COFFEE SHOP MANAGEMENT SYSTEM

A COURSE PROJECT REPORT

By

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Under the guidance of

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BONAFIDE CERTIFICATE

Certified that Mini project report titled **"COFFEE SHOP MANAGEMENT SYSTEM"** is the bonafide work of **NAIDU BODDETI[RA2111003010623]** who carried out the minor project under my supervision. Certified further, that to the best of my knowledge, the work reported herein does not form any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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1.INTRODUCTION

A database management system (DBMS) refers to the technology for creating and managing databases. Basically DBMS is a software tool to organize (create, retrieve, update and manage) data in a database.

The main aim of a DBMS is to supply a way to store up and retrieve database information that is both convenient and efficient. By data, we mean known facts that can be recorded and that have embedded meaning. Normally people use software such as DBASE IV or V, Microsoft ACCESS, or EXCEL to store data in the form of database.

Database systems are meant to handle large collection of information. Management of data involves both defining structures for storage of information and providing mechanisms that can do the manipulation of those stored information. Moreover, the database system must ensure the safety of the information stored, despite system crashes or attempts at unauthorized access.

This project is aim at computerizing the manual process of COFFEE SHOP MANAGEMENT SYSTEM. Front
end and backend are implemented using HTML and MySQL respectively. Along with the JSP program to analyse the program. The project consists of seven forms(entity) namely Planner who will plan for the coffee shop. The form Planner will have number of staffs. As well as each staff will maintains the guests and staffs are belongs to particular department.

2.LITERATURE SURVEY

2.1 Introduction to Database Management System:

DBMS stands for Database Management System. Database is a collection of data and Management System is a set of programs to store and retrieve those data. Based on this we can define DBMS like this: DBMS is a collection of inter-related data and set of programs to store and access those data in an easy and effective manner.

Database system are basically developed for large amount of data. When dealing with huge amount of data, there are two things that require optimization: Storage of data and retrieval of data. According to the principles of database systems, the data is stored in such a way that it acquires a lot less space as the redundant data(duplicate data) has been removed before storage.

Along with storing the data in an optimized and systematic manner, It is also important that we retrieve the data quickly when needed. Database system ensures that data is retrieved as quickly as possible.

Applications of DBMS

The development of computer graphics has been driven both by the needs of the user community and by the advances in hardware and software. The applications of database are many and varied; it can be divided into four major areas:

1. Hierarchical and network system
2. Flexibility with relational database
3. Object oriented application.
4. Interchanging the data on the web for e-commerce.

Display Information

In this particular project, we are taken HTML web page as a front end in order to display the information which are stored in the backend database called MySQL.HTML stands for Hyper Text Markup Language.HTML describes the structure of web pages using markup.HTML elements are the building blocks of HTML pages. Browser do not display the HTML tags but use them to render the content of page.

MySQL Command Syntax

As you might have observed from the simple program in the previous section, MySQL uses mainly uses six commands in which SELECT is used to retrieve rows selected from one or more tables. FROM refers to the table from which we need to select the attributes. WHERE clause, if given, indicates condition or conditions that rows must satisfy to be selected. where_ condition is expression that evaluates to true for each row to be selected. This statement selects all rows if there is no where clause. GROUP BY clause used to group the values of the attributes provided that values must be same. HAVING clause is applied nearly last, just before items are sent to the client, with no optimization. If the HAVING clause refers to a column that is ambiguous, warning occurs. ORDER BY clause is used for the purpose of sorting the values of the attributes in a result. If you use GROUP BY,output rows are sorted according to GROUP BY columns as if you had an ORDER BY for the same columns.

MySQL-related Libraries

The MySQL PHP extensions are lightweight wrappes on top of a C client library.The extensions can either use the mysql and library or libmysqlclient library. Choosing a library is a compile time decision. The mysqland library is part of the PHP distribution since 5.3.0. It offers features like lazy connections and query caching, features that are not available with the libmysqlclient, so using the built in library is highly recommended. It is recommended to use the mysqland library instead of the mysql client server. Both libraries are supported and constantly being improved.

2.2 Triggers:

A database trigger is procedural code that is automatically executed in response to certain events on a particular table or view in a database. The trigger is mostly used for maintaining the integrity of the information on the database. For example, when a new record (representing a new worker) is added to the employees table, new records should also be created in the tables of the taxes, vacations and salaries. Triggers can also be used to log historical data.

2.3 JSP:

Java Server Pages (JSP) is a technology that helps software developers create dynamically generated web pages based on HTML, XML, or other document types. Released in 1999 by Sun Microsystems, JSP is similar to PHP and ASP, but it uses the Java programming language.To deploy and run Java Server Pages, a compatible web server with a servlet container, such as Apache Tomcat or Jetty, is required

3.REQUIREMENT ANALYSIS

3.1 Purpose

The purpose of this project is to outline coffee shop data and requirements, to recommend data management solutions and to provide a information regarding the coffee. The purpose of this project is to develop a data management system to consolidate, organize, document, store and distribute information related to coffee shop management system.

A centralized database created to consolidate data, allowing integrated,long term analyses, and dynamic search abiliy with user friendly query tools to be performed to support adaptive management. Many data collection, analysis and presentation software programs that are currently being used must be able to interface with any new data management system. Continuity with consistent data collection methodology is enforced by a common database system, allowing for standardized format for forms ad reports between projects.

3.2 Scope

The scope of the project is managing a consistency and storage of data by dedicated data administrator. It provides most of the features that a Database Management System should have. It is developed by using MySQL database. It has been implemented in WINDOWS platform.

3.3 Functional Requirements:

Three modules are used in this project namely Admin, user, planner

- Admin: can insert,analyse the table's
- User: can register their information
- Planner: can plan the coffee shop

3.4 Non Functional Requirements:

Hardware specification

Processor : i5 Core Processor

Clock speed : 2.5GHz

Monitor : 1024 * 768 Resolution Color

Keyboard : QWERTY

RAM : 1 GB

Input Output Console for interaction

Software specification

MySQL Libraries

MySQL Workbench 6.3 CE

Eclipse IDE

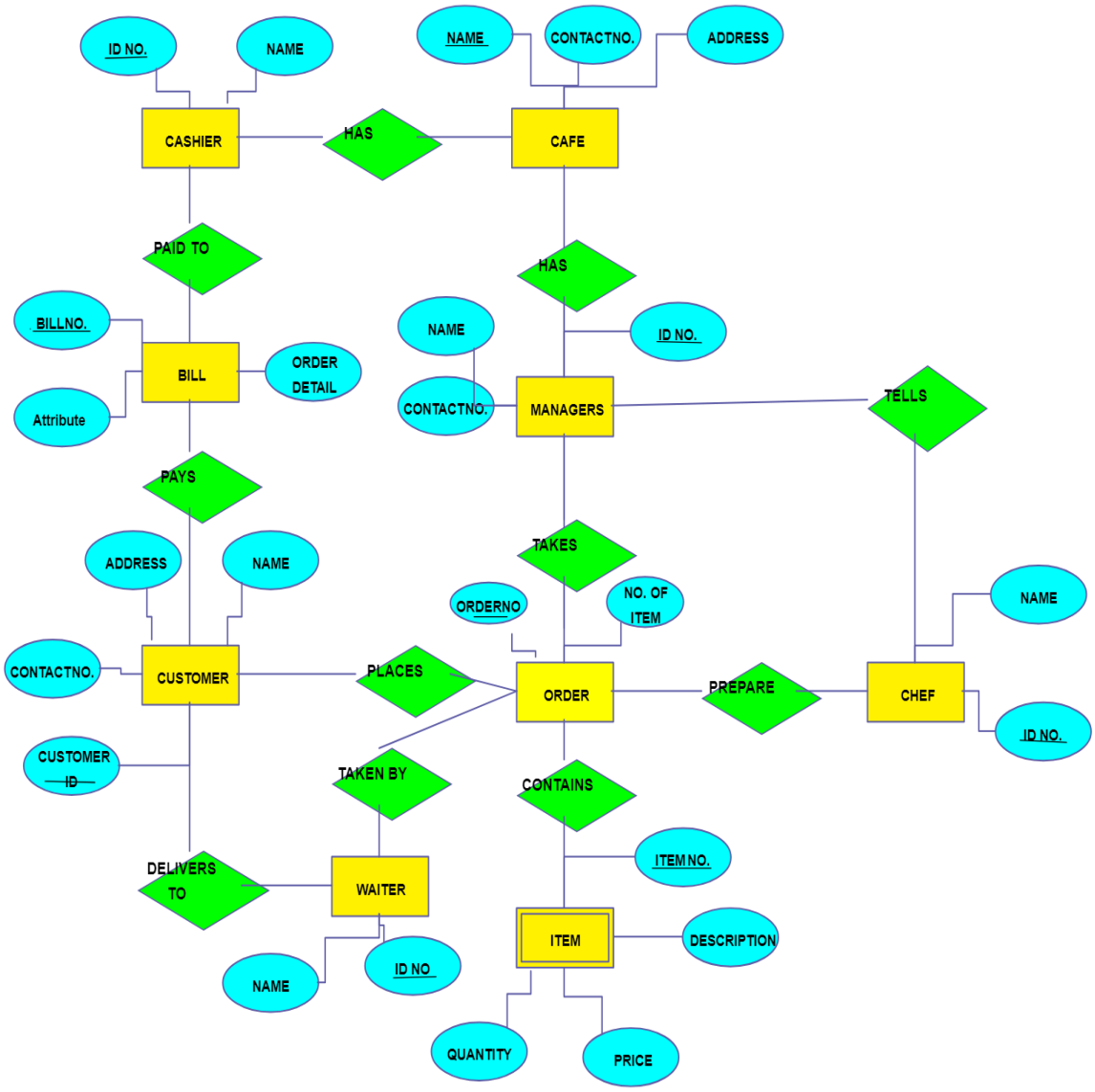
Apache Tomcat Server

Operating system : Windows10

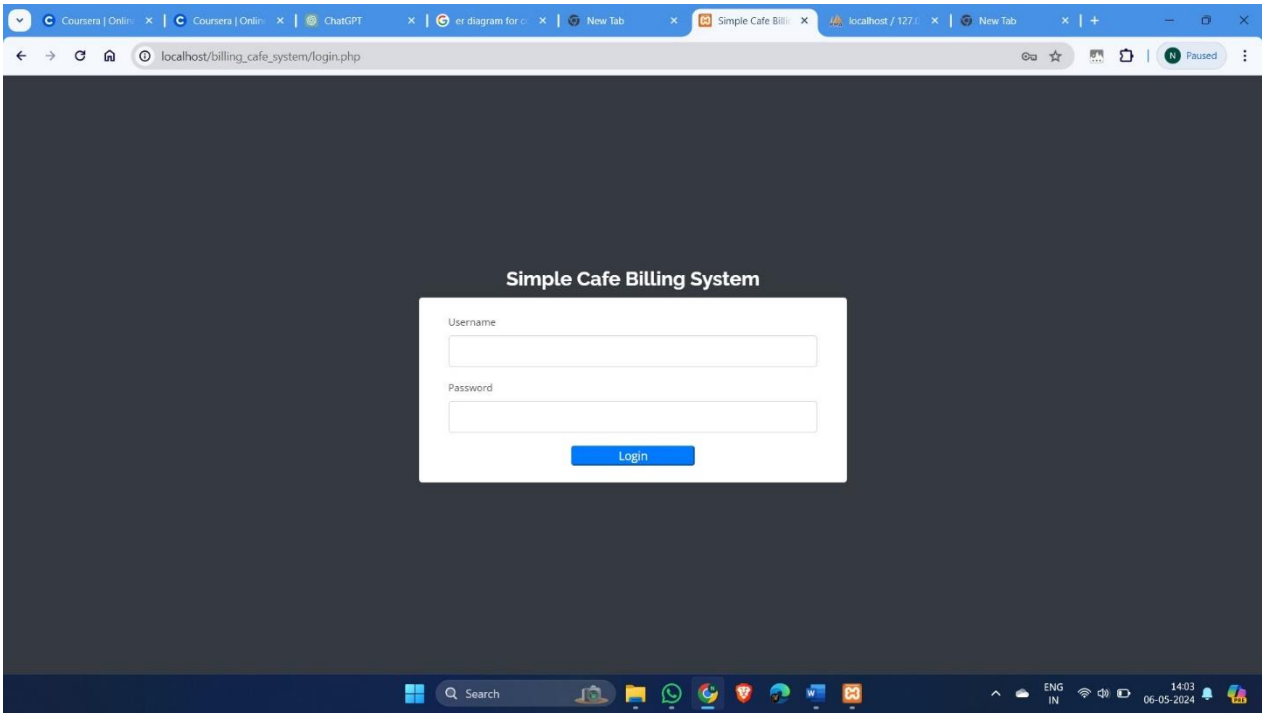
4.DESIGN

This project has been developed using MySQL software which is queries oriented. Changes at the queries and the way in which it uses a system state may cause anticipated changes in the behaviour of other result.

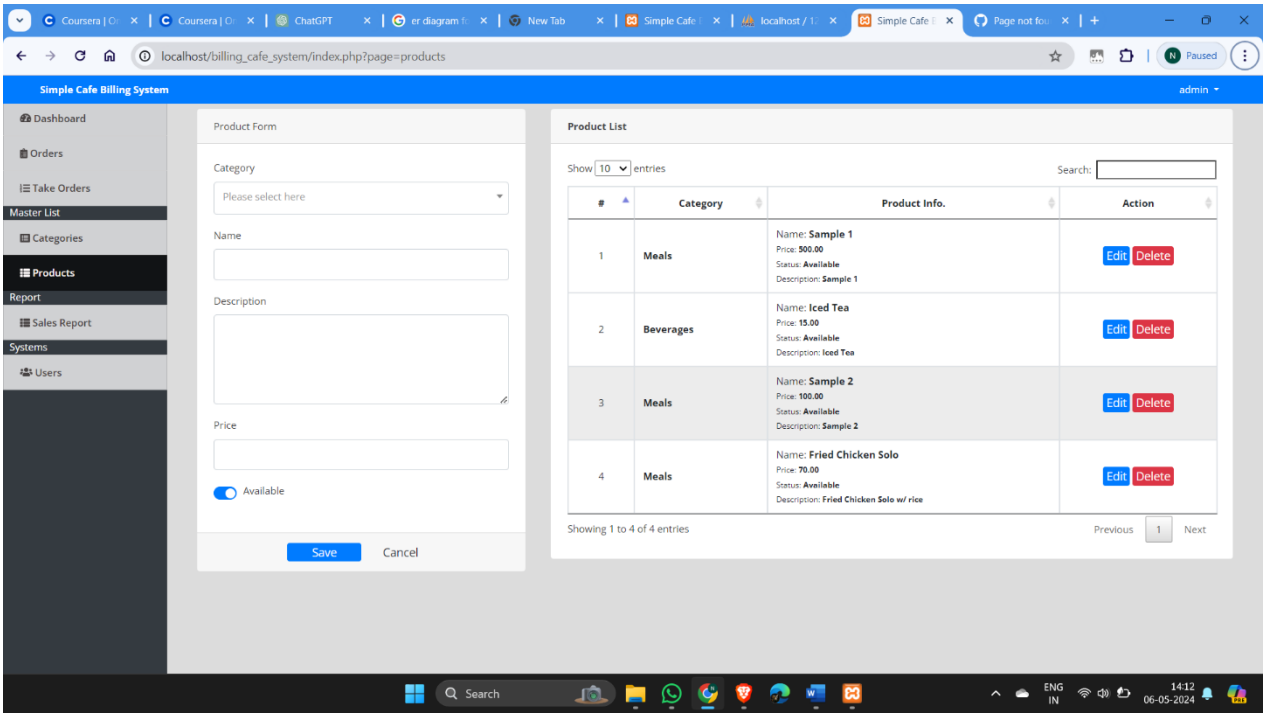
4.1 ER-Diagram:



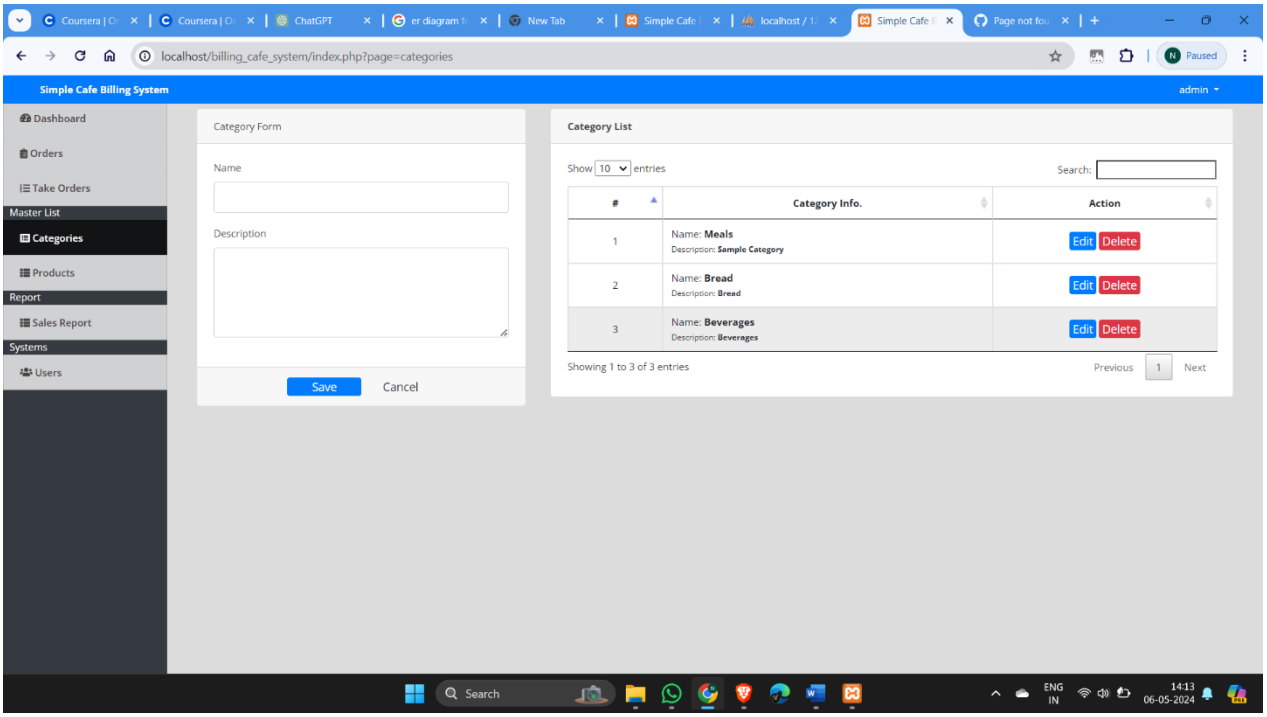
5.OUTPUT



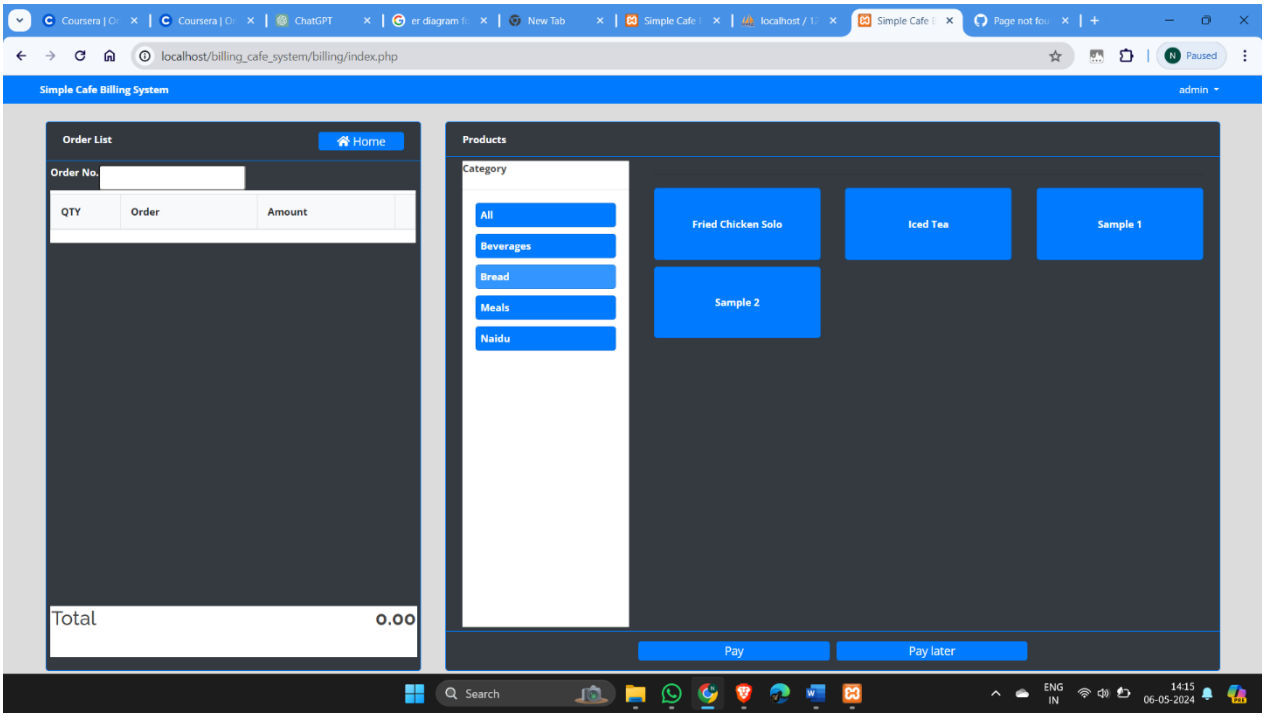
5.1.Login Page



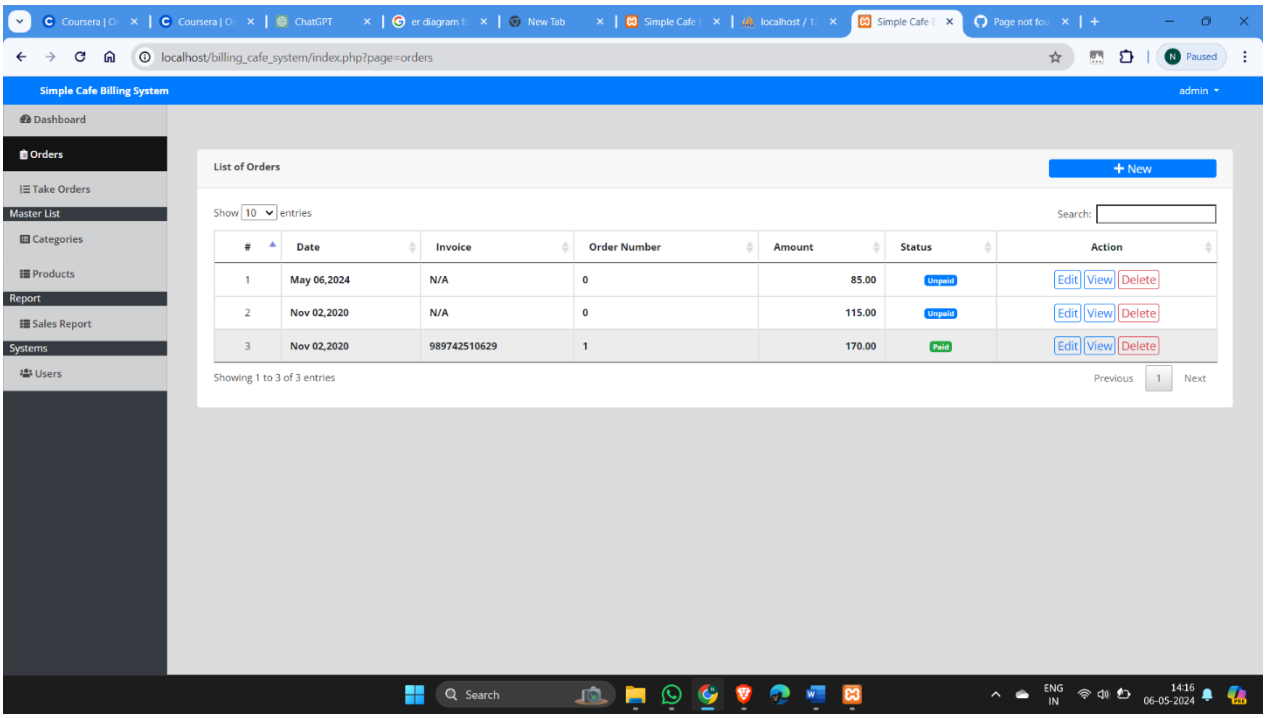
5.2.Product List Page



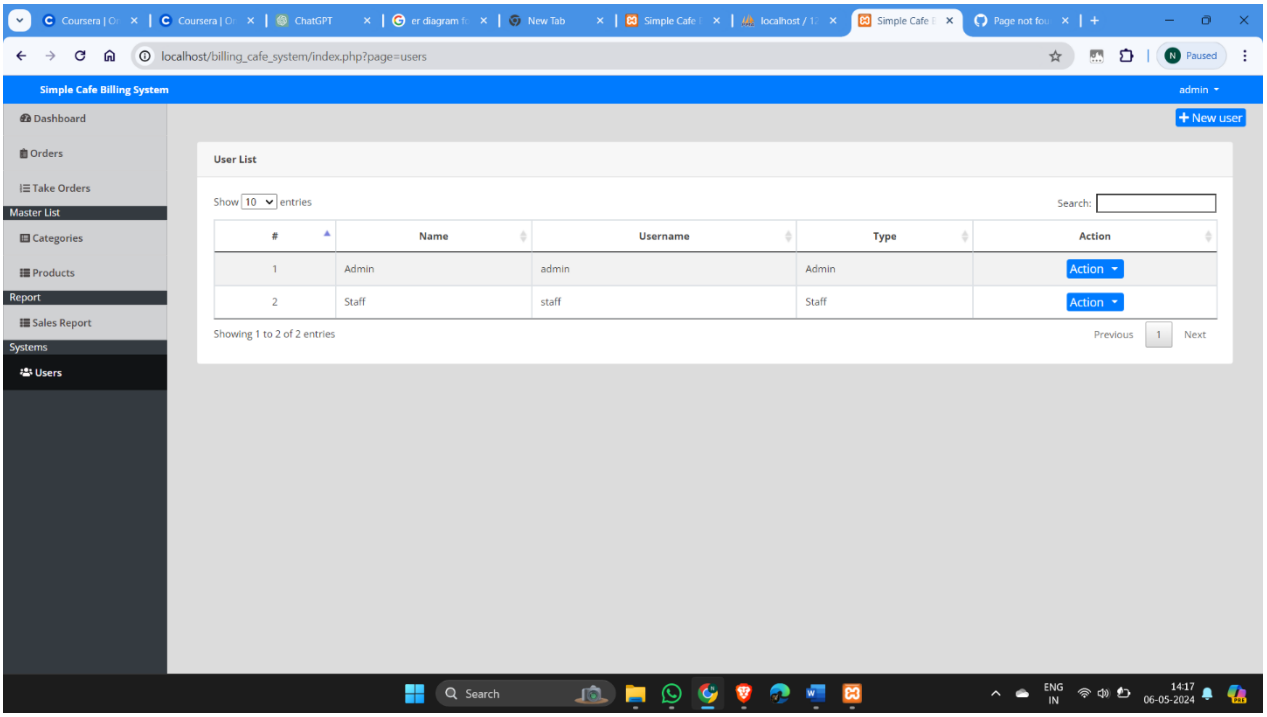
5.3. Categories Page



5.4.Ordered List Page



5.5.List Of Orders Page



5.6.Users Page

6.CONCLUSION

In conclusion, the Coffee Management System developed for this DBMS project has successfully addressed the requirements and objectives set forth. The system provides a user-friendly interface for managing various aspects of a coffee shop, including inventory management, customer orders, employee management, and sales tracking.

Key features of the system include:

Inventory Management: The system accurately tracks inventory levels of coffee beans, supplies, and other items, providing real-time updates and alerts for reordering.
Order Processing: Customers can easily place orders through the system, which are promptly processed and updated in the database, ensuring efficient handling of customer requests.
Employee Management: The system manages employee records, including schedules, roles, and performance tracking, facilitating smooth operations within the coffee shop.
Sales Tracking: Comprehensive sales reports and analytics are generated by the system, allowing for insights into revenue, popular items, and customer trends.
Security and Access Control: The system implements robust security measures to protect sensitive data and restricts access based on user roles, ensuring data integrity and confidentiality.
Throughout the development process, various DBMS concepts and techniques were applied, such as database design, SQL queries for data manipulation and retrieval, normalization to optimize data structure, and indexing for performance enhancement.

Challenges encountered during the project, such as ensuring data consistency and handling concurrency issues, were effectively addressed through careful design and testing methodologies.

Overall, the Coffee Management System represents a comprehensive solution for coffee shop management, leveraging DBMS principles to deliver efficiency, accuracy, and scalability in operations.

7. FUTURE ENHANCEMENT

For future enhancements to the Coffee Management System in a DBMS project, several avenues could be explored to further improve functionality, user experience, and overall efficiency. Here are some potential areas for enhancement:

1. Mobile App Integration: Develop a mobile application that integrates with the Coffee Management System, allowing customers to place orders, track their order status, and receive notifications on promotions or special offers.

2. Inventory Forecasting: Implement predictive analytics and machine learning algorithms to forecast inventory levels based on historical data, seasonal trends, and customer demand patterns. This can help optimize stock levels and reduce wastage.

3. Customer Loyalty Program: Introduce a customer loyalty program within the system, where customers earn points for purchases and can redeem rewards such as discounts or free items. This can incentivize repeat business and enhance customer engagement.

4. Integration with Payment Gateways: Integrate popular payment gateways into the system to facilitate seamless and secure online payments for orders placed through the mobile app or website.

5. Feedback and Reviews: Incorporate a feedback and review system where customers can provide ratings and comments on their experience. Use this data to gather insights, identify areas for improvement, and enhance customer satisfaction.

6. Social Media Integration: Enable social media integration to allow customers to share their experiences, promotions, and special offers with their social networks, thereby increasing brand visibility and attracting new customers.

7. Multi-location Support: Extend the system to support multiple coffee shop locations, with centralized management of inventory, sales, and employee data across all locations. This can streamline operations and facilitate expansion.

8. Real-time Analytics Dashboard: Develop a real-time analytics dashboard for managers and administrators to monitor key metrics such as sales performance, inventory turnover, and customer trends. This can enable data-driven decision-making and strategic planning.

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