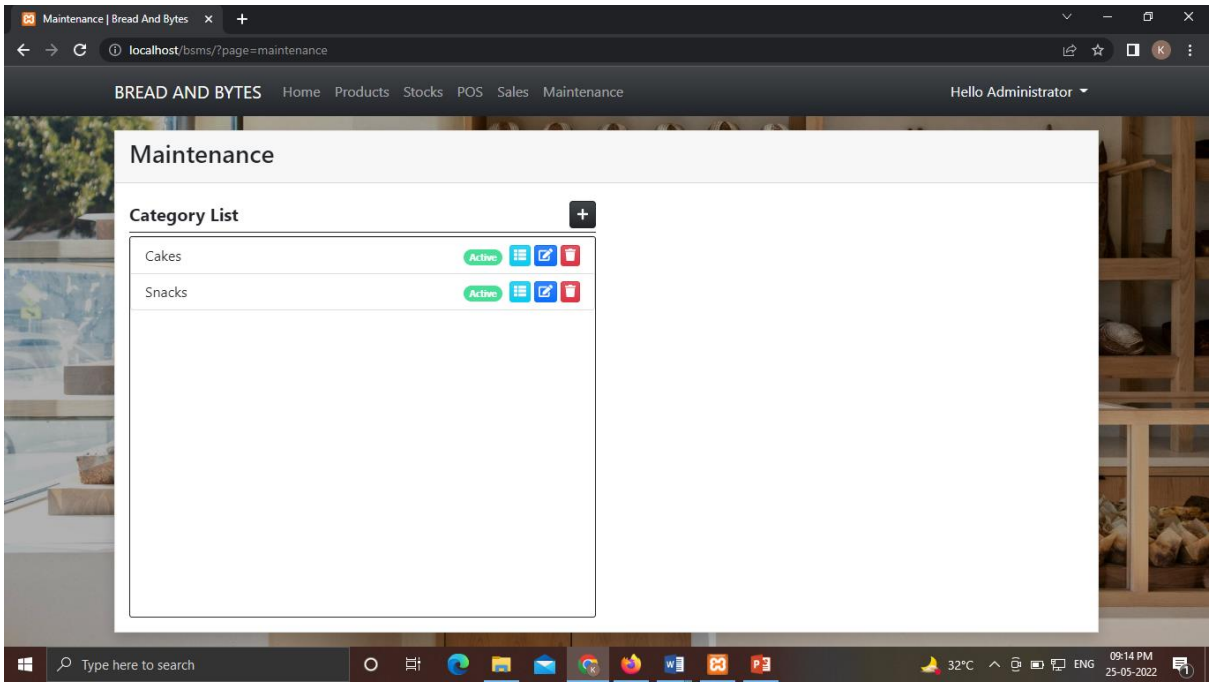
Login page:



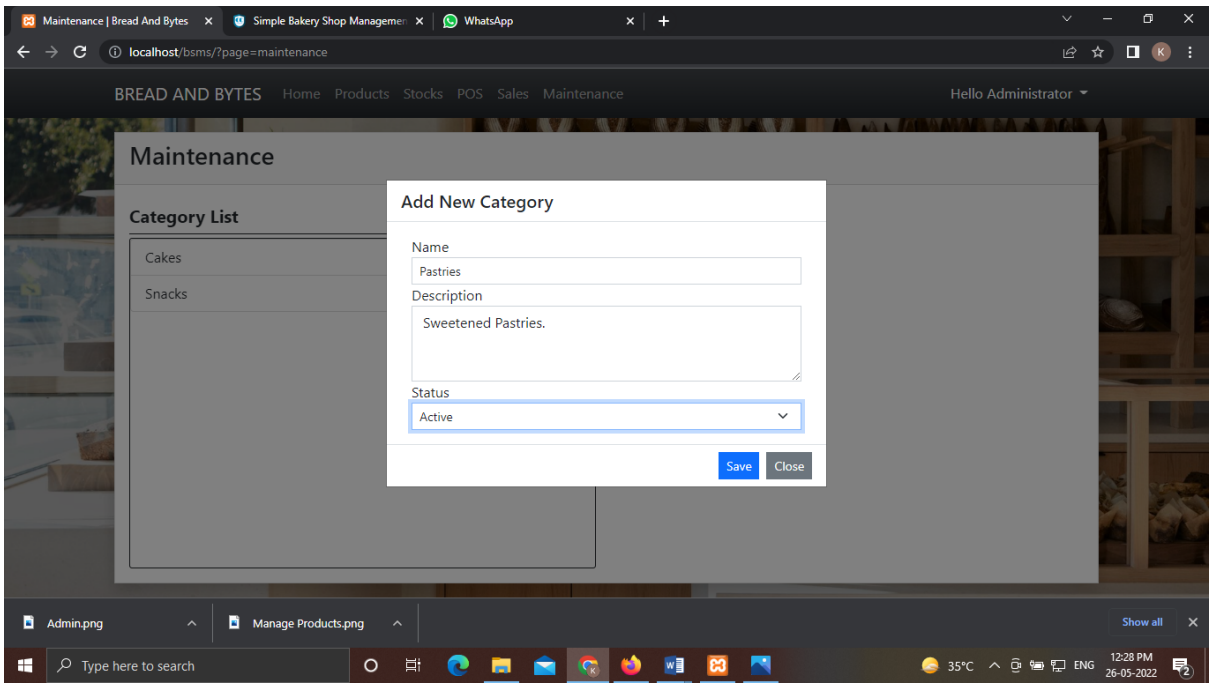
Home page:



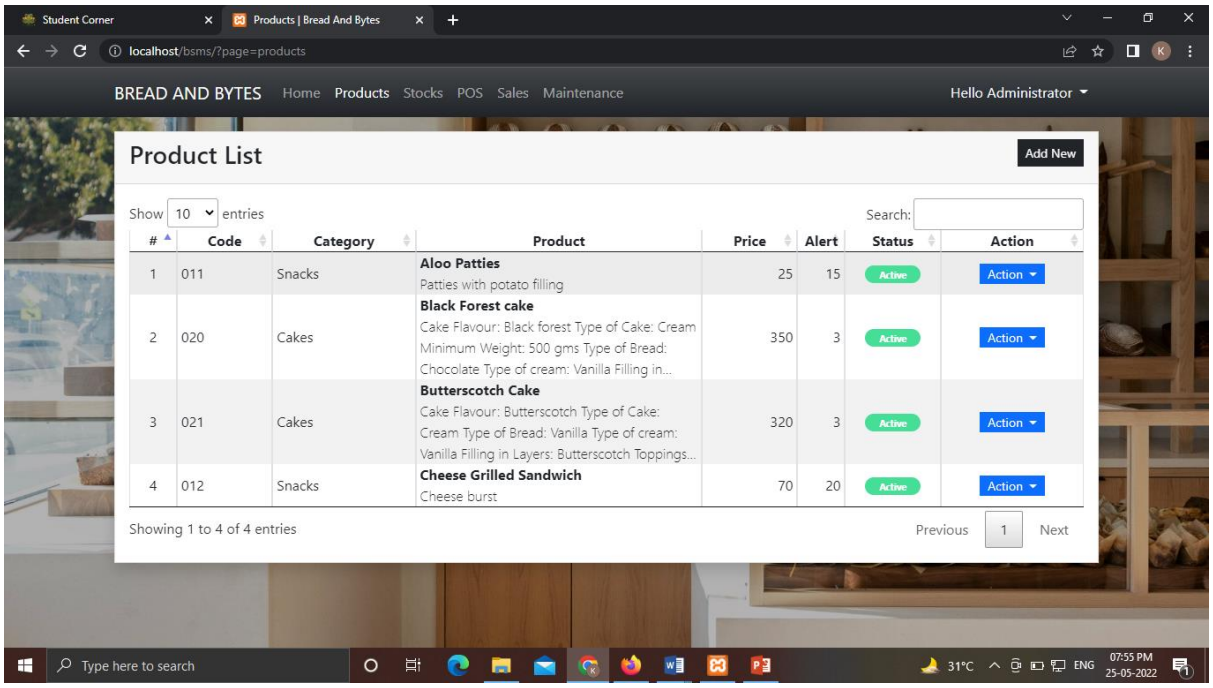
Maintenance page:



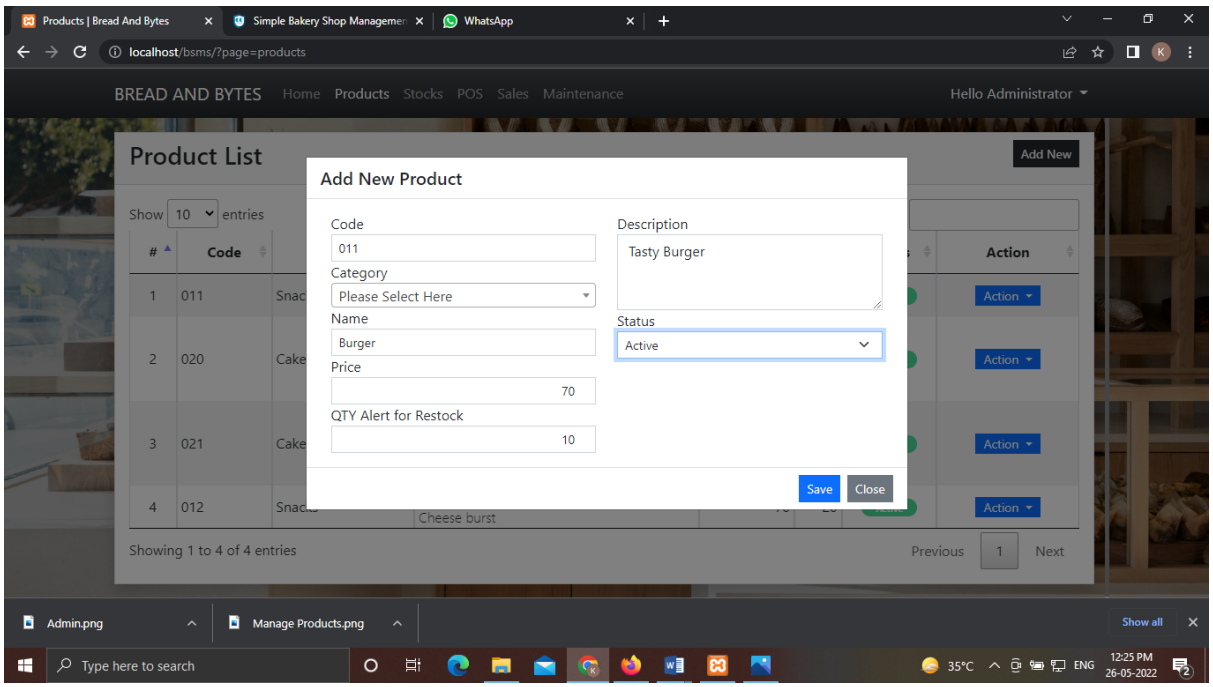
Add New Category:



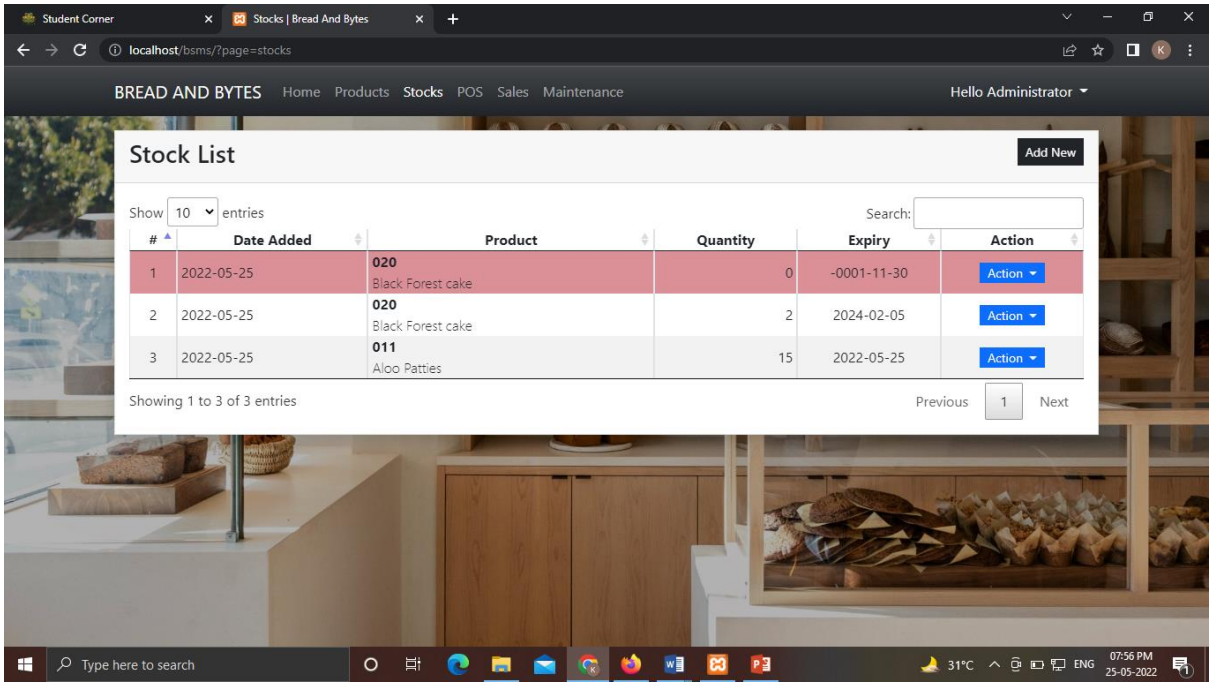
Product Page:



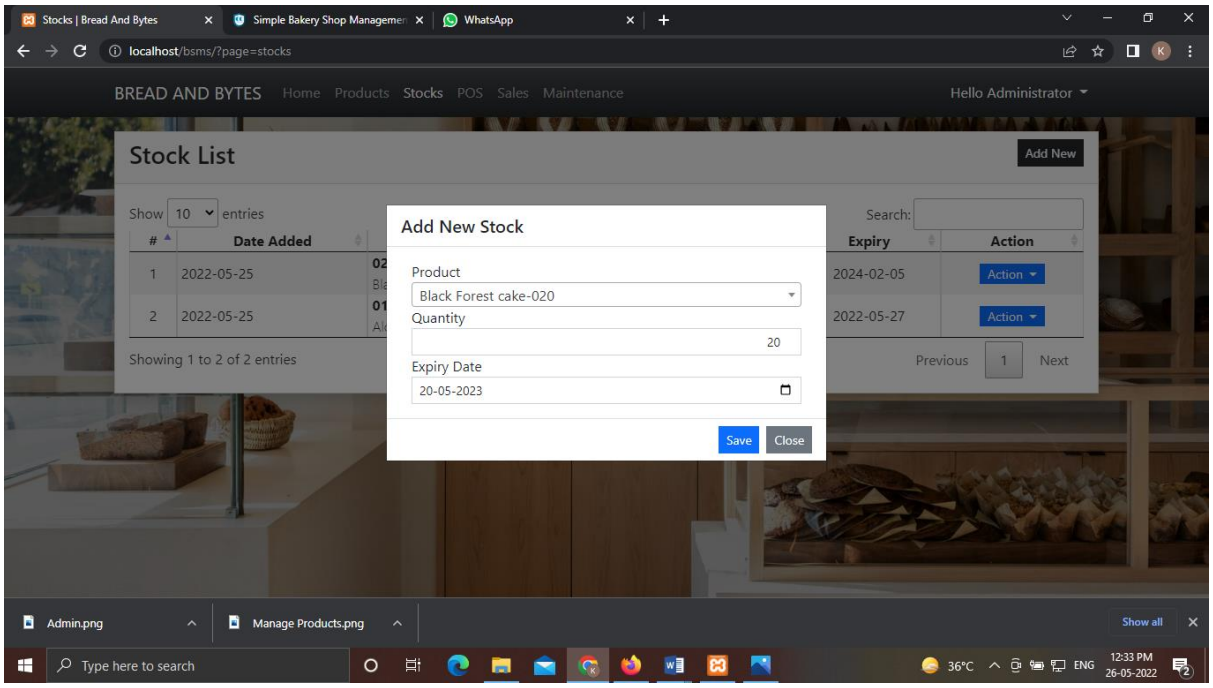
Add New Product:



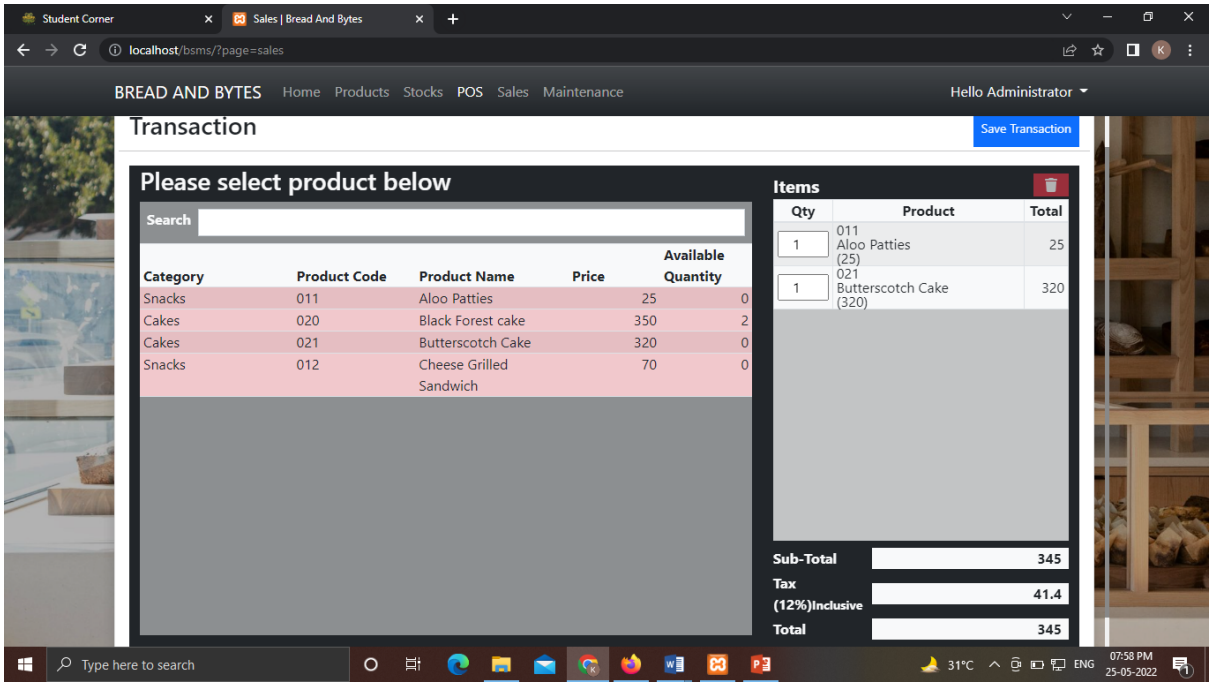
Stock Page:



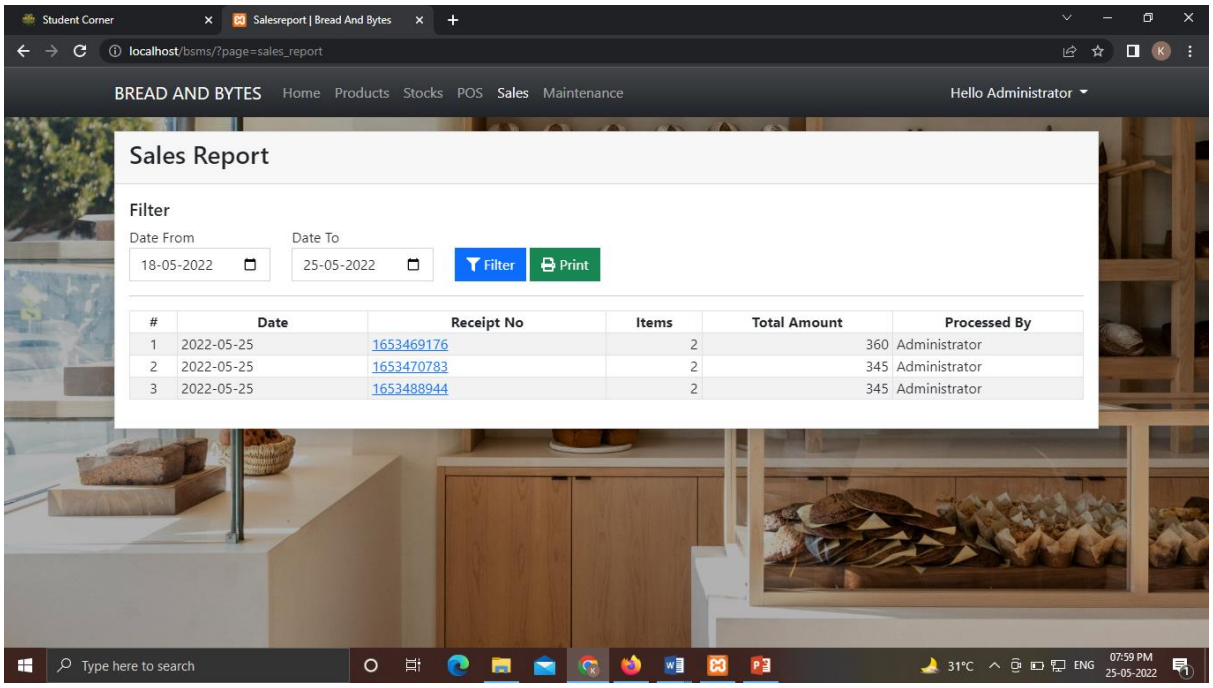
Add New Stock:



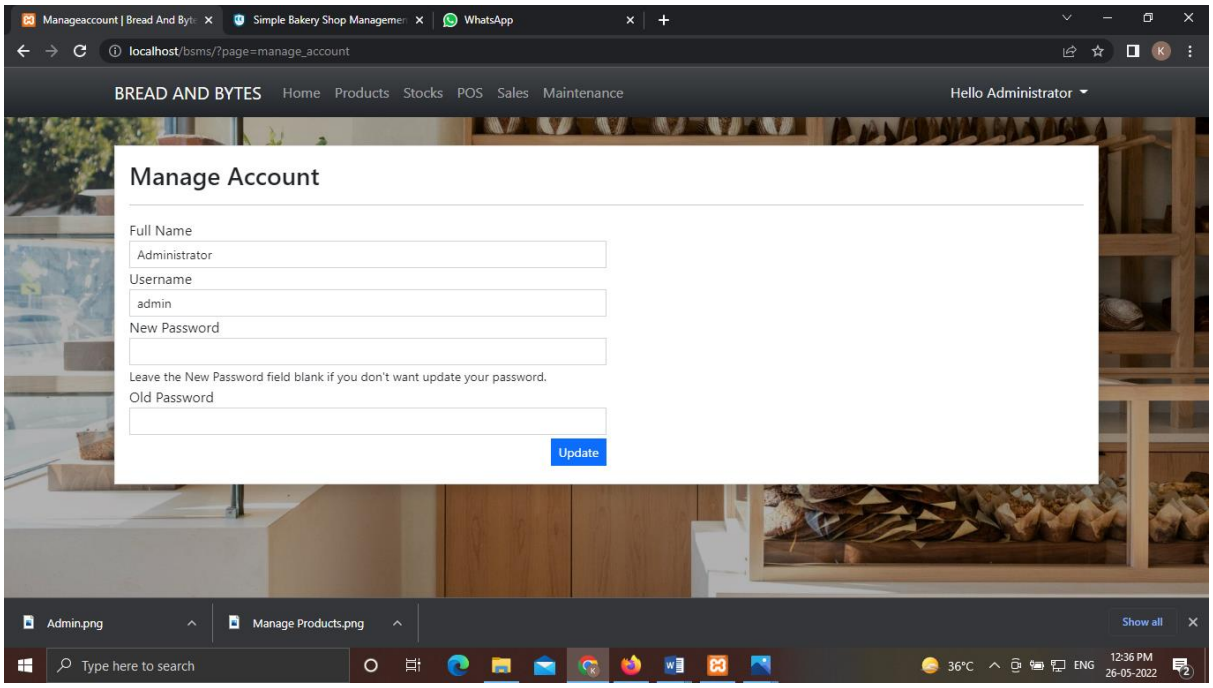
Point Of Sale Page:



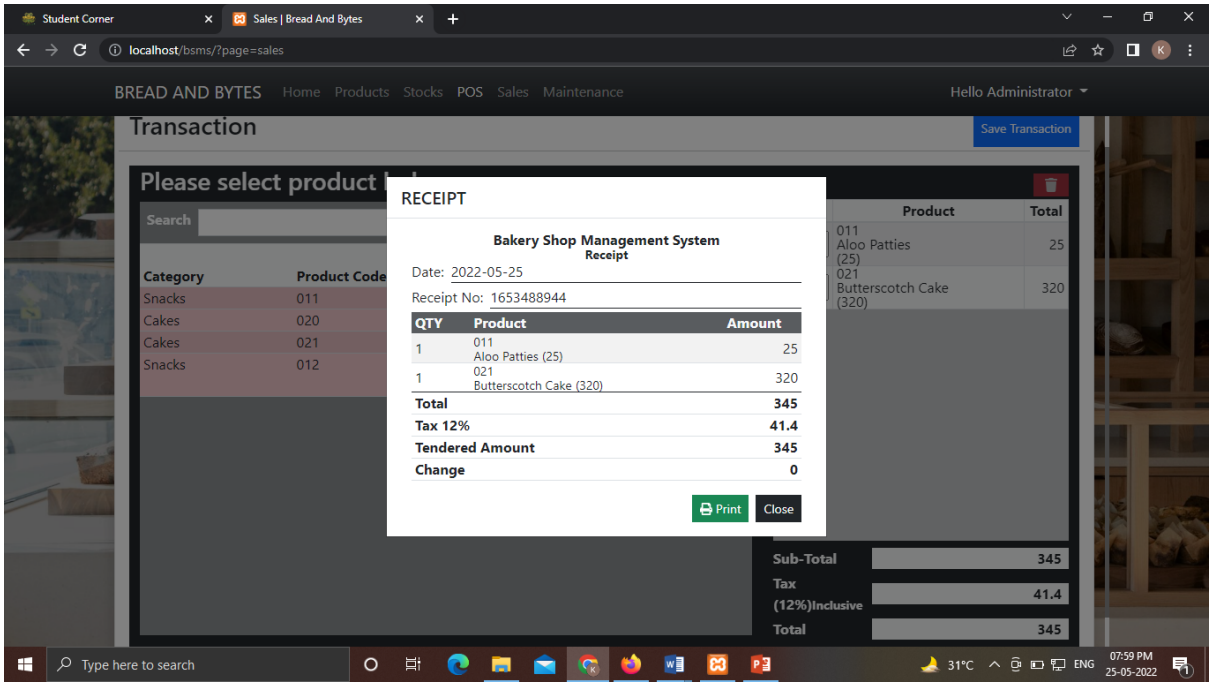
Sales Report Page:



Account Credentials Page:



Receipt Page:



System Testing

1. **Functionality Testing** - The below are some of the checks that are performed but not limited to the below list:

- Verify there is no dead page or invalid redirects.
- First check all the validations on each field.
- Wrong inputs to perform negative testing.
- Verify the workflow of the system.
- Verify the data integrity.

2. **Usability testing** - To verify how the application is easy to use with.

- Test the navigation and controls.
- Content checking.
- Check for user intuition.

3. **Interface testing** - Performed to verify the interface and the dataflow from one system to other.

4. **Compatibility testing**- Compatibility testing is performed based on the context of the application.

- Browser compatibility
- Operating system compatibility
- Compatible to various devices like notebook, mobile, etc.

5. **Performance testing** - Performed to verify the server response time and throughput under various load conditions.

Future Scope

Things that can be added to extend this project into a major one:

- Online Transaction can be added
- Mobile Application can be built
- More Security features can be added like login only through the OTP which would be sent to the mobile number registered

Conclusion

In whole procedure to prepare project, we first gather the requirement Of the project and then try to overcome all the fallbacks after implementation. After this, we are able to work with a team in order in the creation of the web application. And we have completed our project within time limit with the coordination of our team members under the supervision of our mentor Mr. Mandeep Singh.

References

- www.google.com
- www.youtube.com
- www.w3schools.com
- www.geeksforgeeks.com