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SHOP HOUSE MANAGEMENT

Aiswarya Swain
Rashmiranjan Sahoo
Email ID: aiswarya2023@gift.edu.in , rashmiranjan2023@gift.edu.in
Guided By: Mrs. Smruti Smaraki Sarangi
Assistant Professor, Department of MCA, Gandhi Institute for Technology, BPUT, India

Abstract- The Shop House project is a web-based application developed to digitalize and simplify the daily operations of local retail shops. It provides features like product listing, inventory management, customer handling, and sales processing in one unified system. The aim is to replace traditional manual work with an easy-to-use digital solution that works across devices like mobile, tablet, and desktop. The system is built using HTML, CSS, JavaScript, PHP, and MySQL, and hosted locally using XAMPP. It improves efficiency, reduces human error, and helps local shopkeepers manage their business effectively in today's digital world.

Keywords-Shop Management System, Inventory Tracking, PHP, MySQL, XAMPP, Digital Sales, Customer Handling, Web Application, Responsive Design, Retail Automation.

I. INTRODUCTION

In today's fast-paced world, small retail businesses are gradually moving towards digital solutions to improve efficiency and customer service. Traditional shopkeeping methods, which rely heavily on manual operations, often lead to errors, poor inventory tracking, and slower service. The Shop House project is developed to overcome these issues by providing a digital platform that helps manage products, stock levels, customers, and sales in an organized way.

This web-based application is user-friendly, responsive, and easy to access from multiple devices. It offers shopkeepers a better way to control their business, reduce manual workload, and improve accuracy in daily transactions. The system is ideal for small shop owners looking to upgrade their business with minimal cost and technical knowledge.

Purpose :

The purpose of the Shop House project is to develop a simple and effective web-based system that helps local shop owners manage their business digitally. It aims to automate key tasks such as product listing, stock management, customer entry, and sales tracking. By using this system, shopkeepers can reduce manual errors, save time, and provide better service to customers. The application is designed to be user-friendly and responsive, making it suitable for daily use in small retail shops.

A. Scope

The Shop House system is designed to help small retail shops manage their daily operations digitally. The scope includes inventory management, product and supplier details, customer records, and sales transactions. The system supports role-based access for admin and employees, allowing secure and controlled usage.

Users can add, update, and delete products, manage purchases and stock levels, and generate sales reports. The application is limited to local hosting using XAMPP and focuses on basic shop management functions. Future enhancements may include online access, payment gateway integration, and cloud hosting.

B. Literature Survey

With the rise of digital transformation in retail, many researchers and developers have focused on creating systems that automate shop operations such as inventory management, sales tracking, and customer handling. Studies show that web-based technologies like PHP and MySQL are widely used due to their flexibility, open-source nature, and ease of integration with front-end languages like HTML, CSS, and JavaScript. In particular, applications developed on XAMPP provide an effective local server environment for testing and deployment. Research papers such as "Development of Shop House Management System Using PHP and XAMPP Server" and "Inventory and Sales Automation for Retail Shops using PHP and MySQL" demonstrate the advantages of using simple, scalable tools for small business automation. These studies inspired the development of the Shop House system, focusing on user-friendly design, role-based access, and secure digital recordkeeping. The literature also supports the use of responsive design to enhance user experience across multiple devices and platforms.

Method

The development of the Shop House web application followed a systematic approach, starting from requirement analysis to final deployment. Initially, the needs of local shopkeepers were studied to understand the challenges in manual inventory and sales processes. Based on these requirements, the system was carefully designed using MySQL for backend database structure and HTML, CSS, JavaScript, and Bootstrap for a responsive front-end interface. The backend logic was implemented using PHP to handle all data operations and server-side tasks. XAMPP was used as a local server environment to host and run the application during development. After completing the design and coding phases, the system was tested to ensure smooth functionality, correct data flow, and error-free user interaction. The project was then deployed in a local environment, and its performance was validated with sample data and use cases. The complete development process was documented with supporting screenshots and explanations to present a clear view of the system's working and implementation strategy.

Database Analyzing Design and implementation
In the development of the Shop House online shopping system, careful database design and implementation were essential to ensure data integrity, consistency, and efficiency. The process began with analyzing the system's data requirements, including user accounts, product listings, orders, shopping carts, and payment details. MySQL was used as the database, designed through phpMyAdmin on the XAMPP server. Key entities were modeled as relational tables, each with well-defined primary keys and foreign key constraints to preserve referential integrity. Fields were assigned appropriate data types such as VARCHAR for names and addresses, INT for quantities and IDs, and DECIMAL for prices. Constraints like NOT NULL and UNIQUE were applied to enforce data validity, and indexing was done on frequently queried columns to optimize performance. The use of backend validations in PHP, along with frontend validations via HTML and JavaScript, ensured robust data entry and user-friendly interfaces. Data operations like INSERT, SELECT, UPDATE, and DELETE were performed using PHP's MySQL functions. Sessions and internal variables managed the shopping cart and user login states. This architecture resulted in a secure and efficient database structure, integrated smoothly with the application's functionality and user interface.

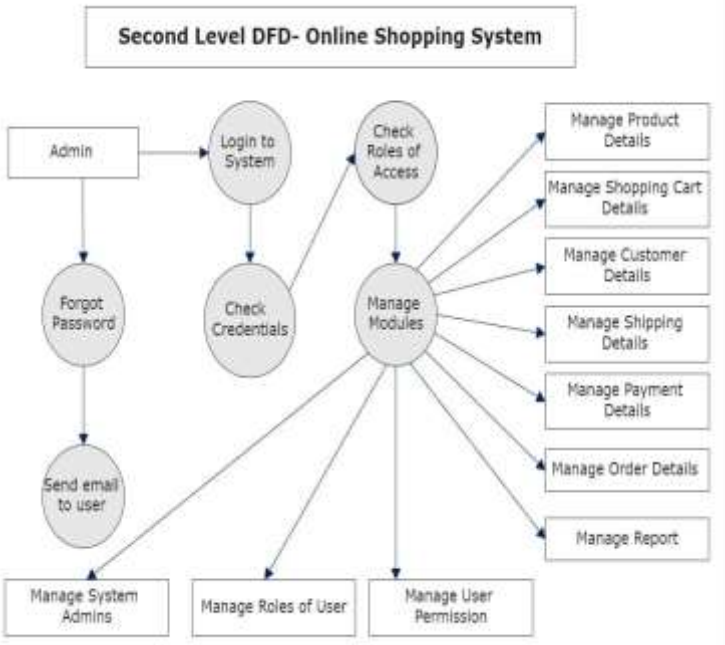


Figure 1: Proposed work

Figure 1 shows the proposed model. The first step is Data Extraction, which involves collecting the dataset for analysis and comparison from multiple sources. The second step is Data Transformation, a process where outliers and missing values are removed, and data is converted into a clean and structured format suitable for analysis. The third step is Algorithm Selection, where different machine learning algorithms are chosen for model development. In the fourth step, these models are trained using historical data to learn patterns and relationships. Next, the Performance Evaluation step involves analyzing the models' accuracy and comparing their results to determine the most effective algorithm. Finally, the selected model is used to predict whether a person has heart disease or not based on the input provided.

II. METHODOLOGY

A. Requirement Gathering Analysis : The process begins with analyzing the requirements of an online shopping system. In collaboration with users and the project guide, both functional (such as product listing, cart system, order management) and non-functional (like speed, security, and responsiveness) requirements were identified. This included deciding what data needs to be stored (users, products, orders), how users would interact with the system, and what outcomes were expected.

B. System Design : The Based on the requirements, a comprehensive system design is prepared. This includes:

- **Database Design**: MySQL was used to design relational tables like Users, Products, Orders, and Cart. Primary keys and foreign key relationships were defined to maintain data integrity.
- **Program Design**: The application logic was broken into modules like login system, product display, cart operations, and order processing, coded in PHP
- **Interface Design**: The frontend was created using HTML, CSS, Bootstrap, and JavaScript to ensure a responsive and user-friendly experience.

C. Development and Implementation : The system was developed using the XAMPP server environment.

- **Frontend Development:** Pages were designed for home, product details, cart, and user login/register using HTML, CSS, Bootstrap, and JavaScript.
- **Backend Development:** PHP was used to handle user authentication, cart management, order placement, and database interaction using MySQL.
- **Database Implementation:** All tables were created and managed in phpMyAdmin, with proper indexing and constraints.

D. Testing : Testing was done to ensure each part of the system worked correctly. This included: Unit Testing for individual modules like login, cart, and payment. Integration Testing to check if the modules worked together properly. User Acceptance Testing (UAT) where the complete system was tested from a user's point of view for correctness and usability.

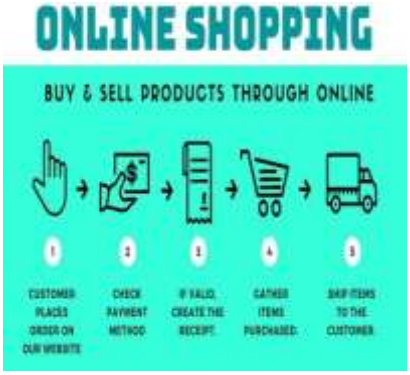
E. Deployment : After thorough testing and confirmation that all features are functioning correctly, the Shop House application was deployed on a local server using XAMPP. The system was set up for real-time use by copying all project files to the htdocs directory and importing the MySQL database through phpMyAdmin. Proper configuration was done in PHP files to ensure seamless database connection. The system was tested post-deployment for functionality and data consistency.

F. Documentation and Training : Comprehensive documentation was created to support future maintenance and understanding of the system. This included a technical report detailing the database schema, PHP functions, and frontend layout. A user manual was also provided to help end-users understand how to register, browse products, add items to cart, and place orders. Training or walkthrough sessions were optionally given to demonstrate the working of the application to the intended users.

G. Comparison of various machine learning algorithms After deployment, the system's performance was monitored to identify any issues or user difficulties. Feedback from users was collected regarding bugs, design improvements, or additional feature requests. Any issues identified were resolved in successive updates to ensure the system remained reliable and user-friendly. This ongoing maintenance ensures the project evolves in line with real-world usage and user expectations.

III. RESULTS

The Shop House development project aimed to design and implement a custom database-driven online shopping application to efficiently manage operations such as user registration, product listing, cart management, order placement, and data retrieval. After the successful completion of development and testing phases, the system was reviewed and analyzed to evaluate its functionality, performance, and user experience. The project achieved its objective of providing a smooth, responsive, and secure shopping environment.



IV. CONCLUSION

The Shop House project successfully demonstrated the development of a dynamic, user-friendly, and database-driven online shopping system using PHP, MySQL, HTML, CSS, JavaScript, and Bootstrap. The system efficiently handles key e-commerce functionalities such as user authentication, product management, cart operations, and order processing. Through proper requirement analysis, system design, implementation, and testing, the application met all the intended objectives.

FUTURE SCOPE

The Shop House project lays a strong foundation for a fully functional online shopping system. In the future, several enhancements can be made to increase its functionality and reach. The system can be deployed on a live web server to make it accessible to a broader audience. A payment gateway can be integrated to enable real-time online transactions. Features like order tracking, product reviews, discount coupons, and SMS/email notifications can further enhance the user experience. A mobile-friendly version or a dedicated mobile app can be developed for better accessibility. Additionally, implementing security features such as OTP verification, two-factor authentication, and role- based access control will improve system reliability and protect user data. Incorporating analytics to monitor user behavior and sales trends will also help in strategic decision-making and business growth.

REFERENCES

Throughout the analysis, Throughout the analysis, design, and implementation phases of the Shop House online shopping system, the following resources were referred to ensure adherence to industry standards, efficient coding practices, and user-centric design:

1. "PHP MySQL CRUD Application." W3Schools,

https://www.w3schools.com/php/php_mysql_intro.asp

A beginner-friendly tutorial series that explains how to connect PHP with MySQL and perform basic CRUD (Create, Read, Update, Delete) operations, essential for building the backend functionality of the Shop House application.

2. "Bootstrap 5 Tutorial." Bootstrap Official Docs,

https://getbootstrap.com/docs/5.0/getting-started/introduction/

The official documentation for Bootstrap 5, used to design responsive and mobile-friendly interfaces. It provides examples and guidelines on layout, components, and utilities that were applied in the Shop House frontend design.

3. "How to Build an E-commerce Website Using PHP and MySQL." Code with awa – YouTube Channel,

https://www.youtube.com/watch?v=Gzj723LkRJY

This video tutorial provides a step-by-step guide to creating a basic e-commerce website using PHP and MySQL. It was instrumental in understanding the project structure and user flow.