Amazon Shopping System

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Bhaktapur Multiple Campus

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Faculty of Management, Tribhuvan University
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of
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STUDENT DECELERATION

This is to certify that we have completed the MIS Project entitled “Amazon Shopping System” under the guidance of “Umesh Dahal” in partial fulfillment of the requirement for the degree of Bachelor of Information Management at Faculty of Management, Tribhuvan University. This is our original work and we have not submitted it earlier elsewhere.

Date:

CERTIFICATE FROM THE SUPERVISOR

This is to certify that the summer project entitled “Amazon Shopping System” is an academic work done by Group submitted in the partial fulfillment of the requirement for the degree of Bachelor of Information Management at Faculty of Management, Tribhuvan University under my guidance and supervision. To the best of my knowledge, the information presented by him/her in the summer project report has not been submitted earlier.

Signature of the supervisor

Name:

Designation:

Date:

ACKNOWLEDGEMENT

We would like to express my heartfelt gratitude to all those who contributed to the successful completion of this project, "Amazon Shopping System."

Firstly, we are deeply thankful to Umesh Dahal, for his constant support, valuable guidance, and constructive feedback throughout the project. Their expertise and encouragement were instrumental in helping us refine our ideas and bring this project to fruition.

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Thank you all for making this endeavor a rewarding and fulfilling experience.

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Chapter One Introduction

1.1 Introduction

The ‘Amazon Shopping System’ Services department strives to provide solutions to develop and transfer easy and efficient way in the digital age and to help reduces the human pressure and time.To help support shop collections, the digital initiatives, and external partner institution digital projects, It provide services that include the digitization of analog objects, metadata management, digital preservation, and discovery and access of digital collections. “Amazon Shopping System” is a web application written for all operating systems, designed to help users maintain and organize shop virtually. This software is easy to use for both beginners and advanced users. It features a familiar and well thought-out, an attractive user interface, combined with strong searching Insertion and reporting capabilities. The report generation facility of shop system helps to get a good idea of which are the various items brought by the members, makes users possible to get the product easily.

1.2 Problems Statement

The problem statement of an Amazon Shopping System typically encompasses various challenges and inefficiencies that such a system aims to address. Some of the problem statement are:

- Inefficient Data Management
- Performance Tracking Issues
- Security and Privacy Concerns

1.3 Objectives of the Project

The project is about to handle all the information of the shop regarding members. Also it manages resources which were managed and handled by manpower previously. The main purpose of the project is to integrate distinct sections of the shop into consistent manner so that complex functions can be handled smoothly. The project aims at the following matters

- Automation of product manipulation.
- Buying products.

- To manage information of different types of items.
- Consistently update information of all the item.
- Managing security by providing authorized email & password.
- Manages database efficiently.

1.4 Methodology

In this project, I have used the Waterfall model methodology. As in this project I have designed, implemented and tested iteratively i.e. features are added one by one each time until the system is finished. Waterfall relies on following a sequence of steps and never moving forward until the previous phase has been completed. The methodology, in its traditional form, leaves almost no room for unexpected changes or revisions. If the projects are predictable, then Waterfall could provide the ideal framework. Waterfall model is chosen and the entire process of software requirement analysis, design, coding, testing and maintenance is performed accordingly.

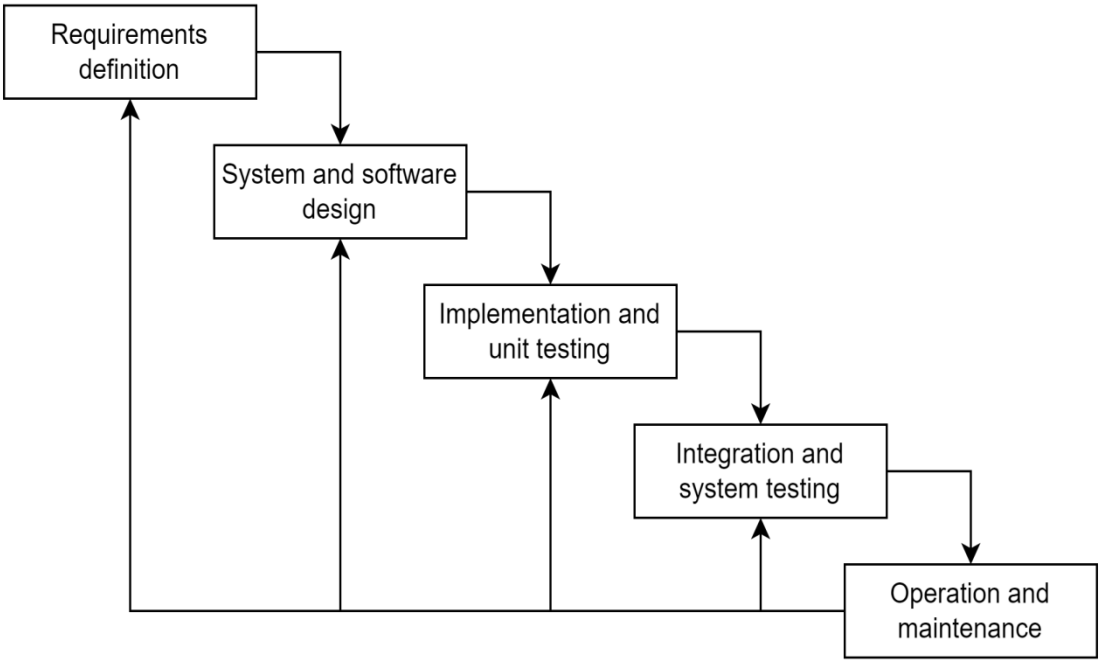

Figure 1. Waterfall Model

- **Requirement Definition**: This phase involves Gather and document user requirements for customers, sellers, and administrators. Identify key features like product search,

payment integration, recommendation systems. Define non-functional requirements such as scalability, security, and performance.

- **System and Software Design**: Here, detailed system architecture and software design specifications are created based on the gathered requirements.

- **Implementation and Unit Testing**: The system is developed according to the design specifications, and each module is individually tested to ensure functionality, such as user interface for shopping.

- **Integration and System Testing**: Modules are integrated into a complete system, and comprehensive testing is performed to verify interactions, adding an items to the cart and proceeding to checkout.

- **Operation and Maintenance**: Monitor the system for bugs, performance issues, or security threats. Provide updates and enhancements based on user feedback. Scale infrastructure to handle growth in users and transactions.

1.4.1 Project Framework

Project Framework is the combination of processes, tasks, and the tools used to transition a project from start to finish. This portion reveals the proposed method of implementation the project. The important part in this is systematic planning and implementation in order to complete the system on time.

- Initiation: Define project goals, stakeholders, and scope for Amazon Shopping System for buying products.
- Planning: Develop a detailed plan for system requirements, design layout, and technology choices (like PHP and MySQL). Divide tasks and set timelines for each stage of development.
- Execution: Build the system using HTML, CSS, JS, bootstrap for front-end and PHP for back-end, ensuring all features are implemented according to specifications.
- Testing: Thoroughly test each component to detect and fix errors (like validation issues), ensuring the system functions smoothly and securely.

1.4.2 Data and Information

Users can be classified into two types based on their knowledge of the products that suit their needs. They can be classified as users who know about the product that would satisfy their needs and users who have to figure out the product that would satisfy their needs. Users who know about the product should be able to find the product easily with the click of a button. Such users can search for the product by using the product name as the search term. Users who have to figure out the product that would satisfy their needs could use a search term to find a list of products and then should be able to filter the results based on various parameters like product type, manufacturer, price range, platform supported etc.

1.4.3 Tool used Data Collection

Creating this project involves collecting and processing data from various sources such as interview, questionnaire, observation, internet research.

1. Internet Research

   For collecting the information, the use of online sources and search engines like Google is used. Internet is used for valuable gathering of secondary data, and staying updated on current information and findings in various fields.

2. Observation

   For collecting the data and information existing system was observed to find out the reliable information that are useful for designing the project.

Chapter Two Task and Activities Diagram

2.1 Analysis of Task and Activities

Several tasks and activities were required to complete the development and implementation of the Amazon shopping system to fulfill its main objectives. Some of the tasks that were performed in this project are as follows:

i. Customer Management

- Handling customer account creation, authentication, and profile management efficiently.
- Monitoring customer activity, including browsing history, purchase behavior, and preferences to offer personalized recommendations.

ii. Product Management

- Managing product catalogs, including adding, updating, and categorizing products.
- Monitoring product availability, pricing, and descriptions to ensure accurate and up-to-date information.

iii. Order and Payment Management

- Handling customer orders from checkout to fulfillment, ensuring smooth order processing.
- Managing payment gateways, securely processing transactions, and ensuring multiple payment options for customers.

iv. Technology Integration and Data Management

- Managing the website's infrastructure, including servers, databases, and cloud services to support various features and user traffic.
- Implementing and integrating systems like customer relationship management enterprise resource planning.

2.2 Analysis Problem

The analysis of problems within the Amazon shopping system reveals several challenges that affect different stakeholders, including customers, sellers, and Amazon itself. Customers often face issues with product availability, inaccurate stock information, and poor search functionality, which can make finding desired items difficult. For Amazon, logistical challenges in inventory and fulfillment networks can cause delays and stockouts, especially during peak seasons. Customer support is another pain point, with long response times and complex issue resolutions. Furthermore, Amazon's interface has become cluttered as its catalog grows, making the shopping experience confusing for users. The company also faces environmental challenges, such as packaging waste and carbon emissions from its logistics network.

2.3 Analysis of Solution

To address the issues in the Amazon shopping system, several solutions can be implemented. Improving product availability and stock information can be achieved by enhancing inventory management with real-time tracking. The search functionality can be improved through better algorithms and AI-powered recommendations. Streamlining the interface will make navigation easier for users. Amazon can resolve logistical challenges by investing in advanced warehousing and distribution technology. Customer support can be enhanced. Sellers can benefit from better visibility through optimized listings and reduced fees. To address environmental concerns, Amazon can use sustainable packaging and reduce carbon emissions by expanding its electric vehicle fleet. These solutions will improve customer experience, seller satisfaction, and operational efficiency.

2.4 Feasibility Study

This feasibility study will evaluate the technical, operational, and economical aspects of the project to determine its feasibility.

2.4.1 Technical Feasibility

It is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software as well as the maintenance.

2.4.2 Economic Feasibility

Development of this application is highly economically feasible .The organization needed not spend much m one for the development of the system already available. The only thing is to be done is making an environment for the development with an effective supervision. If we are doing so, we can attain the maximum usability of the corresponding resources .Even after the development , the organization will not be in a condition to invest more in the organization. Therefore , the system is economically feasible.

2.4.3 Operational Feasibility

The proposed project is beneficial only if they can be turned into information system that will meet the organization's operating requirements. It includes the training of the user on the candidate system. Care has been taken to provides the user as much as facility possible. The screen design is very much user friendly. Data entry jobs have been kept very easy and user- friendly so one day training will be sufficient to the user. The system is an event driven application. The user does not need a special training to run this application.

2.5 Requirement Analysis

The requirement identification for an Amazon Shopping System involves identifying the specific needs and goals of the system, and determining the technical and functional requirements needed to meet these goals.

2.5.1 Functional Requirement

Functional requirements outline the specific functionalities and features that a Amazon Shopping System must possess to meet the needs of the customers. Here are some essential functional requirements for a Amazon Shopping System system:

- User login: Username and password will be provided after user registration is confirmed. Password should be hidden from others while typing it in the field
- Register new user: System must be able to verify and validate information. The system must encrypt the password of the customer to provide security.
- Purchasing an Item: The user can add the desired product into his cart by clicking add to cart option on the product. He can view his cart by clicking on the cart button. All

products added by cart can be viewed in the cart. User can remove an item from the cart by clicking remove.

- Manage Product: The administrator can add product, delete product and view product.
- Manage Order: The administrator can view orders and delete orders.

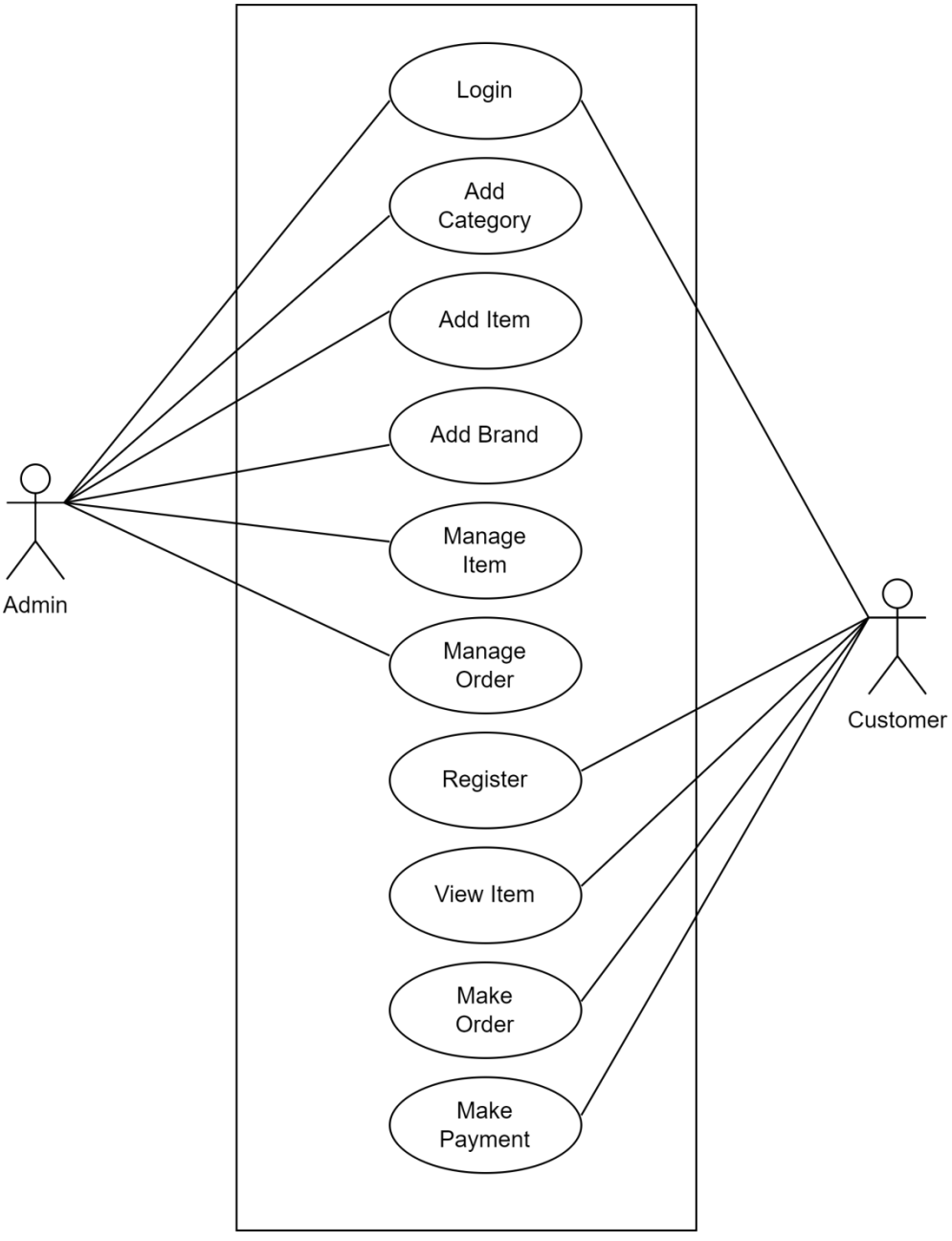

Figure 2. Use case diagram of Amazon Shopping System

The Use Case Diagram is a graphic depiction of the interactions among the elements of Amazon Shopping System. It represents the methodology used in system analysis to

identify, clarify, and organize system requirements of Amazon Shopping System. The main actors of Amazon Shopping System in this Use Case Diagram are: Admin and Customer. Admin can perform Add Items, Add Brands, Add Category, Manage items and Manage Orders. Customer can perform View Items, Add to Cart, Make Order and Make Payment.

2.5.2 Non-Functional Requirement

Non-Functional Requirements of Amazon Shopping System are:

i . EFFICIENCY REQUIREMENT

When an online shopping website implemented customer can purchase product in an efficient manner.

ii . RELIABILITY REQUIREMENT

The system should provide a reliable environment to both customers and owner. All orders should be reaching at the admin without any errors.

iii . USABILITY REQUIREMENT

The website is designed for user friendly environment and ease of use.

iv . DELIVERY REQUIREMENT

The whole system is expected to be delivered in four months of time with a weekly evaluation by the project guide.

2.5 System Design

System design is the process of defining the architecture, components, and interactions of a software system to meet specific requirements and achieve desired functionality. It typically involves identifying key components, defining their relationships, specifying data flows, and considering scalability, performance, and security aspects. A well-designed system ensures that the software functions reliably and efficiently while being maintainable and adaptable for future changes.

2.5.1 Activity Diagram

This is the Activity Diagram of Amazon Shopping System, which shows the flow of customer open web page , browse products, search product add to cart and update cart of Amazon Shopping System.

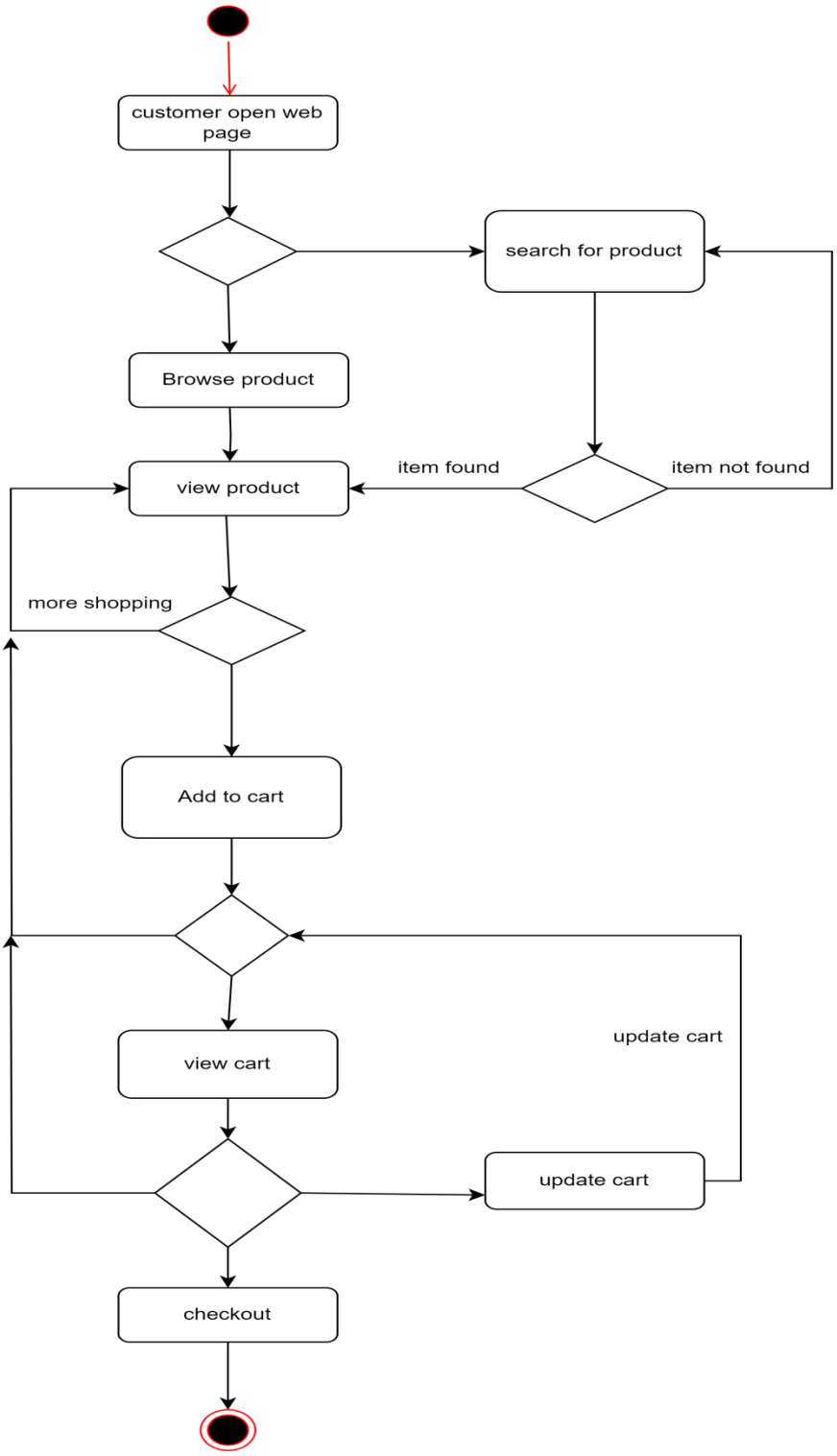

Figure 3. Activity diagram of Amazon Shopping System

2.5.2 Sequence Diagram

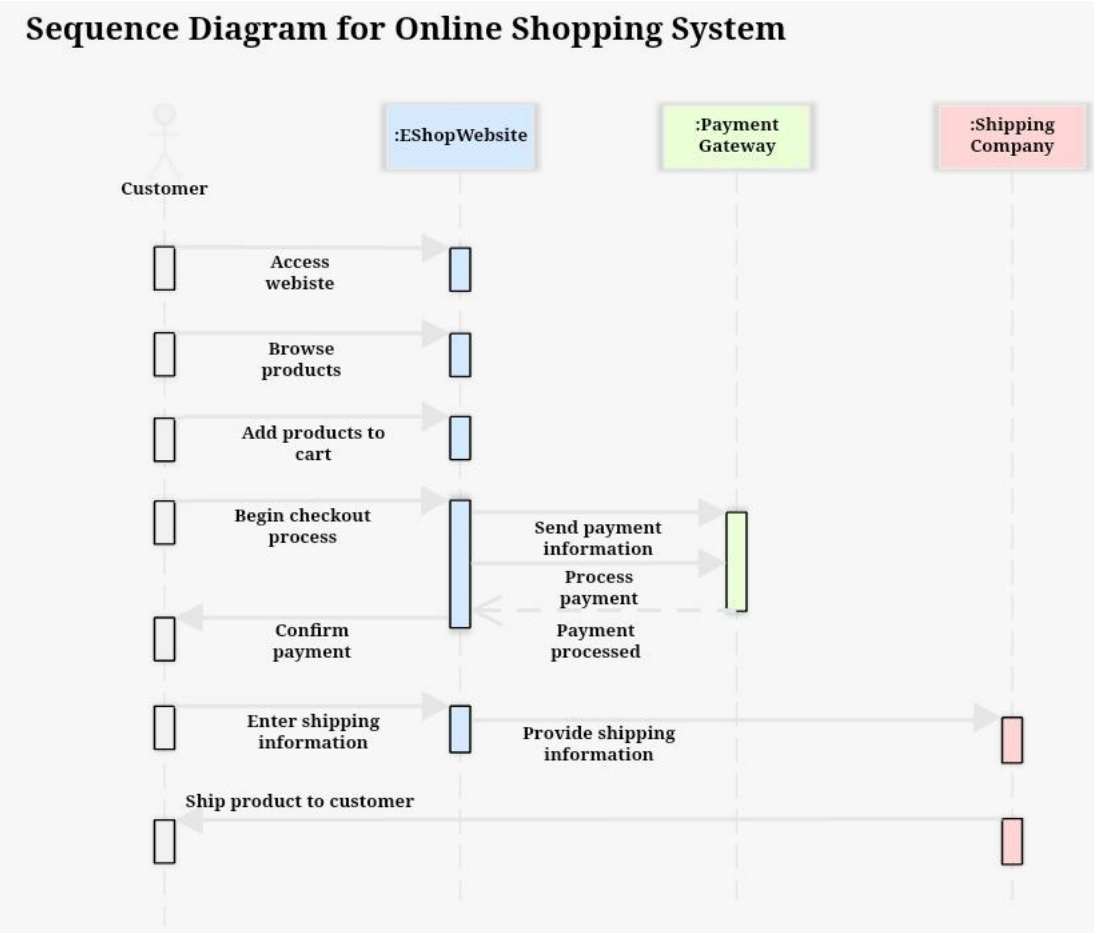

Figure 4. Sequence diagram of Amazon Shopping System

2.5.3 E-R Diagram

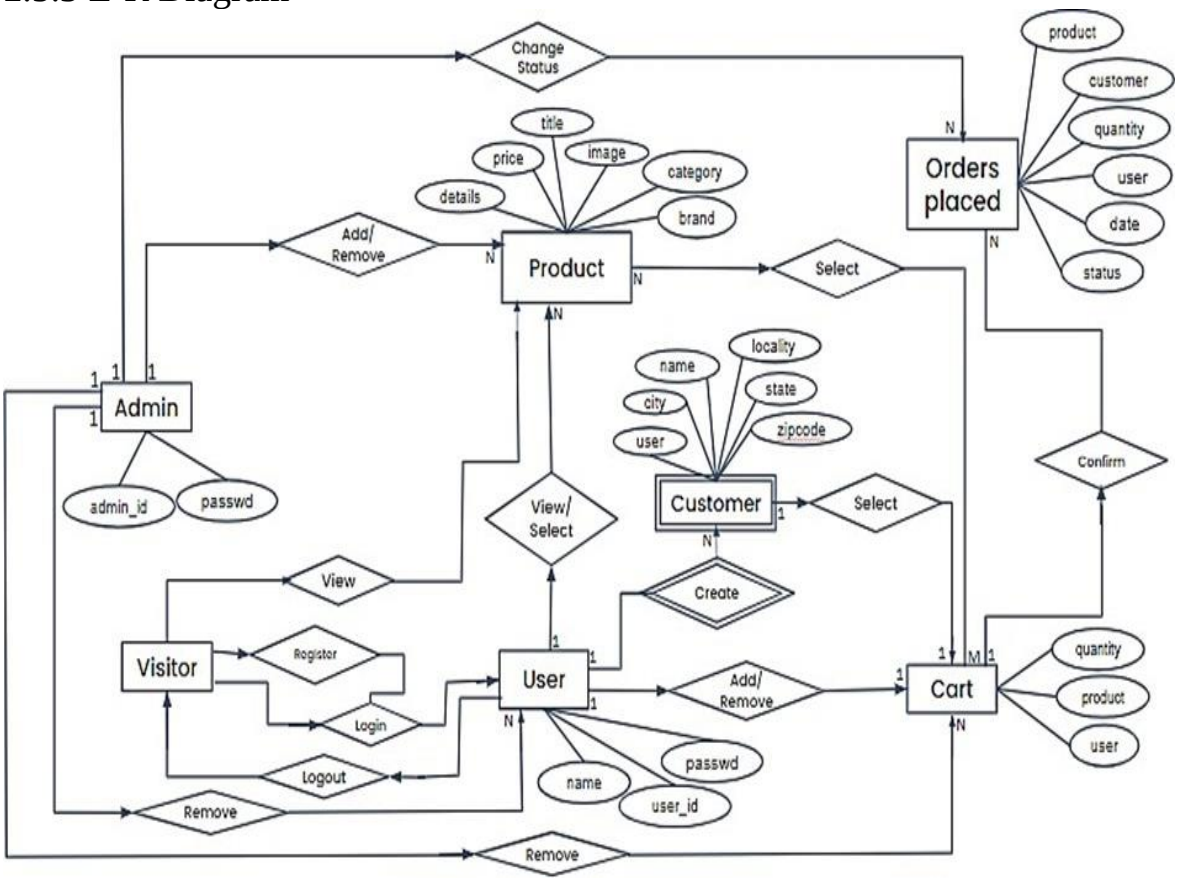

Figure 5. E-R Diagram of Amazon Shopping System

2.6 Implementation

The Amazon Shopping System project will begin with designing a scalable architecture, focusing on both frontend and backend. Key features will include a product catalog, search filters, shopping cart, and secure payment integration. A relational database will store data on products, users, orders, and payments. The frontend will be built with HTML, CSS and JavaScript for a user-friendly interface. The backend will include PHP and Xampp. Finally, the system will be deployed to a ensuring scalability. Regular maintenance and updates will be conducted post-launch. The result will be a fully functional e-commerce platform capable of handling a high volume of users and transactions.

2.6.1 Module Description

Modules Description shows the different page of the system and following are different module of these system.

Home Page

A home page is generally the main page a visitor navigating to a website from a web search engine will see.

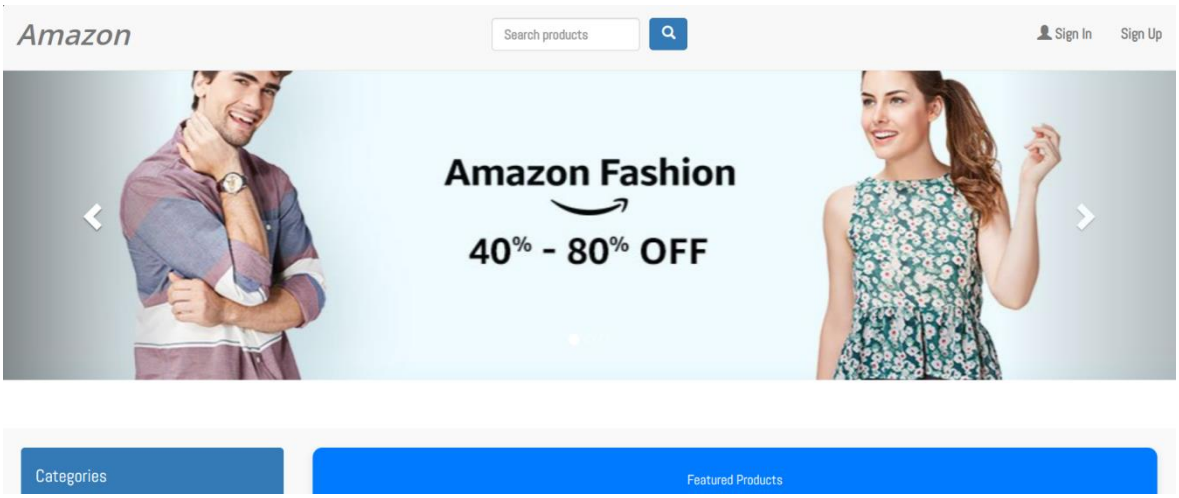

Figure 6. Home Page

Login Page

In this page the user must enter their username and respective password that allows them to redirect to home page.

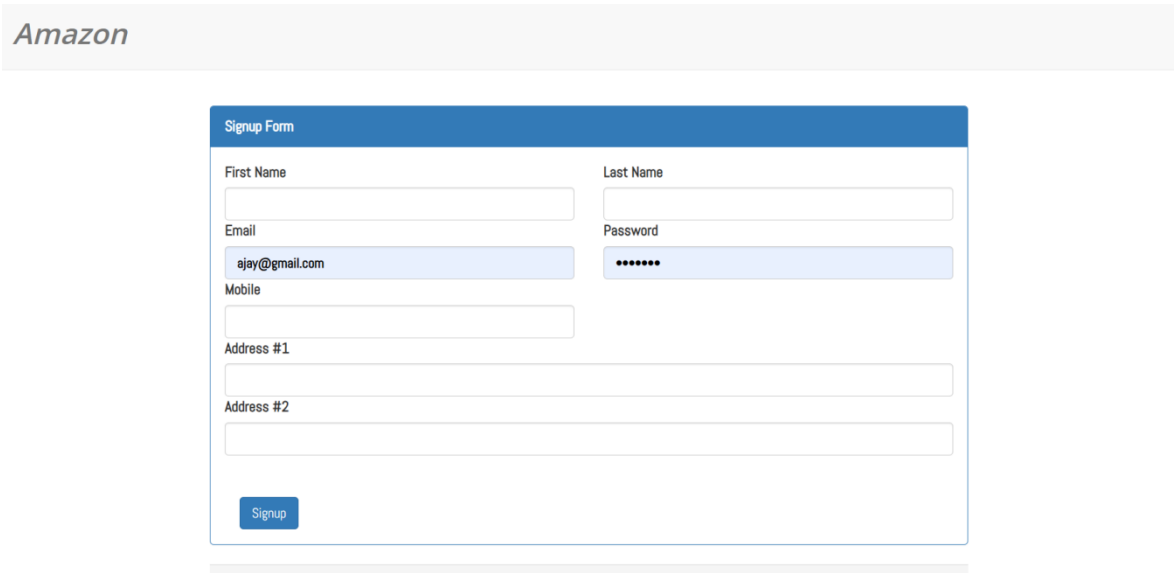

Figure 7. Login page

Cart

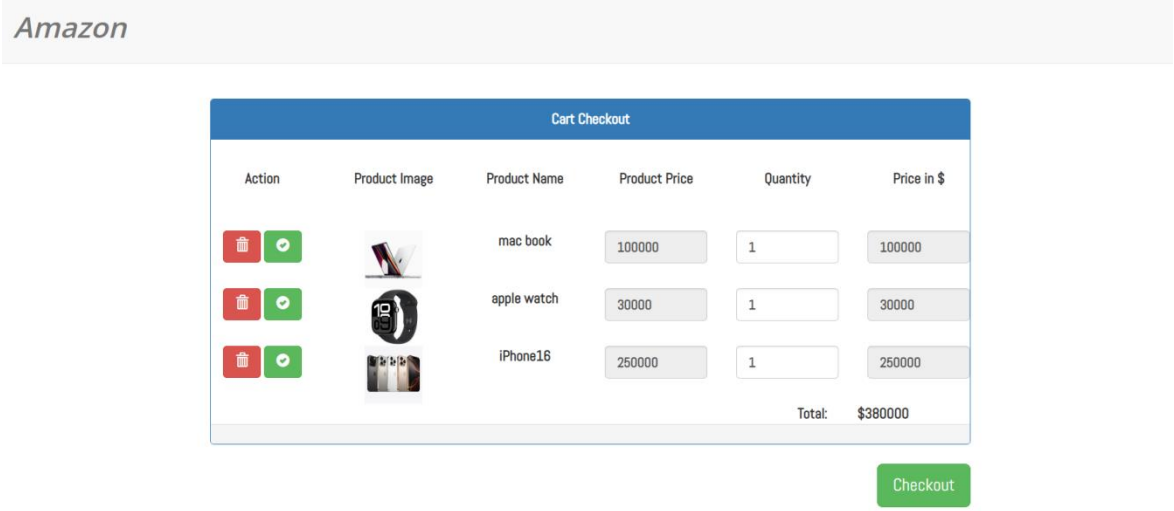

Figure 8. Cart

Product View

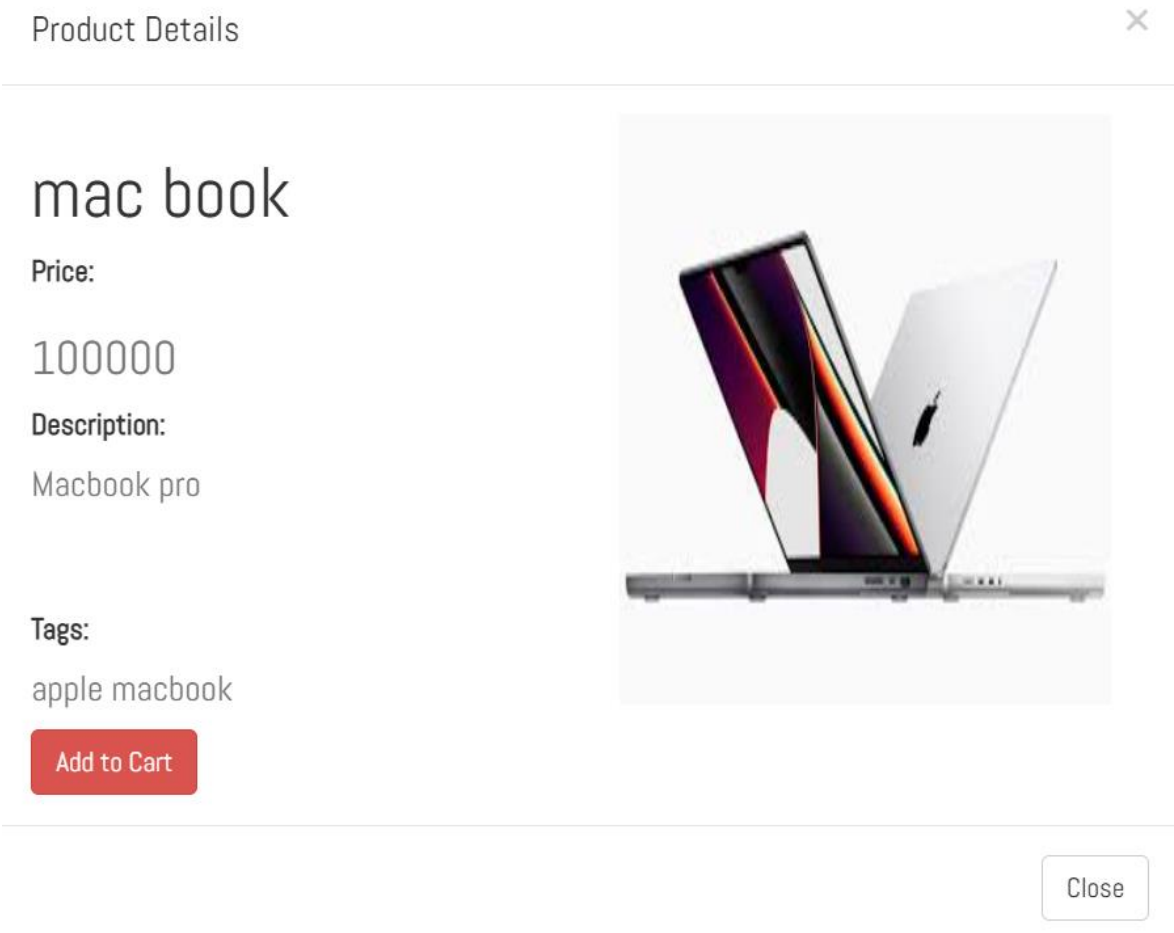

Figure 9. View Product

2.6.2 Tools and Technology Used

i. HTML (Hyper Text Markup Language)

HTML is the standard markup language used to create the structure of web pages. It defines the elements such as headings, paragraphs, links, images, and other content, forming the backbone of any web application.

ii. CSS (Cascading Style Sheets)

CSS is used to style and layout web pages. It controls the visual presentation of HTML elements, including design, color, fonts, spacing, and positioning, making the web pages look attractive and user-friendly.

iii. JavaScript

JavaScript is a programming language that enables interactive features on web pages, such as form validation, dynamic content updates, and user interactions. It enhances the user experience by making the web application more responsive and functional.

iv. Bootstrap

Bootstrap is a popular front-end framework that provides pre-designed templates and components for building responsive and mobile-first web pages. It simplifies the design process with its grid system, typography, and customizable elements.

v. PHP (Hypertext Preprocessor)

PHP is a server-side scripting language used to build dynamic web pages and applications. It processes form data, manages sessions, and interacts with databases, enabling the back-end functionality of the school management system.

vi. MySQL

MySQL is a relational database management system used to store, retrieve, and manage data. In a school management system, it holds information like student records, grades, attendance, and other administrative data, allowing for efficient data handling and querying.

vii. Microsoft Word

Microsoft Word is a word processing software application used for creating, editing, and formatting documents, widely utilized for various writing and documentation tasks.

viii. Visual Studio Code

Visual Studio Code is a free source-code editor developed by Microsoft. It is used for writing and debugging code in various languages, including (HTML, CSS, JavaScript, and PHP). Its integrated terminal and version control support make it a comprehensive tool for modern web development.

2.7 Findings

The Amazon Shopping System aims to provide a seamless and efficient e-commerce experience. It includes product browsing, user account management, and secure payment processing. Customers can search, filter, and review items, with personalized recommendations powered by data analytics. The system handles inventory management and order fulfillment in real-time. It offers multiple payment options. Security protocols are in place to protect user data and transactions. The platform supports both web and mobile interfaces. Customer feedback is collected to improve services and products.

Chapter Three :Discussion and Conclusion

3.1 Discussion

The Amazon Shopping System was built using technologies like JavaScript, HTML, CSS, PHP and Bootstrap to create a responsive and scalable e-commerce platform. The team faced challenges related to scalability, user interface design, and integrating multiple payment gateways. Data security and transaction protection were prioritized throughout the system's development. The backend utilized robust solutions like PHP and MySQL to ensure smooth operations. Continuous updates were made to address performance and user engagement issues. The project emphasized the importance of technological integration to streamline e-commerce. Overall, the system transformed the online shopping experience, improving both customer satisfaction and operational efficiency.

3.2 Conclusion

This project is only a humble venture to satisfy the needs in a shop. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the organization. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses. This website provides a computerized version of shop manipulate system which will benefit the users as well as the visitor of the shop. It makes entire process online where users can search product, and buy various product. It also has a facility for common user by login into the system where user can login and can see status of ordered item as well request for items or give some suggestions. It provide the facility of admin's login where admins can add various item, review users activity and also give occasional discount and also add info about different events for the customer.

3.3 Future Enhancements

The project has a very vast scope in future. The project can be implemented on intranet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of database Space

Manager ready and fully functional the client is now able to manage and hence run the entire work in a much better, accurate and error free manner.
The following are the future scope for the project.

- Can be added inventory management system
- Can be added multiple branches
- Can be added multilingual to this site
- And many features can be added this project to make it more robust.

References

The following reference has been used to develop the project “ONLINE SHOPPING SYSTEM”:

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- https://www.tutorialspoint.com/django/
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