

Tribhuvan University Faculty of Humanities and Social Science Orchid International College

GADGET MANAGEMENT SYSTEM

A PROJECT REPORT

Submitted to Department of Computer Application

Orchid International College

In partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted by

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March 2024

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LETTER OF APPROVAL

This is to certify that this project prepared by Bibek Tamang entitled "Gadget Management System in partial fulfillment of the requirements for the degree of Bachelor in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

Signature of Supervisor	Signature of HOD/ Coordinator		
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Full Time Faculty	Head of Department		
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ACKNOWLEDGEMENTS

We have taken a lot of effort into this project. However, completing this project would not

have been possible without the support and counselling of a lot of individuals. We would

like to extend our sincere thanks to all of them.

We are highly indebted to our supervisor Mr. Achyut Khatiwada for his guidance and

supervision. We would like to thank him for providing the necessary information and

resources for this project and also for his continuous feedback and encouragement

throughout the project.

Our thanks and appreciations also go to our colleague in developing the project. Thank you

to all the people who have willingly helped us out with their abilities.

Bibek Tamang (93902063)

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Chapter 1: Introduction To EC, MIS and Proposed EC Website

1.1 Introduction To E-Commerce

E-commerce refers to utilizing the Internet and web platforms for commercial transactions, involving the exchange of value, such as money, between organizations and individuals. The focus is on digitally facilitated transactions, transitioning from e-business applications to e-commerce when value exchanges occur. Digitally enabled transactions span those mediated by digital technology and platforms, occurring online over the Internet and web. An e-commerce website serves as an information technology tool allowing traders, businesses, distributors, and marketers to sell products and services, while customers can electronically purchase items using the internet on various devices. Essentially, an e-commerce website functions as an online store, leveraging electronic means for business transactions.

Some basic types of E-Commerce are listed below:

- Business-to-Business. (B2B)
- Business-to-Consumer. (B2C)
- Consumer-to-Business. (C2B)
- Consumer-to-Consumer. (C2C)

1.2 Introduction to MIS

Management Information Systems (MIS) serve as the backbone of modern organizations, facilitating the collection, processing, storage, and dissemination of information for effective decision-making and strategic planning. MIS integrates technology, people, and processes to support managerial activities at all levels of an organization.

Key components of MIS include:

- 1. Data Collection: MIS gathers data from various sources within and outside the organization. This data can be structured (such as databases) or unstructured (like emails and documents).
- Data Processing: Once collected, data undergoes processing to convert it into useful information. This involves organizing, analyzing, and summarizing data to extract meaningful insights.

- 3. Information Storage: MIS stores processed information in databases, data warehouses, or other storage systems. This ensures data accessibility and facilitates retrieval when needed.
- 4. Information Dissemination: MIS distributes information to relevant stakeholders through reports, dashboards, and other communication channels. Timely and accurate dissemination ensures that decision-makers have access to relevant information.
- 5. Decision Support: MIS provides decision support tools and technologies to assist managers in making informed decisions. These tools may include data visualization, predictive analytics, and business intelligence systems.

1.3 Introduction to Store

GadgetHub is a retail store specializing in the sale of a wide range of electronic gadgets, including mobile phones, laptops, smartwatches, speakers, and headphones. As a one-stop destination for technology enthusiasts, GadgetHub offers a diverse selection of cutting-edge gadgets from leading brands.

Key highlights of GadgetHub Store:

- 1. Product Variety: GadgetHub offers a wide range of gadgets, including smartphones, laptops, smartwatches, speakers, and headphones, catering to diverse needs and preferences.
- 2. Quality Assurance: GadgetHub ensures top-notch quality by subjecting all products to rigorous checks, partnering with reputable manufacturers and suppliers to meet industry standards and customer expectations.
- 3. Customer Experience: GadgetHub prioritizes customer satisfaction with a seamless shopping experience, providing knowledgeable and friendly staff for product inquiries, recommendations, and technical support.
- 4. Innovation Hub: GadgetHub is a hub for innovation, showcasing the latest technological advancements from cutting-edge smartphones to futuristic wearable devices, inspiring customers to embrace innovation in their daily lives.

Chapter 2: Planning Of EC Website

2.1 Introduction

In planning for the GadgetHub E-Commerce website, thorough market research serves as the foundation, enabling a deep understanding of the target audience and competitive landscape. With clear objectives defined, the focus shifts to curating a comprehensive range of electronic gadgets, ensuring alignment with customer preferences and technological trends. The website's design emphasizes user-friendliness, featuring intuitive navigation and engaging visuals to enhance the shopping experience. Selection of a suitable E-Commerce platform, along with secure payment gateway integration, is pivotal for seamless transactions. Each step is meticulously executed to establish GadgetHub as a trusted destination for electronic gadget enthusiasts, driving business growth and customer satisfaction.

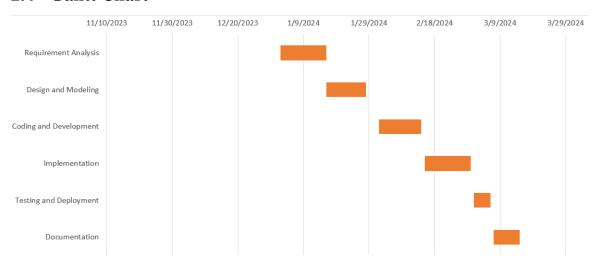
2.2 The E-Commerce planning process

- 1. Conduct thorough market research to understand the electronic gadgets market, target audience preferences, and competitors' strategies.
- 2. Define clear objectives for the GadgetHub E-Commerce website, such as increasing sales, expanding the customer base, or enhancing brand visibility.
- Curate a diverse range of electronic gadgets, including mobile phones, laptops, smartwatches, speakers, and headphones, to cater to various customer needs and preferences.
- 4. Design a user-friendly website interface with intuitive navigation, high-quality visuals, and detailed product descriptions to facilitate easy browsing and purchasing.
- 5. Select a suitable E-Commerce platform based on factors like scalability, customization options, and integration capabilities with payment gateways.
- Develop robust marketing strategies, including SEO, social media marketing, email
 marketing, content marketing, and influencer collaborations, to drive traffic and
 increase sales.
- 7. Continuously evaluate website performance and user feedback to identify areas for improvement and ensure competitiveness in the online marketplace.

2.3 Budget

S.N.	Name	Pricing	Duration
1	Free Domain (.com.np)	Free	Lifetime
2	Top Level Domain (.com)	Rs. 1000	Yearly Renew
3	Web Cloud Hosting	Rs. 5000 (Budget will increase during the use of resources)	Yearly Renew
4	Maintenance	Rs. 500 to Rs. 1000/hour	Hour/Monthly

2.4 Gantt Chart



2.5 Feasibility Analytics

The feasibility study is the important step in any software development process. This is because it makes analysis of different aspects like cost required for developing and executing the system, the time required for each phase of the system and so on. If these important factors are not analyzed then definitely it would have impact on the organization and the development and the system would be a total failure. So, for running the project and the organization successfully this step is a very important step in a software development life cycle process.

i. Technical Feasibility

Technical feasibility centers on the existing computer system (Hardware, Software etc.) and to what extent it supports the existing system. As the existing system computer system is viable so there is no matter of technical feasibility that is the system is technically feasible. In this type of feasibility study, it is checked whether there is a need of new hardware/software or not. What are the basic requirements of the project? If there is need then how it can be fulfilled. In this context, this

project doesn't need any special hardware or software. It can run on window 7/10 platform. However, Internet and a Web browser is needed to run the web application.

ii. Operation Feasibility

In this feasibility study it is determined whether there is need of well qualified operator or simple user. Is there need to train the operator or not? This project is supporting the User-friendly Web application; hence operating this project is so simple. Even a person who has a little knowledge of computer can easily handle this well. There is no need of trained operator.

iii. Economic Feasibility

The project has shown the economic feasibility by the study of the fact that by using this software the increased number of the users can be given service effectively and efficiently and can save a lot time and saving time means saving money. The cost and benefit analysis has shown that cost that have incurred in developing the project is less than the benefits that the project is going to provide once it is developed, so this project has passed the feasibility test.

iv. Schedule Feasibility

This assessment is the most important for project success; after all, a project will fail if not completed on time. In scheduling feasibility, an organization estimates how much time the project will take to complete. To calculate and continually reexamine whether it is possible to complete all amount and scope of work lying ahead, utilizing the given number of resources, within required period of time. In our project we used Gantt Chart for Schedule feasibility study.

Chapter 3: Network Infrastructure

3.1 Network Infrastructure

The network infrastructure of E-commerce: Network infrastructure is required for e-commerce to transport content. I-way is a high-capacity, interactive electronic pipeline used to transfer content in case of ecommerce.

I-way can transfer any type of context like, text, graphics, audio, video. In other words, multimedia contents are easily transported through I-way.

A network can be defined as:

- Building block of E-commerce.
- Technologies to integrate Business Process
- Mediator for Digital transmission of Digital
- Content/Message/File/DATA
- The interaction between Entities of business
- Like Supplier/ Distributor/partner etc...
- A framework with security & ease.

World Wide Web

Motivation: Developing a global distributed hypermedia system.

- Started 1989 by a research paper issued by Tim Berners-Lee who worked at the CERN.
- 1993: First usable browser (MOSAIC) issued.
- 1994: Foundation 0fWorld Wide Web Consortium (W3C): W3C then started developing HTML, HTTP and style Sheets.

Internet

The Internet is the entirety of all connected computers that use the package of internet protocols at their network systems' topmost layer. The collection of internet protocols implements a packet-oriented Wide Area Network for connecting networks of diverse protocols and different connection characteristics.

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The World Wide Web (WWW) is a distributed hypermedia system that relies on some of the internet's services. Most important are the naming service provided by the Domain Name Service (DNS) and the - quite — reliable connection-oriented transmission service provided by the Transmission Control Protocol (TCP).

3.1.1 Connecting to Internet

In the given network setup, computers serving as clients utilize dial-up connections, typically assigned dynamic IP addresses by ISPs. Servers, however, maintain leased line connections for continuous internet access. For enhanced security, WPA is recommended. As for mobile connectivity, options like 3G, 4G, and 5G offer varying speeds and reliability, with 5G being the most advanced.

3.1.2 Components of I-way

The Information Superhighway (I-Way) is a term used to describe the vast network of interconnected computer networks that make up the modern internet. Here are the key components of the I-Way:

- 1. Infrastructure: The physical backbone of the internet, including cables, routers, switches, and data centers, forms the infrastructure of the I-Way. This infrastructure enables the transmission of data across vast distances.
- 2. Protocols: Protocols are a set of rules and standards that govern how data is transmitted and received over the internet. Examples include TCP/IP (Transmission Control Protocol/Internet Protocol), HTTP (Hypertext Transfer Protocol), and SMTP (Simple Mail Transfer Protocol).
- 3. Servers and Clients: Servers host websites, applications, and services, while clients are devices such as computers, smartphones, and tablets that request and access content from servers. This client-server model is fundamental to how information is accessed and shared on the I-Way.
- 4. Content: Content refers to the information, media, and resources available on the internet. This includes websites, documents, images, videos, and other digital assets that users can access and interact with.

- 5. Applications: Applications or software programs enable users to perform various tasks and activities on the internet. This includes web browsers, email clients, social media platforms, search engines, and online shopping portals.
- 6. Internet Service Providers (ISPs): ISPs are companies that provide access to the internet to individuals, businesses, and other organizations. They connect users to the I-Way through various technologies such as dial-up, DSL, cable, fiber-optic, and wireless connections.
- 7. Standards Organizations: Standards organizations, such as the Internet Engineering Task Force (IETF) and the World Wide Web Consortium (W3C), develop and maintain technical standards and protocols that ensure interoperability and compatibility across different devices and networks on the I-Way.
- 8. Security Measures: Security measures, including encryption, firewalls, antivirus software, and authentication mechanisms, are essential components of the I-Way to protect against cyber threats and ensure the privacy and integrity of data transmitted over the internet.

Chapter 4: Process of Building EC Website

4.1 Process of Website Building

- 1. Environment Setup:
 - Install a text editor Visual Studio Code for coding.
 - Set up a local development environment with a web server like Apache.

2. HTML Structure:

- Create the basic structure of the website using HTML, including header, navigation, content sections, and footer.
- Use semantic HTML tags to define the structure of different elements.

3. CSS Styling:

- Style the HTML elements using CSS to enhance the visual appearance of the website.
- Utilize CSS frameworks like Bootstrap to create responsive layouts and components.

4. JavaScript Functionality:

- Add interactivity and dynamic behavior to the website using JavaScript.
- Implement client-side form validation, dropdown menus, sliders, and other interactive elements.

5. Bootstrap Integration:

- Integrate Bootstrap CSS and JavaScript files into the project to leverage its pre-built components and responsive grid system.
- Customize Bootstrap styles and components to match the design requirements of the GadgetHub website.

6. Payment Gateway Integration:

- Sign up for a PayPal business account and obtain API credentials (Client ID and Secret Key).
- Use PayPal's developer dashboard to create sandbox accounts for testing.
- Implement PayPal's JavaScript SDK to add "Pay with PayPal" and "Pay with Credit Card" buttons to the checkout page.
- Set up server-side code (e.g., using PHP) to handle payment processing and validate transactions securely.

• Test the payment gateway integration in sandbox mode to ensure functionality and security.

7. Testing and Debugging:

- Test the website across different devices and browsers to ensure compatibility and responsiveness.
- Use browser developer tools to debug and fix any issues with HTML, CSS, or JavaScript code.

8. Deployment:

- Choose a web hosting provider and deploy the website to a live server.
- Configure server settings and domain name to point to the live website.
- Set up SSL certificate for secure HTTPS connections, especially for handling payment transactions.

4.1.1 For Live on Domain

- First, we choose domain name.
- Then we select a web hosting provider and set up hosting account.
- After setting up hosting account, we upload website files and configure domain settings.
- Then test the website functionality.
- Now our website is live.

4.1.2 Customer Account

Customer can register an account from Signup.

4.1.3 Admin Dashboard Login

Admin can login from admin.

4.1.4 Development Contribution

Contributed to the development of the home page UI, incorporating dynamic elements for featured products and promotions, and establishing robust database connectivity for content management. Designed and implemented the track order and checkout pages, enabling real-time order tracking and secure transaction processing, with database integration for storing order details. Developed the add to cart functionality, facilitating seamless product selection and storage of cart items with persistent database connections, ensuring a smooth shopping experience for users.

Chapter 5: Payment Gateway

5.1 Payment Gateway

A payment gateway is essential for facilitating secure transactions between businesses and banks during card transactions. It transmits crucial information between acquiring and issuing banks to determine transaction approval. With the B2C e-commerce market valued at nearly RSI.5 trillion annually, the need for payment gateways is vital for businesses seeking to accept card payments. Our e-commerce application supports multiple payment modes, ensuring convenience for customers and capitalizing on online trading opportunities. They are:

- Cash on Delivery
- PayPal
- Debit and Credit Card

In our system we are included all types of payment method above and it is client user friendly for payment complete process.

Contribution to Payment Gateway Integration:

In the development of our e-commerce application, I played a pivotal role in integrating the payment gateway functionalities. This involved:

- Collaborating with the development team to understand the requirements and specifications of the payment gateway integration.
- Writing code to implement the necessary connections between our system and the payment gateway providers, ensuring secure data transmission and transaction processing.
- Testing the payment gateway integration thoroughly to identify and rectify any issues or bugs, thereby ensuring smooth and error-free transaction processing for our users.
- Providing ongoing support and maintenance for the payment gateway integration, including updates and optimizations to enhance performance and security.
- Through these contributions, I helped ensure that our e-commerce platform offers a robust and reliable payment infrastructure, enabling our users to complete transactions seamlessly and securely, regardless of their preferred payment method.

Chapter 6: Handling Security Issue

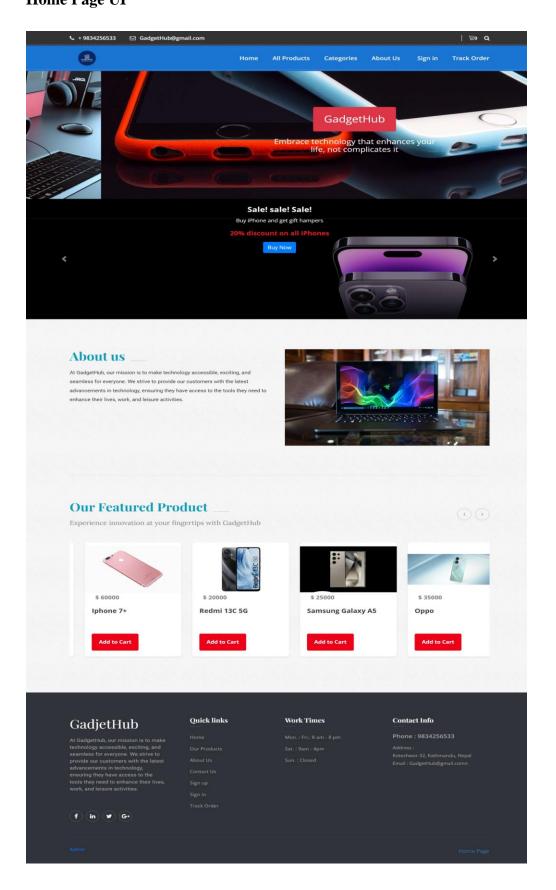
6.1 Handling Security Issue

In our website, the admin panel employs multiple layers of security measures. To access the admin panel, users must:

- Enter the correct Username/Email and password stored in the database for authentication.
- If the Username/Email is correct but the password does not match what's stored in the database, access is denied.

Similar security measures are applied to consumers logging into their dashboard panel to purchase products. This ensures that only authorized users with valid credentials can access the respective panels, enhancing the overall security of the website.

Chapter 7: Screen Captures and Links of EC Website Home Page UI

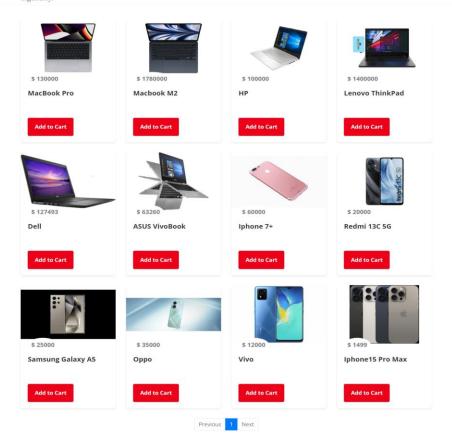


Products Page UI



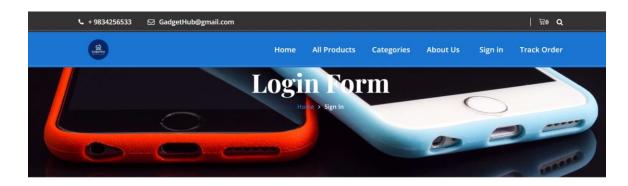
Our Products

Unlock the potential of innovation with every product, shaping a future where technology serves as an extension of human ingenuity.





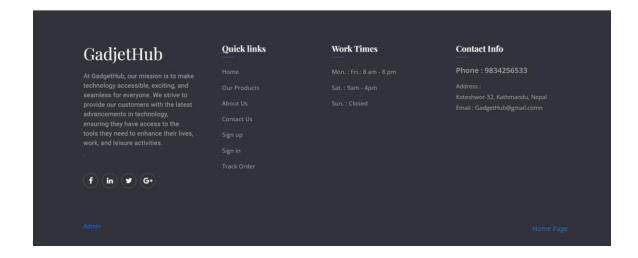
Login Page UI



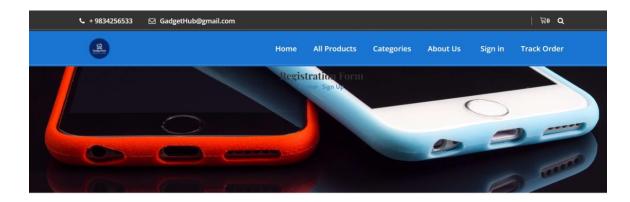
Login Form!!

Fill below details.

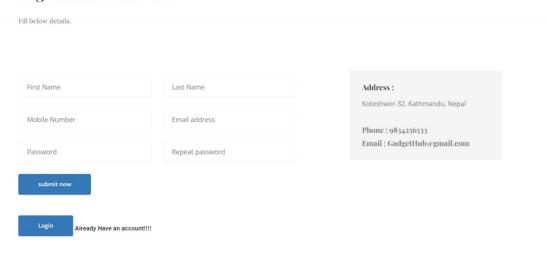




Register Page UI



Regitration Form!!



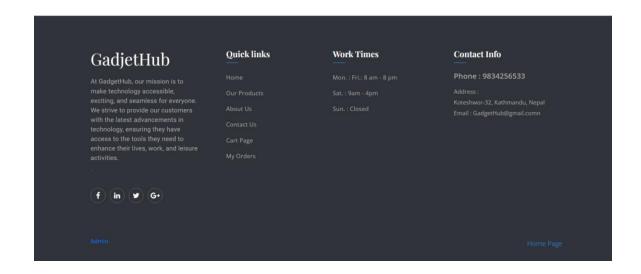


Order Page UI

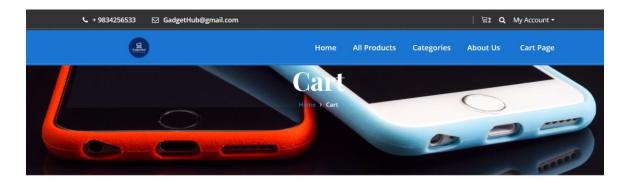


Your Order Detail

		Order Date and			
#	Order ID	Time	Order Status	Track Order	View Details
1	470428413	2023-07-22 15:53:38	Cake being Prepared	₩ Track Order	View Details
2	890112911	2024-02-26 08:28:47	Cake Delivered	♣ Track Order	View Details
3	125584984	2024-02-27 07:32:48	Waiting for confirmation	™ Track Order	View Details

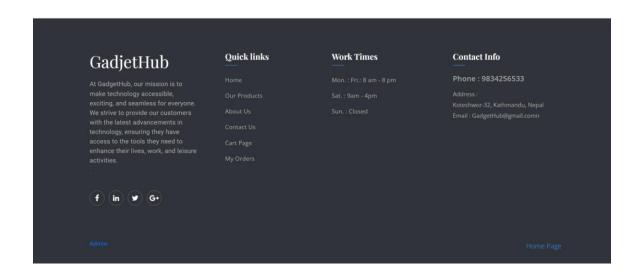


Cart Page UI



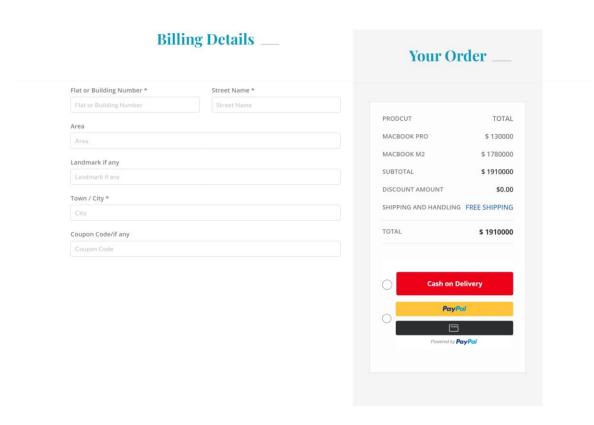
PREVIEW	PRODUCT	PRICE	WEIGHT	QUANTITY	TOTAL	
	MacBook Pro	\$ 130000	500 gm	1 pcs	\$ 130000	ŵ
	Macbook M2	\$ 1780000	500 gm	1	\$ 1780000	ŵ

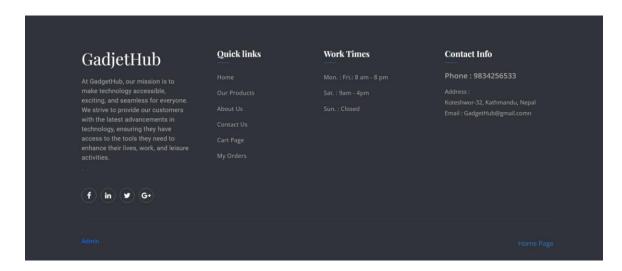




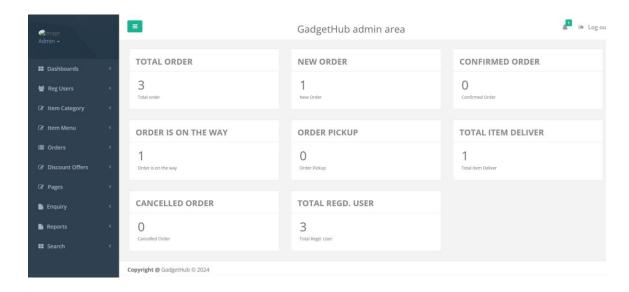
Checkout Page UI







Admin Dashboard UI



Chapter 8: Conclusion

8.1 Website Conclusion

Gadget Hub, an e-commerce platform crafted with HTML5, PHP, CSS, Bootstrap, and JavaScript, delivers a seamless shopping experience for electronics enthusiasts. Tailored to user specifications and infused with insights from existing systems, it enables browsing, cart management, and checkout, with flexible payment options including multiple gateways and cash on delivery. User-generated reviews enrich product experiences. From an administrative standpoint, Gadget Hub offers comprehensive control over orders, listings, user activity, and inventory. My contributions, encompassing HTML5, PHP, and CSS development, ensured intuitive interfaces and robust functionality. I understand the intricacies of website design, development, and management, ensuring Gadget Hub provides both consumers and administrators with an efficient and satisfying online shopping experience.