Online E-commerce Website

Submitted in partial fulfillment of the requirements of the degree

BACHELOR OF ENGINEERING

IN INFORMATION TECHNOLOGY

By

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(AY 2023-24)

CERTIFICATE

This is to certify that the Mini Project entitled **" Online E-commerce Website "** is a bonafide work of **Mansi Burud (23101A2006) , Chinmayee Deshmukh (23101B2006) , Aishwarya Huddar (23101B2008)** submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of **"Bachelor of Engineering"** in **"Information Technology" .**

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Mini Project Approval

This Mini Project entitled "**Online E-Commerce Website"** by Mansi Burud (23101A2006), Chinmayee Deshmukh (23101B2006), Aishwarya Huddar (23101B2008) is approved for the degree of **Bachelor of Engineering** in **Information Technology.**

Examiners

1.....
(Internal Examiner Name & Sign)

2.....
(External Examiner name & Sign)

Date :

Place :

Contents

Abstract

Title: Gadget Guru: E-commerce Website
Abstract:
Gadget Guru represents a pioneering venture in the realm of electronics e-commerce, poised to redefine the online shopping experience for tech enthusiasts worldwide. With a mission to provide seamless access to a diverse array of electronic appliances, Gadget Guru leverages advanced technologies and user-centric design to set new standards of convenience, choice, and reliability.
Central to the Gadget Guru experience are its intuitive features aimed at simplifying the purchasing journey and fostering meaningful engagement. The platform boasts a user-friendly interface, empowering visitors to navigate effortlessly through its extensive product catalog. Advanced search functionalities enable swift product discovery, while personalized recommendations ensure a tailored shopping experience. Secure payment gateways and responsive customer support further enhance the overall satisfaction and trust of customers.
However, Gadget Guru's commitment extends beyond mere transactional efficiency. Collaborating closely with leading brands and manufacturers, the platform prioritizes quality, authenticity, and innovation. By curating a selection of products that meet stringent quality standards and embody the latest technological advancements, Gadget Guru instills confidence in its customer base, nurturing long-term relationships built on trust and reliability.
Moreover, Gadget Guru remains agile and adaptive in its approach to market dynamics. Through continuous market research and data analysis, the platform stays attuned to evolving consumer preferences and industry trends, enabling it to anticipate shifts in the market landscape and tailor its offerings accordingly.
In conclusion, Gadget Guru stands at the forefront of innovation and excellence in electronics e-commerce. Its fusion of advanced technology, user-centric design, and unwavering commitment to quality positions it as a trailblazer in the industry, poised to shape the future of online retailing and inspire a new generation of tech enthusiasts globally.

Acknowledgment

In this movement o immense satisfaction we express our deep gratitude towards our Hon. Principal **Dr. S. A. Patekar ,** our mini project guide **Prof. Santosh Tamboli** for providing us the unique opportunity to work in our project.

We are also very thankful to our HOD **Dr. Vipul Dalal** & other staff for their technical support, sincere co-operation and suggestion drives us forward for systematic implementation of Internship.

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Chapter 1
Introduction

1.1. Introduction

An online platform known as an e-commerce website for a computer store enables clients to buy computer hardware, software, and related accessories simply and securely from the comfort of their homes or offices. The dynamic website delivers a flawless browsing and checkout experience while showcasing a variety of products with thorough descriptions, features, and prices.

In the realm of online commerce, computer stores serve as vital platforms for acquiring hardware, software, and accessories. An exemplary e-commerce website dedicated to computer products provides a seamless shopping experience with its user-friendly interface and detailed product descriptions. Prioritizing security, the platform ensures transactions are conducted safely through encrypted channels, fostering trust among customers. By offering accessibility, reliability, and security, this website not only simplifies the shopping process but also promotes the adoption of technology. It plays a crucial role in empowering individuals and businesses to navigate and thrive in the digital age.

1.2. Motivation

The motivation behind this project stems from a profound understanding of the evolving landscape of commerce in the digital era. With an increasing reliance on technology for daily tasks and professional endeavors, there is a growing demand for convenient and accessible avenues to acquire computer hardware, software, and related accessories. This project aims to address this demand by creating an e-commerce platform that offers a seamless shopping experience, allowing customers to browse, compare, and purchase products from the comfort of their homes or offices.

Moreover, the project is driven by a commitment to enhancing the overall customer experience. By providing detailed product descriptions, intuitive navigation, and secure transactions, the platform seeks to exceed customer expectations and foster long-term loyalty.

Furthermore, the project aligns with broader trends in digital transformation, enabling the business to adapt to changing consumer preferences and stay ahead of the competition. By embracing e-commerce, the project not only facilitates business growth and expansion but also positions the company as a leader in the digital marketplace, ready to capitalize on emerging opportunities and drive innovation in the industry.

1.3. Problem Statement & Objectives

Problem Statement:

The traditional retail model for computer products is constrained by geographical limitations, limited store hours, and the need for physical presence. This presents challenges for both consumers, who seek convenience and accessibility, and businesses, which must adapt to evolving consumer preferences and technological advancements. Additionally, there is a lack of comprehensive online platforms dedicated to computer products that offer a seamless shopping experience, detailed product information, and secure transactions.

Objectives:

The primary objective of this project is to address the aforementioned challenges by developing a robust e-commerce platform dedicated to computer hardware, software, and accessories. Key objectives include:

1. Providing a seamless shopping experience: Develop a user-friendly interface and intuitive navigation system to facilitate effortless browsing and purchasing of computer products.
2. Offering comprehensive product information: Ensure that each product listing includes detailed descriptions, specifications, features, and pricing to enable informed purchasing decisions.
3. Ensuring secure transactions: Implement robust security measures, including encryption protocols and secure payment gateways, to safeguard customer information and ensure transactional integrity.
4. Enhancing customer satisfaction: Prioritize customer satisfaction by providing responsive customer support, efficient order processing, and hassle-free return policies.
5. Driving business growth and expansion: Capitalize on the vast potential of e-commerce to reach a wider audience, increase market share, and drive revenue growth over time.

By achieving these objectives, the project aims to revolutionize the way consumers shop for computer products and position the business as a leader in the digital marketplace.

1.4. Organization of report

Chapter No	Chapter Content	Page Number
1.	Chapter No : 1 Introduction Motivation Problem statement and objectives Organization of the report	9-11
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Chapter 2
Literature Survey

2.1. Survey of Existing System

1. Overview of E-commerce Trends and Statistics:
   Explore recent literature on the growth and evolution of e-commerce globally.
   Review statistics on the increasing prevalence of online shopping and its impact on traditional retail.
2. E-commerce Website Development:
   Examine research articles and resources on best practices for developing e-commerce websites.
   Identify key considerations for website design, functionality, and user experience.
3. User Experience (UX) Design for E-commerce:
   Review literature on UX design principles and methodologies specific to e-commerce platforms.
   Explore research on optimizing navigation, product search, and checkout processes to enhance user satisfaction.
4. Security Measures in E-commerce:
   Investigate studies on cybersecurity and data protection in e-commerce transactions.
   Examine best practices for implementing secure payment gateways, encryption protocols, and fraud prevention measures.
5. Product Catalog Management:
   Review literature on effective product catalog management strategies for e-commerce websites.
   Explore research on categorization, organization, and presentation of products to improve discover ability and user engagement.

2.2. Limitations Existing system or research gap :

1. Limited User Feedback:
   The existing system may lack sufficient user feedback or data on customer preferences, behaviours, and pain points. Without comprehensive user insights, it may be challenging to address specific usability issues or optimize the user experience effectively.
2. Security Concerns:
   There could be potential vulnerabilities or gaps in the security measures of the existing system, such as inadequate encryption protocols, weak authentication mechanisms, or susceptibility to cyber threats like phishing attacks or data breaches. Addressing these security concerns is crucial for building trust and confidence among users.

2.3. Mini Project Contribution

The impact of an online e-commerce website on a project is multifaceted and profound. Firstly, it extends the market reach of businesses beyond geographical constraints, enabling them to tap into a global customer base and potentially increase sales exponentially. This expanded reach is coupled with unparalleled convenience for customers, who can browse and purchase products at their leisure from anywhere with an internet connection. Moreover, operating an e-commerce website often proves to be more cost-efficient compared to traditional brick-and-mortar stores, as it eliminates the need for expensive physical storefronts and reduces overhead costs. Additionally, the data collected through e-commerce platforms provides businesses with invaluable insights into consumer behavior and preferences, empowering them to tailor their offerings and marketing strategies accordingly. Furthermore, a robust online presence through an e-commerce website not only enhances competitiveness but also fosters customer engagement and loyalty through direct interaction and personalized experiences. Overall, the contribution of an e-commerce website to a project is instrumental in driving sales growth, enhancing customer satisfaction, and ensuring long-term success in the digital marketplace.

Chapter 3
Proposed System

3.1. Introduction

The proposed **e-commerce website for the electronic store** will be designed to provide customers with a seamless shopping experience. Customers will be able to quickly browse the website, conduct product searches, and place orders thanks to its user-friendly interface. Additionally, the system will have sophisticated inventory management features that will help the retailer effectively control stock levels and guarantee prompt order completion. To increase customer convenience, the system will also provide a number of payment choices, such as digital wallets and credit/debit card payments. As the store expands, the proposed system will be built to scale, guaranteeing its ongoing success in the fiercely competitive e-commerce market.

3.2. Architecture/ Framework

Frontend:
HTML: Structure your web pages using HTML to define the content and layout.
CSS: Use CSS for styling and layout customization to make your website visually appealing and user-friendly.
JavaScript: Enhance user experience and add interactivity using JavaScript. You can use frameworks like jQuery for DOM manipulation and AJAX for asynchronous data loading.

Backend:
PHP: Use PHP for server-side scripting to dynamically generate web pages, handle form submissions, interact with the database, and perform other server-side tasks.
Database Interaction: PHP can be used to interact with your database, retrieve and store data, handle user authentication, and process transactions.
Architecture:
Model: Handles data access and manipulation. It interacts with the database to perform CRUD (Create, Read, Update, Delete) operations.
View: Represents the presentation layer, responsible for rendering HTML pages to the user.
Controller: Acts as an intermediary between the model and the view. It processes user requests, interacts with the model to fetch data, and passes the data to the view for display.

Validate Session Identifier: Each time a user makes a request to a protected resource or performs an action that requires authentication, validate the session identifier to ensure that it is legitimate and has not been tampered with.

Session Management: Store session data securely on the server-side. PHP provides built-in session handling mechanisms through functions like session_start(), $_SESSION, and session_destroy(). Ensure that session data is encrypted and protected from unauthorized access.

Expiration and Timeout: Set an expiration time for user sessions to limit their duration. When a session expires, the user must re authenticate to continue using the application. Additionally, implement session timeout mechanisms to automatically invalidate inactive.

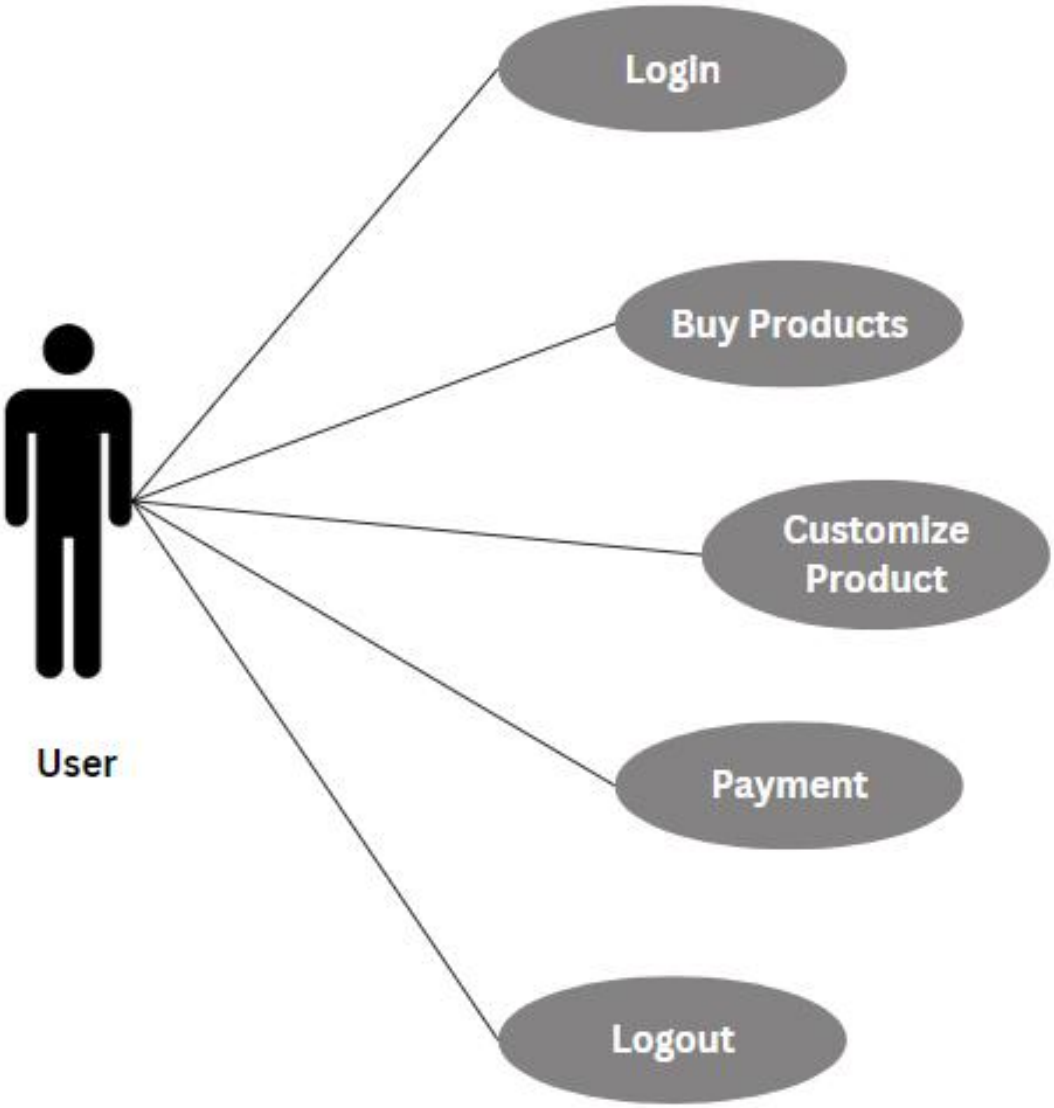


FIGURE NO. 1 :- USE CASE DIAGRAM OF ECOMMERCE WEBSITE (USER)

User:
Login:-A unique username and associated password provisioned to and identifiable individual to permit them to access the services.
Profile:- A profile page represent information regarding a user identity on a website or In a mobile app.
Homepage:-It is the first page that visitors see when they load a URL user can add education details and view company information .
Logout:-It is an last session to end access to a website.

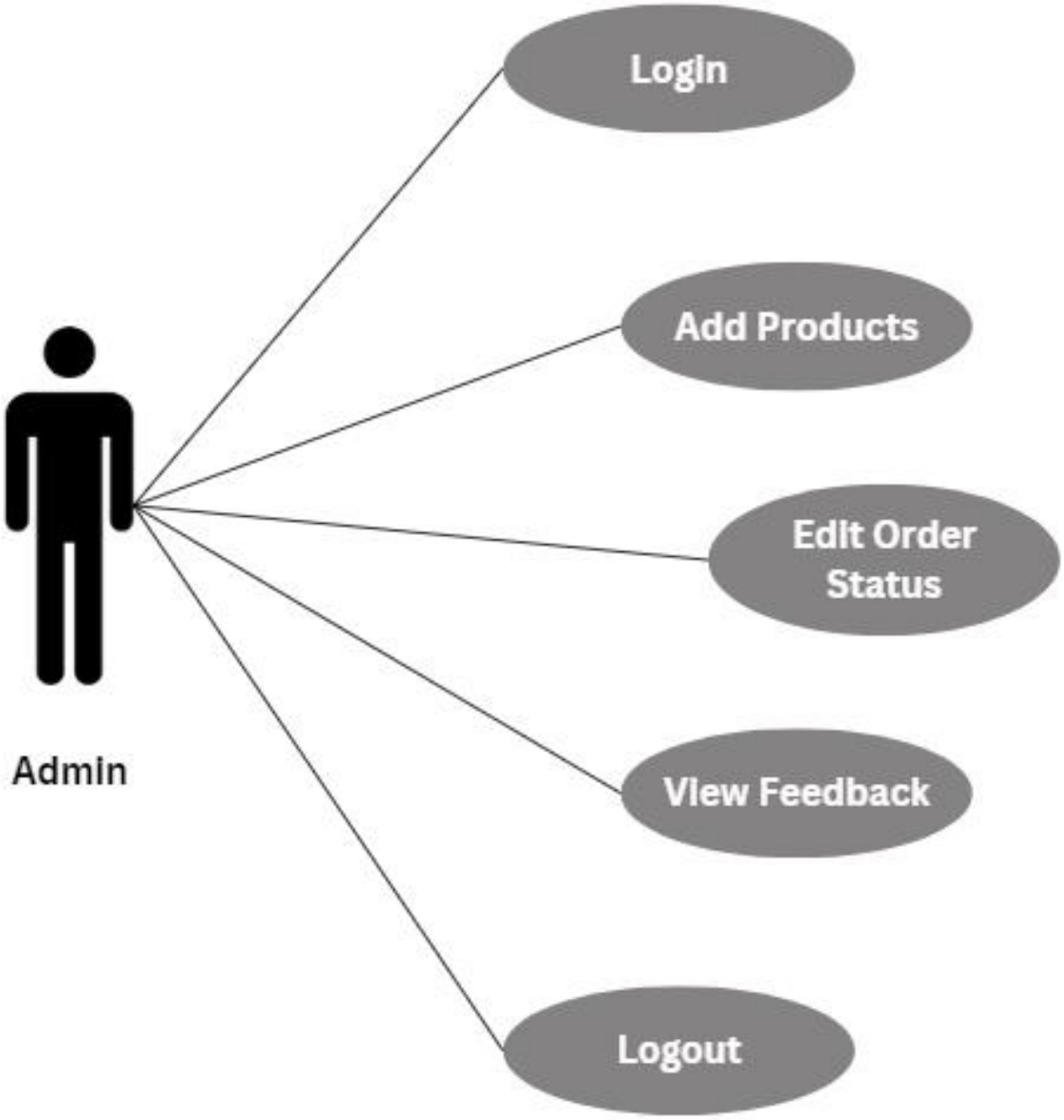


FIGURE NO. 2 :- USE CASE DIAGRAM OF ECOMMERCE WEBSITE (ADMIN)

Admin:

Login:-A unique username and associated password provisioned to and identifiable individual to permit them to access the services.

Add Products:- Admin can add products.

Edit order Status :- Admin can edit order status .

View Feedback :- Admin can view feedback but cannot change the feedback.

Logout:-It is an last session to end access to a website.

3.3. Algorithm and Process Design :-

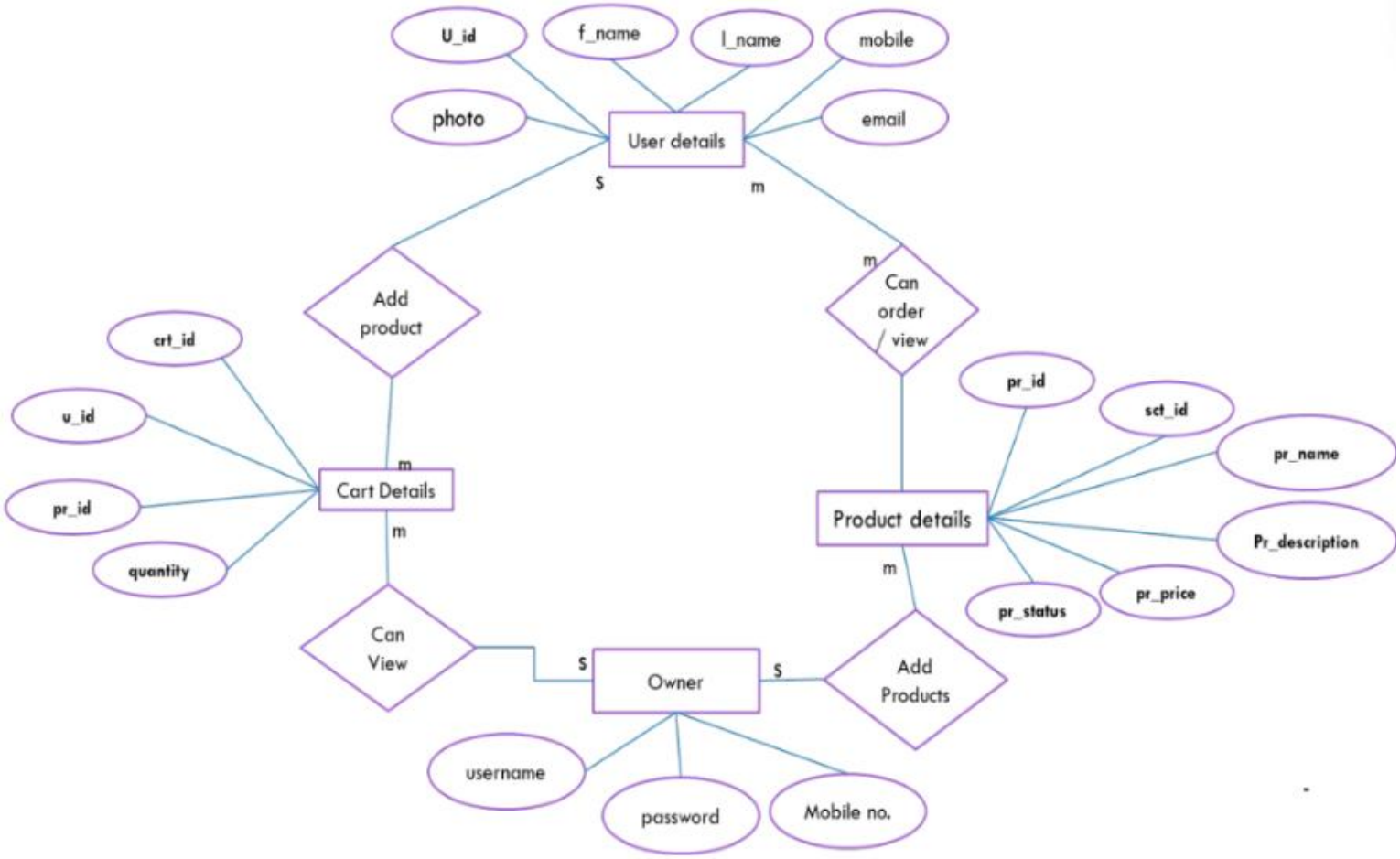


FIGURE NO 3 :- Entity Relationship Diagram for E-Commerce Website

User Details: This entity includes attributes such as user ID (u_id), first name (f_name), last name (l_name), mobile number, email, and photo. It indicates that users can have multiple cart details and can order/view products.

Cart Details: Contains attributes like cart ID (crt_id), user ID (u_id), product ID (p_id), and quantity. It shows a relationship with the Owner entity, suggesting owners can view cart details.

Product Details: Comprises attributes such as product ID (pr_id), category ID (cat_id), product name (pr_name), description, status, and price. It is connected to the Owner entity, allowing the addition of products.

Owner: Has attributes like username, password, and mobile number, indicating that owners have login credentials and contact information.

The diagram includes relationships such as "Add product" and "Can order/view," which define interactions between entities. It's a visual representation of how data is interconnected within the system.

Flowchart :

A flowchart is a type of diagram that represents a workflow or process. A flowchart can also be defined as a diagrammatically representation of an algorithm, a step-by-step approach to solving a task. The flowchart shows the steps as boxes of various kings, and their order by connecting the boxes with arrows.

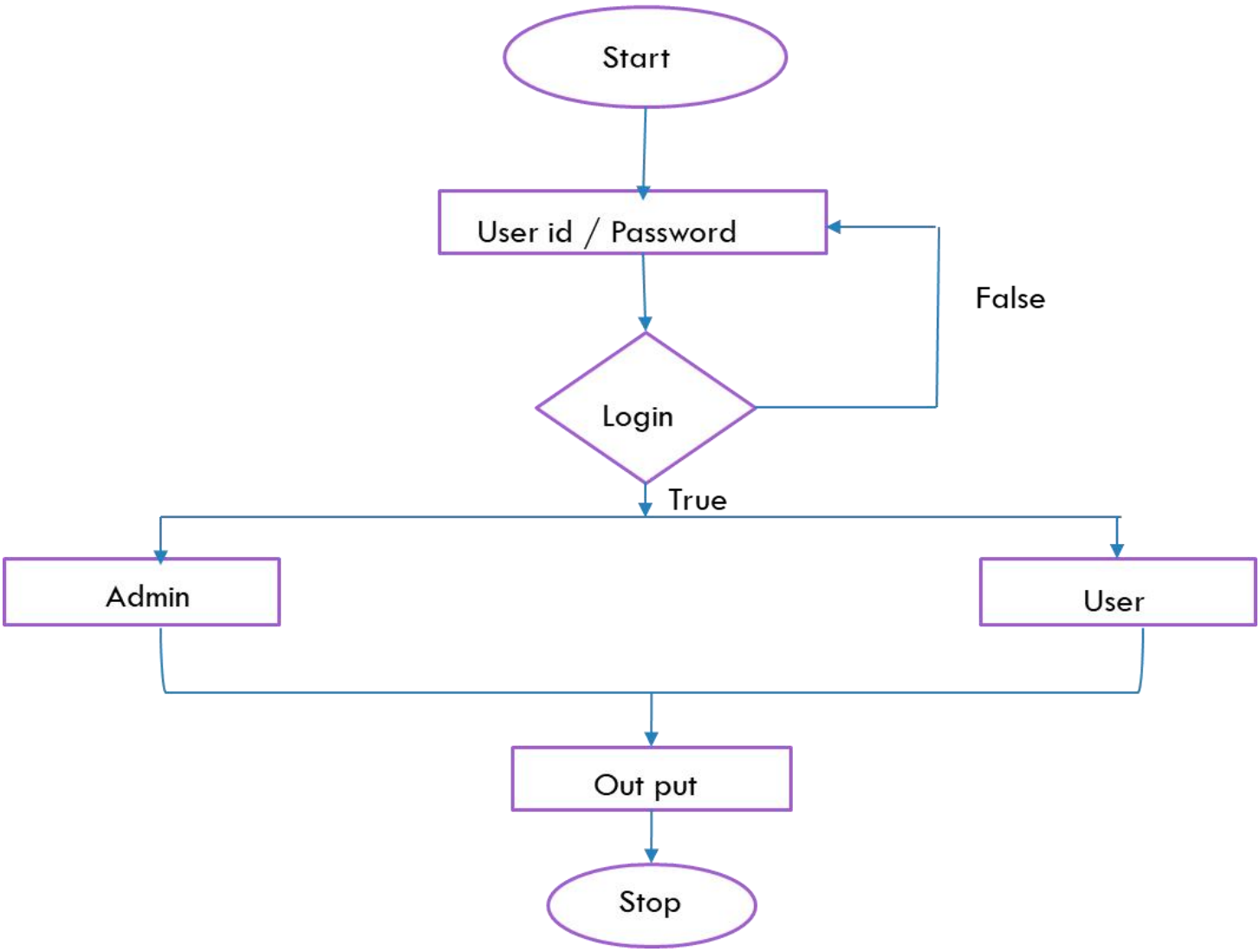


FIGURE NO 4 :- Flowchart for E-Commerce website

3.4. Details Of Hardware and Software

Hardware:

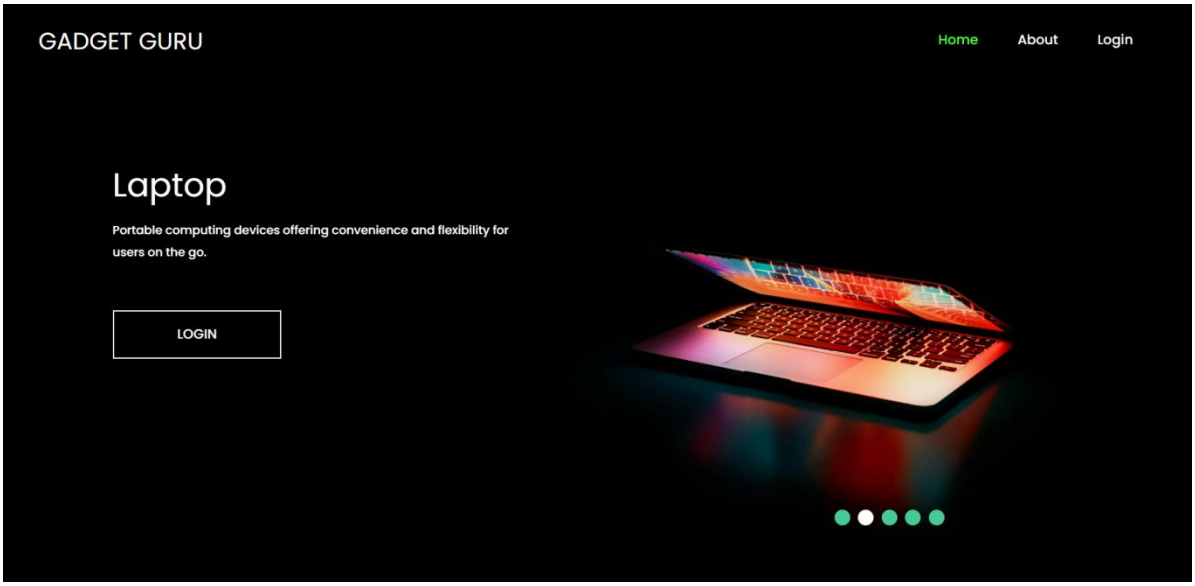
1. Web Server: High-performance server(s) to host the website and handle incoming HTTP requests efficiently. This server should have ample CPU, RAM, and storage capacity to accommodate website traffic and data storage needs.
2. Database Server: Dedicated server or servers to host the database management system (DBMS) responsible for storing and managing product data, user information, and transaction records. The database server should be optimized for read and write operations to ensure smooth performance.
3. Load Balancer: Hardware load balancer to distribute incoming traffic across multiple web servers, ensuring optimal performance, scalability, and reliability.
4. Storage Solution: Network-attached storage (NAS) or storage area network (SAN) for centralized and scalable storage of website data, including media files, user uploads, and backups. Implement redundant storage configurations for data protection and high availability.
5. Firewall and Security Appliances: Hardware firewall appliances to protect the website infrastructure from malicious attacks, unauthorized access, and data breaches. Intrusion detection and prevention systems (IDS/IPS) can also be deployed for advanced threat detection and mitigation.

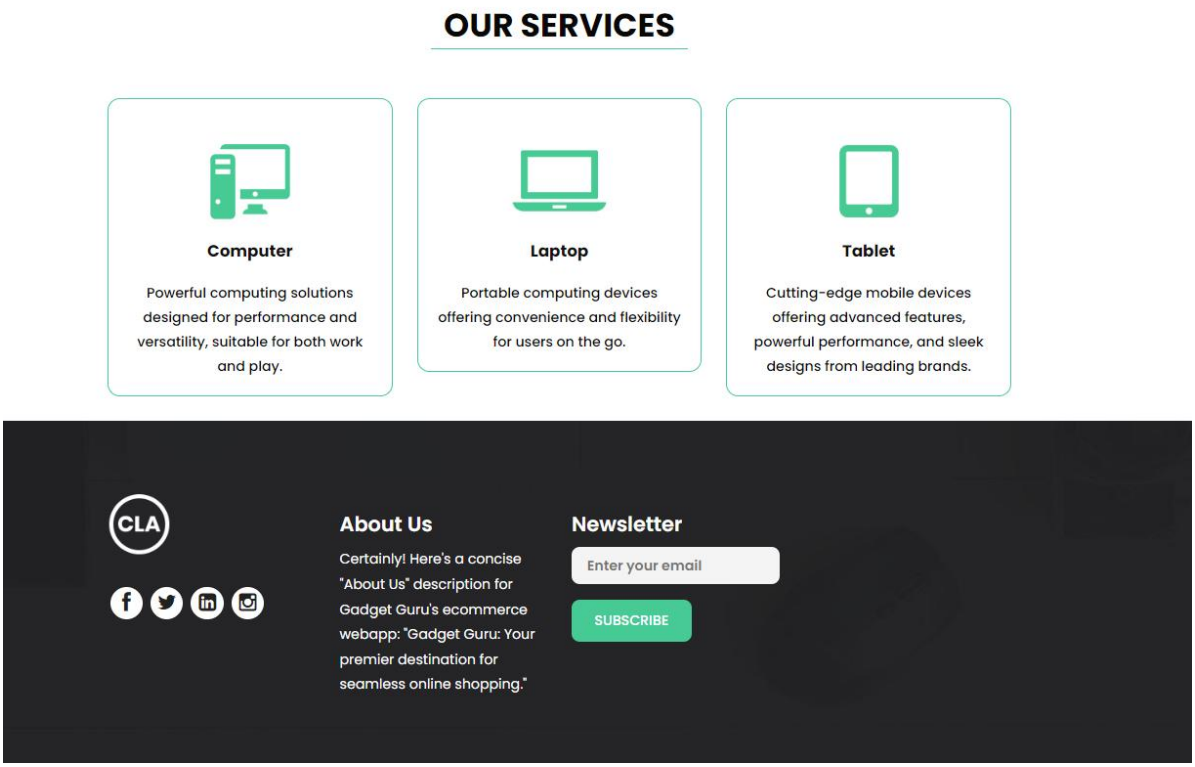
Software:

1. Operating System: Linux-based operating system such as Ubuntu Server or CentOS for robustness, security, and cost-effectiveness.
2. Web Server Software: Apache HTTP Server or Nginx as the web server software to serve web pages and handle HTTP requests efficiently. Configure the web server for performance optimization, caching, and secure HTTPS connections using SSL/TLS certificates.
3. Database Management System (DBMS): MySQL or PostgreSQL as the relational database management system (RDBMS) for storing and managing structured data related to products, orders, customers, and transactions. Optimize the database configuration for performance, scalability, and data integrity.
4. E-commerce Platform: Depending on your specific needs, you may opt for an open-source e-commerce platform like WooCommerce (for WordPress), Magento, or a custom-built solution tailored to your requirements. Evaluate factors such as flexibility, scalability, customization options, and community support when selecting the e-commerce platform.
5. Security Software: Implement security software solutions such as antivirus software, web application firewalls (WAFs), and security plugins to protect against malware, SQL injection, cross-site scripting (XSS), and other common security threats. 3.5 Experiments & Results :-

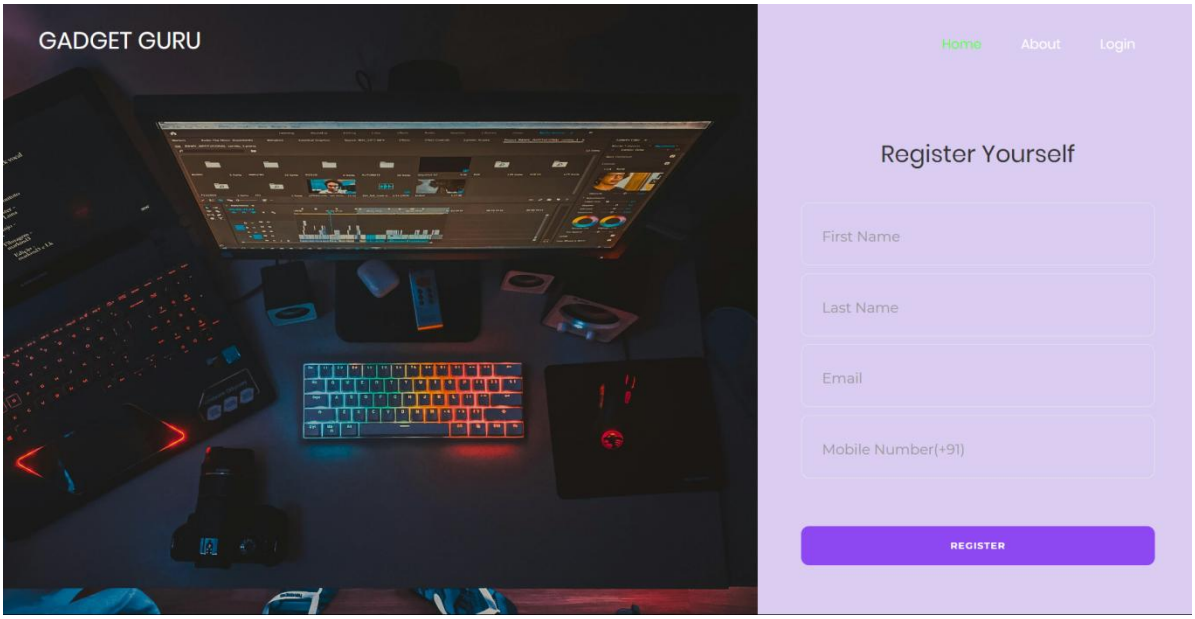
3.5 . Experiment and Results

Index page:-

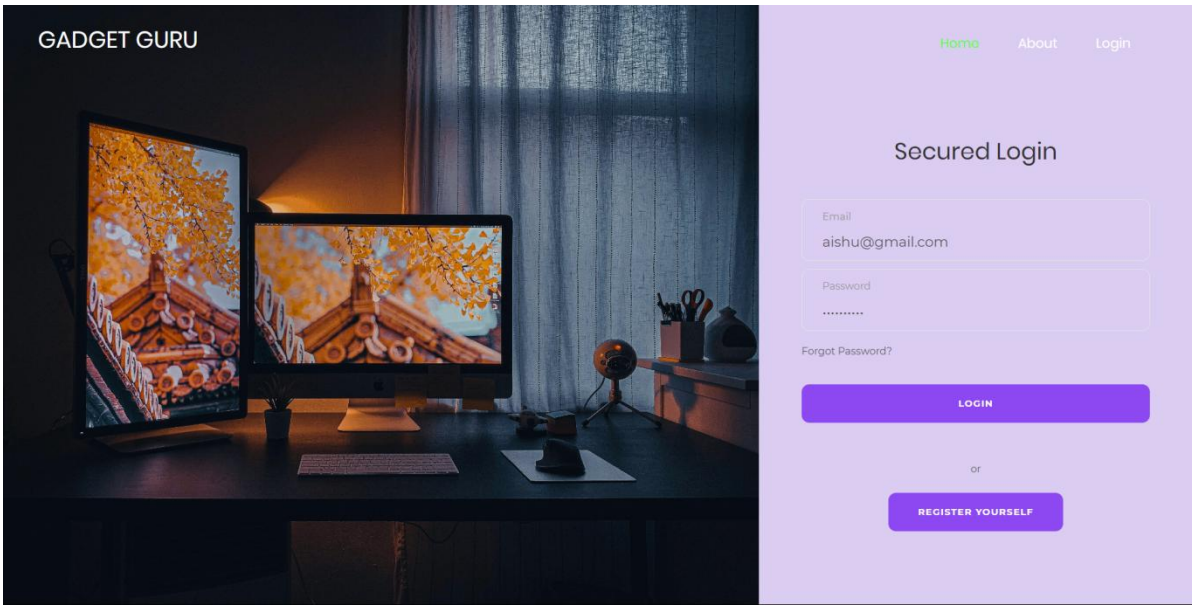




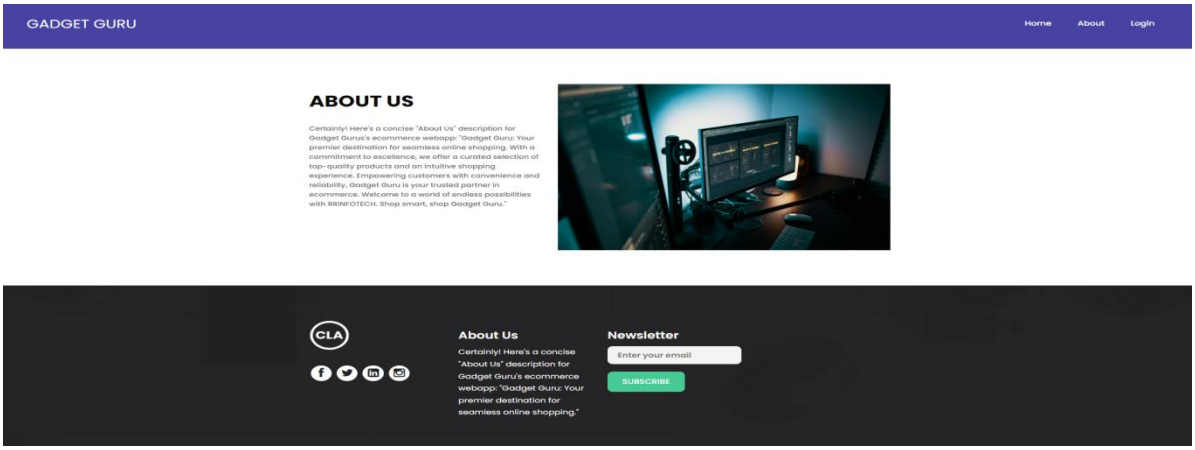
Registration Page:-



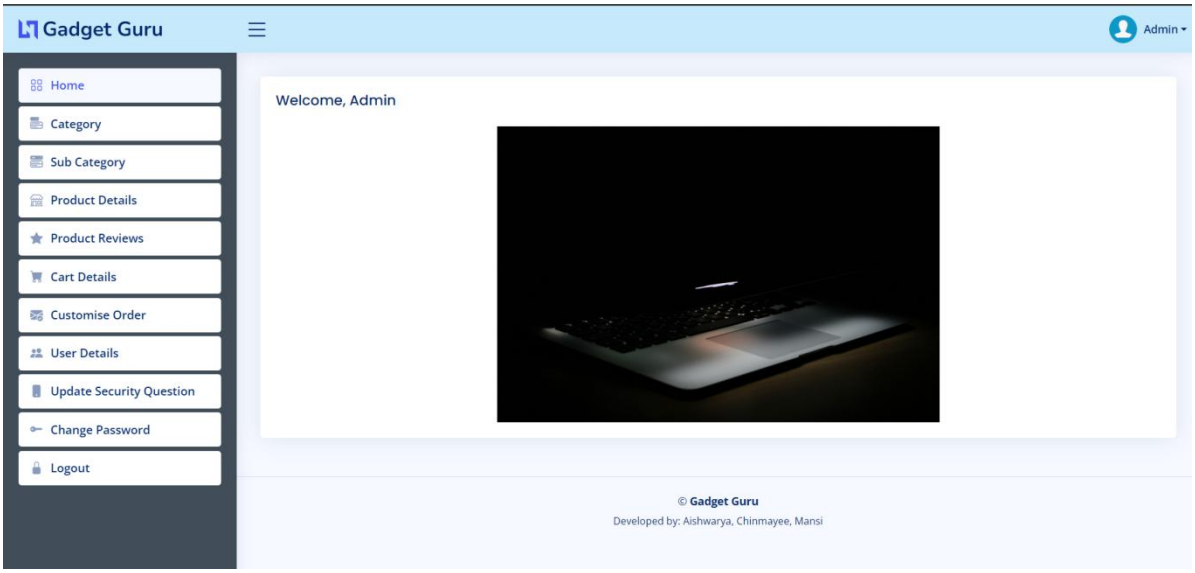
Login:-



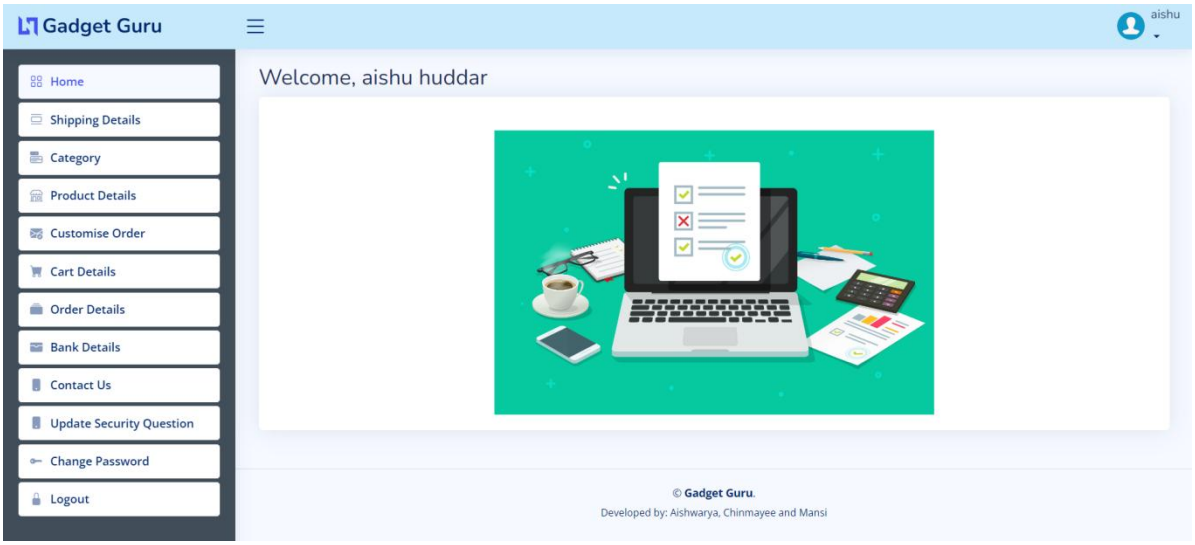
About Us :-



Admin Panel :-

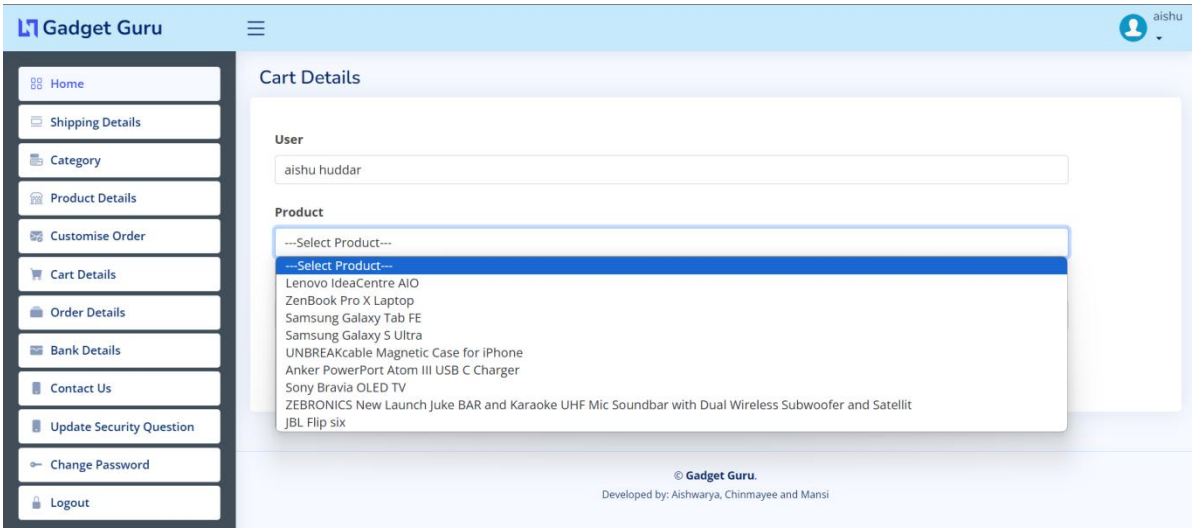


Student Panel :-

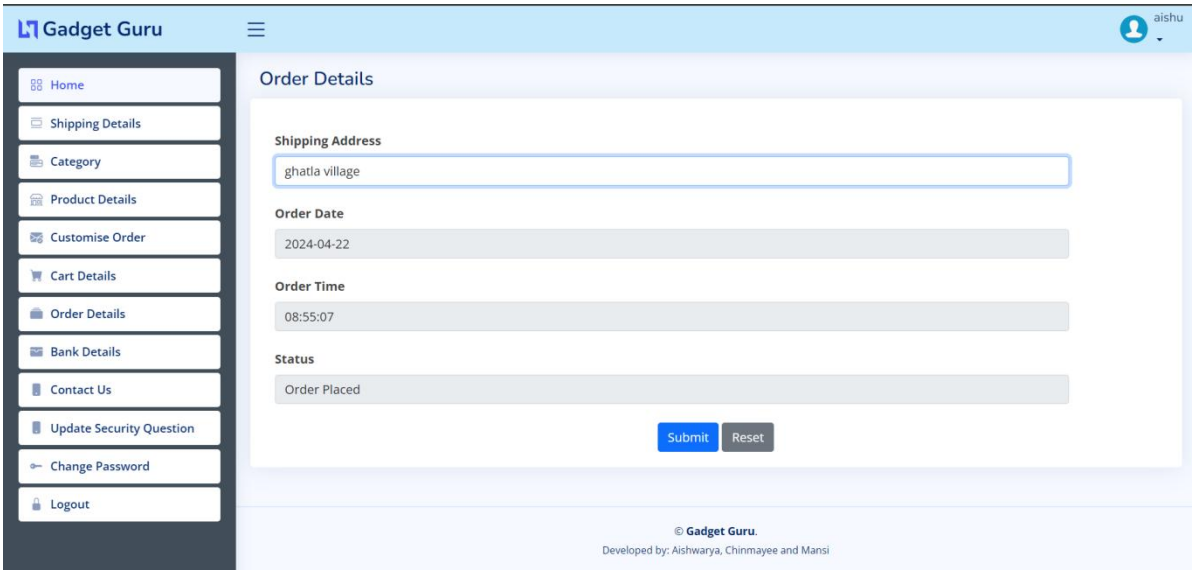


Product Details :-

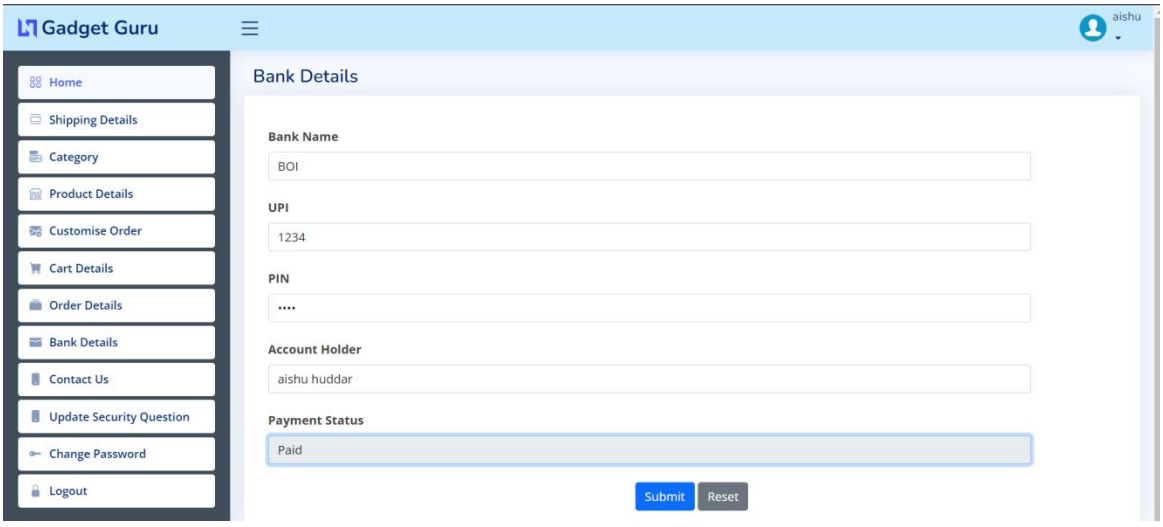
Cart Details :-



Order Details :-

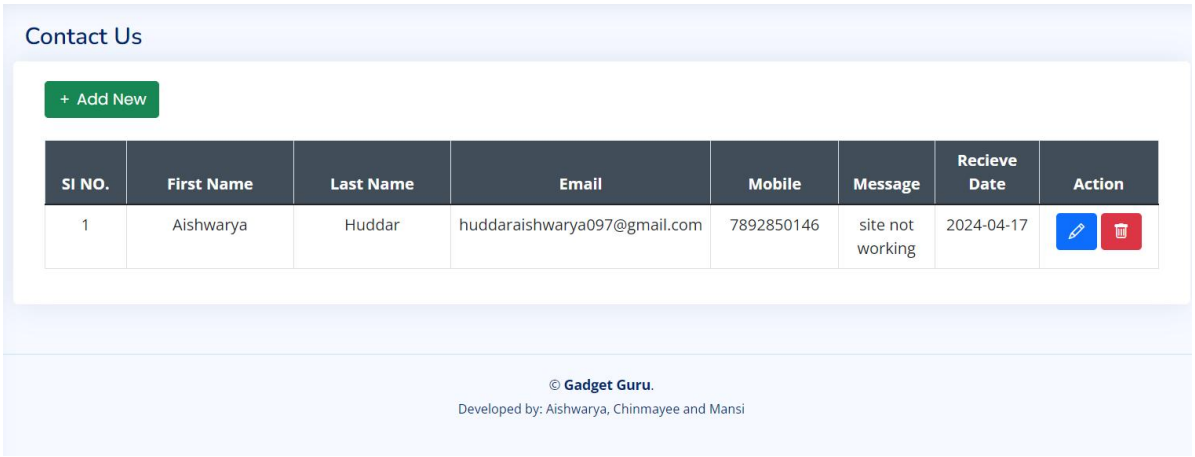


Bank Details :-

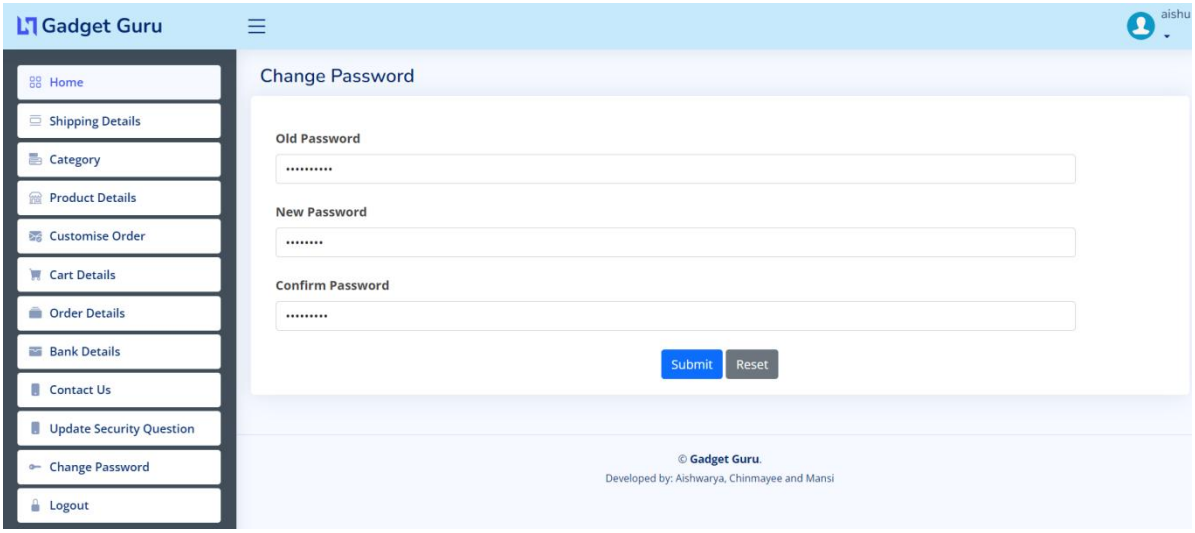


After ordering product :-

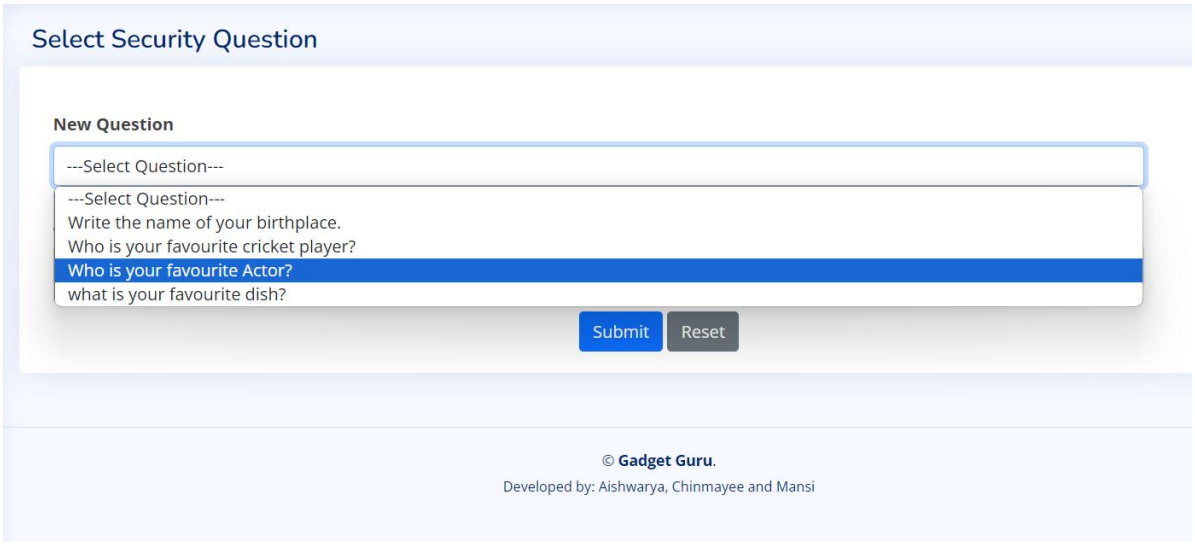
Contact us :-

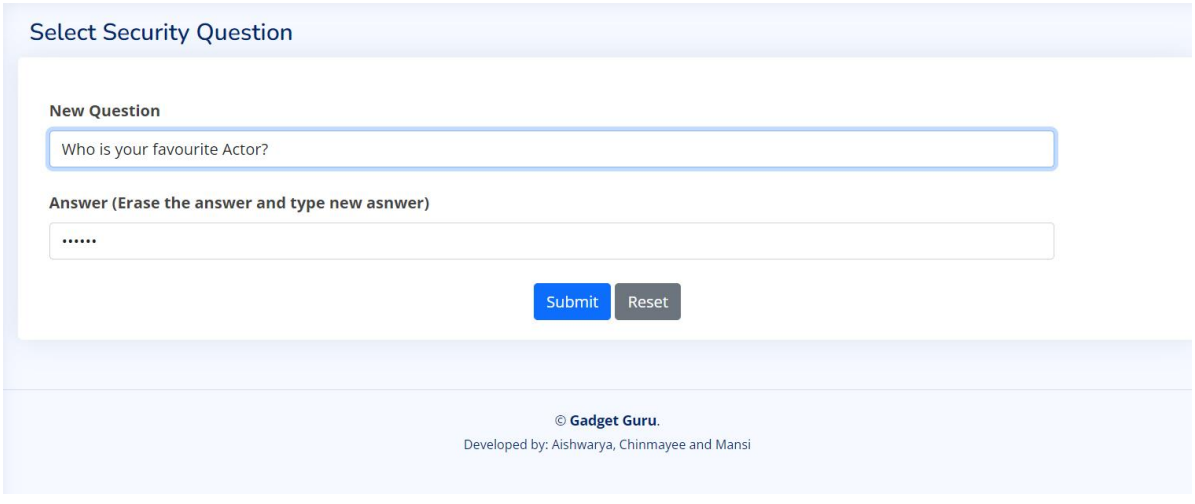


Change Password :-

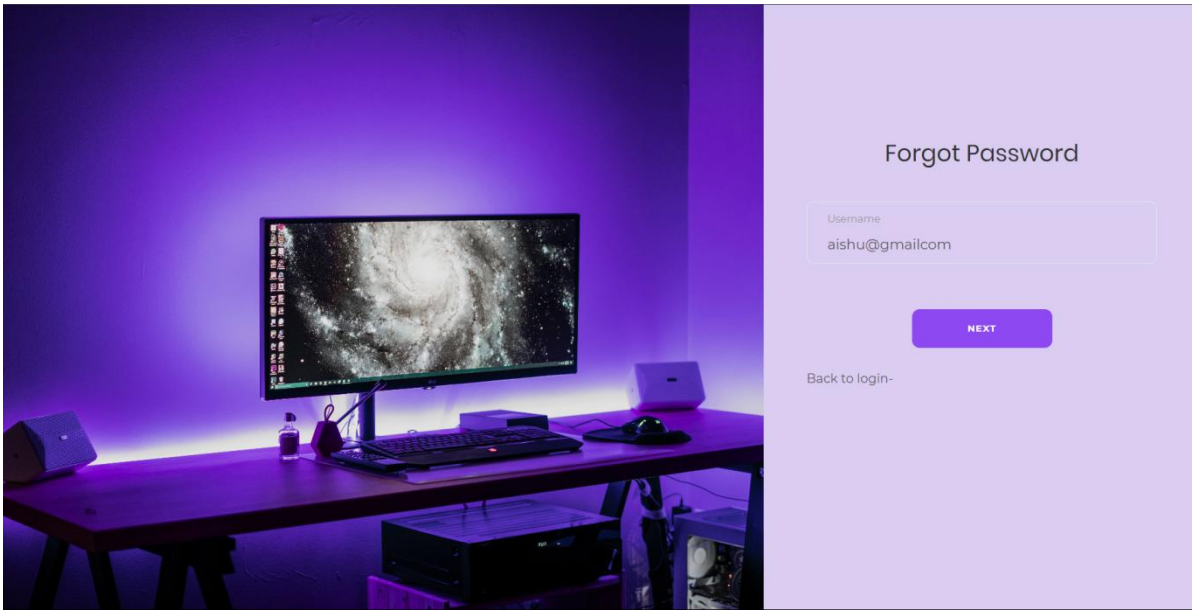


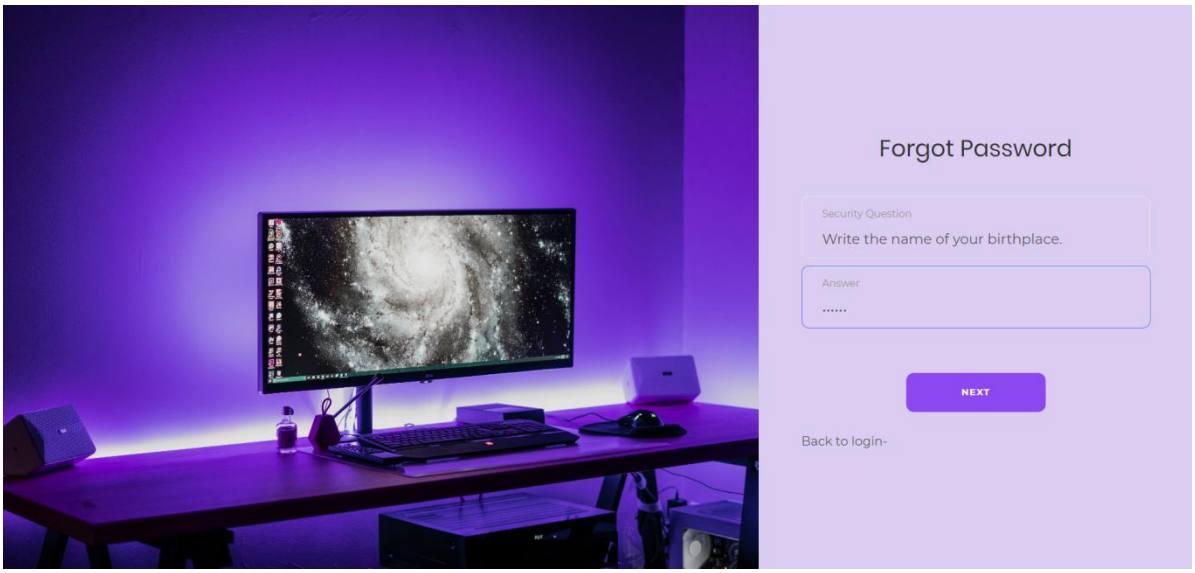
Update Security Question :-





Forgot Password :-





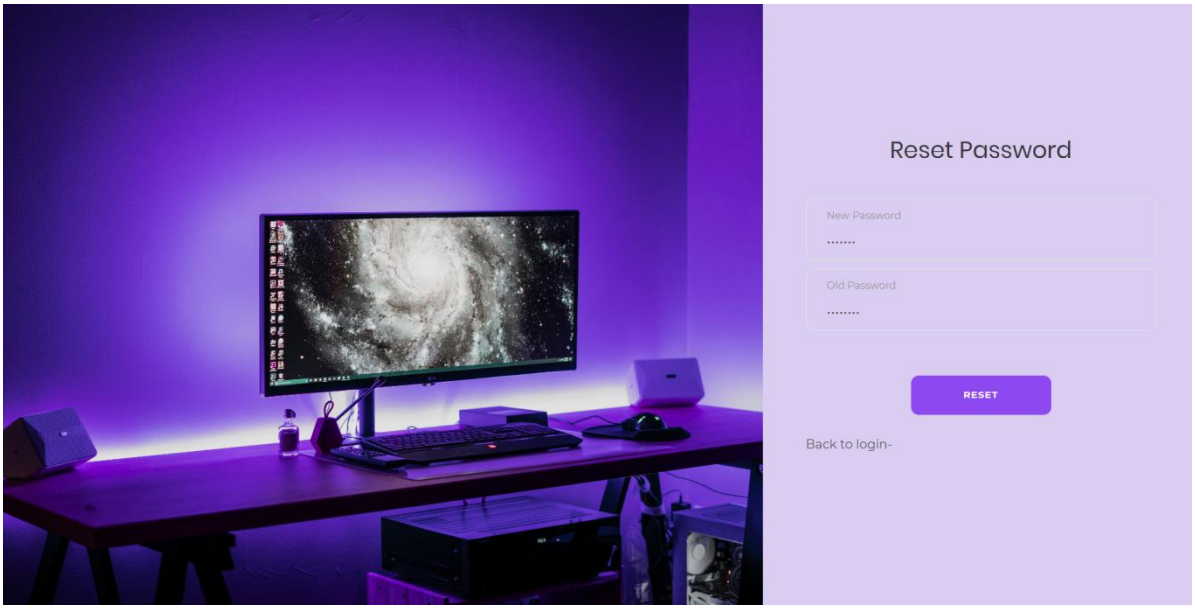


Table Structure :-

Login

(Table No :- 1)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	username	varchar(100)	latin1_swedish_ci		No			
☐	password	varchar(100)	latin1_swedish_ci		No			
☐	u_type	varchar(100)	latin1_swedish_ci		No			
☐	s_question	varchar(100)	latin1_swedish_ci		No			
☐	s_answer	varchar(100)	latin1_swedish_ci		No			
☐	status	varchar(100)	latin1_swedish_ci		No			

Customise Order

(Table No :- 2)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	co_id	int(100)			No		auto_increment	
☐	u_id	varchar(100)	latin1_swedish_ci		No			
☐	monitor	varchar(100)	latin1_swedish_ci		No			
☐	processor	varchar(100)	latin1_swedish_ci		No			
☐	ram	varchar(100)	latin1_swedish_ci		No			
☐	ssd	varchar(100)	latin1_swedish_ci		No			
☐	hdd	varchar(100)	latin1_swedish_ci		No			
☐	cabinet	varchar(100)	latin1_swedish_ci		No			
☐	motherboard	varchar(100)	latin1_swedish_ci		No			
☐	graphic_card	varchar(100)	latin1_swedish_ci		No			
☐	power_supply	varchar(100)	latin1_swedish_ci		No			
☐	keyboard	varchar(100)	latin1_swedish_ci		No			
☐	mouse	varchar(100)	latin1_swedish_ci		No			
☐	order_type	varchar(100)	latin1_swedish_ci		No			
☐	total_price	varchar(100)	latin1_swedish_ci		No			
☐	o_date	varchar(100)	latin1_swedish_ci		No			
☐	status	varchar(100)	latin1_swedish_ci		No			

Bank Details

(Table No :- 3)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	b_id	int(100)			No		auto_increment	
☐	b_name	varchar(100)	latin1_swedish_ci		No			
☐	upi	varchar(100)	latin1_swedish_ci		No			
☐	pin	varchar(100)	latin1_swedish_ci		No			
☐	amount	varchar(100)	latin1_swedish_ci		No			
☐	account_holder	varchar(100)	latin1_swedish_ci		No			

Order Details

(Table No. :- 4)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	o_id	int(100)			No		auto_increment	
☐	sp_id	varchar(100)	latin1_swedish_ci		No			
☐	o_date	varchar(100)	latin1_swedish_ci		No			
☐	o_time	varchar(100)	latin1_swedish_ci		No			
☐	status	varchar(100)	latin1_swedish_ci		No			

Product Details

(Table No. :- 5)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	pr_id	int(100)			No		auto_increment	
☐	sct_id	varchar(100)	latin1_swedish_ci		No			
☐	pr_name	varchar(100)	latin1_swedish_ci		No			
☐	pr_description	varchar(100)	latin1_swedish_ci		No			
☐	pr_aprice	varchar(100)	latin1_swedish_ci		No			
☐	pr_status	varchar(100)	latin1_swedish_ci		No			

Shipping Details

(Table No. :- 6)

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	sp_id	int(100)			No		auto_increment	
☐	u_id	varchar(100)	latin1_swedish_ci		No			
☐	address	varchar(100)	latin1_swedish_ci		No			
☐	landmark	varchar(100)	latin1_swedish_ci		No			
☐	pincode	varchar(100)	latin1_swedish_ci		No			

3.6. Conclusion & Future Work :-

In conclusion, the development and launch of our e-commerce website represent a significant milestone in our journey to provide customers with a seamless and enjoyable online shopping experience. Through meticulous planning, robust infrastructure setup, and strategic software deployment, we have created a dynamic platform that offers a wide range of products, intuitive navigation, and secure transactions. The success of this project underscores our commitment to meeting the evolving needs and expectations of our customers in the digital age.

Looking ahead, there are several avenues for future work and improvement. Firstly, we aim to enhance the website's user experience by implementing advanced professionalization features, optimizing mobile responsiveness, and refining the checkout process for greater efficiency. Additionally, we will continue to invest in cybersecurity measures to safeguard customer data and mitigate potential threats. Furthermore, we plan to expand our product catalog, forge partnerships with new suppliers, and explore opportunities for international expansion to reach a broader customer base.

Moreover, we recognize the importance of data analytic in driving informed decision-making and improving business performance. Therefore, we will focus on implementing robust analytics tools to gather actionable insights into customer behavior, preferences, and market trends. By embracing innovation, prioritizing customer satisfaction, and remaining agile in response to changing market dynamics, we are confident that our e-commerce website will continue to thrive and evolve in the competitive landscape of online retail.

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