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An Undergraduate Internship/Project on Topic “E-Medic & Health Care E-commerce Website”

Hani, Umme

Independent University, Bangladesh

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An Undergraduate Internship/Project on Topic "E-Medic & Health Care E-commerce Website"

By

Umme Hani
1930330

Summer, 2023

Supervisor:

Dr. MD. Tarek Habib
Assistant Professor
Department of Computer Science & Engineering
Independent University, Bangladesh

October 18 , 2023

Dissertation submitted in partial fulfillment of the degree of
Bachelor of Science in Computer Science

Department of Computer Science & Engineering
Independent University, Bangladesh

Attestation

I, Umme Hani (ID: 1930330), hereby certify that this report titled "E-Medic & Health Care E-commerce Website" has been meticulously prepared and duly submitted in partial fulfillment of the requisites for the attainment of the Degree of Computer Science and Engineering, awarded by Independent University, Bangladesh (IUB).

My heartfelt gratitude extends to my esteemed supervisor, Dr. MD. Tarek Habib, whose unwavering guidance and support were indispensable throughout the entirety of the internship period. His invaluable insights and profound expertise have made a substantial contribution to the triumphant culmination of this endeavor.

Furthermore, I hereby attest that all content presented within this report is entirely original and mirrors my personal comprehension and the knowledge acquired during the internship duration. Any external sources of information harnessed in the pursuit of this project have been dutifully acknowledged and meticulously referenced.

For those seeking additional information or clarification pertaining to this project, I wholeheartedly encourage reaching out to my internship supervisor, Muhammad Shohidullah Kaisar, stationed at Appnap Technologies Limited, by way of electronic mail at kaisar@appnap.io .

Umme Hani

Signature

18-10-2023

Date

Umme Hani

Name

Acknowledgement

I wish to express my heartfelt thanks to the Almighty for granting me the opportunity to successfully complete my internship. Gratitude is also extended to my family, friends, and seniors for their unwavering support and encouragement throughout my academic journey and internship. Their love and belief in me have remained a constant wellspring of motivation.

I'd also like to extend my appreciation to all the professionals and experts in the realm of computer science and software development. They have generously shared their wisdom and resources, both in the form of academic materials and through online communities. Their contributions have profoundly enriched my knowledge and skill set.

I am immensely thankful to my supervisor, Dr. MD. Tarek Habib, an Assistant Professor in the Department of Computer Science and Engineering at Independent University, Bangladesh. His unwavering support and guidance during my internship and report preparation have been invaluable. I'd like to convey my gratitude to Independent University, Bangladesh, for providing me with a comprehensive education in computer science and engineering. The knowledge and skills I've acquired during my time at the university have laid a sturdy foundation for my professional growth.

My sincere appreciation goes to my industrial supervisor, Muhammad Shohidullah Kaisar, a Senior Software Engineer at Appnap Technologies Limited. His kindness, support, and guidance during my internship have been instrumental in my journey. His motivating words and instructions have inspired me to achieve more than I had initially anticipated. I'm truly grateful for the opportunity to work under their guidance.

I am thankful for the unwavering support and guidance I've received throughout my internship and dissertation. I am confident that this experience will significantly contribute to my future endeavors in the field of computer science. I deeply value their contributions, and my gratitude knows no bounds.

Letter of Transmittal

[24.09.2023]

Dr. MD. Tarek Habib

Assistant Professor

Department of Computer Science and Engineering,

School of Engineering and Computer Science.

Subject: Submission of Internship Report for Graduation Completion

Dear Sir,

I am writing to turn in my Internship Report, a vital component of the Bachelor Program in Computer Science and Engineering curriculum. It has indeed been a privilege to work under your mentorship and supervision during my internship tenure. This report encapsulates my internship adventure at "Appnap Technologies Limited," where I dedicated three months to working under the astute guidance of Muhammad Shohidullah Kaisar, a Senior Software Engineer at Appnap Technologies Limited.

Throughout this internship, I garnered a trove of academic insights and hands-on experience, immersing myself deeply in the corporate milieu. I've strived diligently to craft this report, making it both informative and all-encompassing. It encapsulates the wisdom and expertise I amassed during my internship stint. I have meticulously adhered to the prescribed guidelines, furnishing detailed information in all the requisite sections.

I genuinely hope that this report aligns with the requisites of my internship program. I would be deeply appreciative if you could kindly accept this report and share your invaluable assessment. It would be a distinct honor if you find this report valuable and enlightening, providing you with a clear window into the subjects discussed within.

I extend my gratitude for your unwavering support and guidance during this internship expedition. The opportunity to learn and thrive under your tutelage has been a tremendous privilege. I eagerly await your feedback and comments on the report.

Sincerely,

Umme Hani

ID: 1930330

Department of Computer Science and Engineering,

School of Engineering and Computer Science.

Evaluation Committee

Supervision Panel

Academic Supervisor Name: Dr. Md. Tarek Habib	Industry Supervisor Name: Shohidullah Kaisar

Panel Members

Panel Member-1 Name: Mr. Sajed Imtenanul	Panel Member-2 Name: Mr. Md. Fahad Monir

Office Use

Program Coordinator Name: Subrata Kumar Dey	Head of Department Computer Science & Engineering Name: Mahady Hasan

Abstract

The internship at Appnap Technologies Limited provided a once-in-a-lifetime opportunity to help build and implement the E-Medic & Health Care E-commerce Website. The goal of this project was to build a digital platform where clients could easily purchase medicines, healthcare products, and devices. Working closely with the development team, the project leveraged modern web technologies to build a robust and user-friendly website.

The E-Medic & Health Care E-commerce Website empowers customers to order and purchase a wide range of medical products and devices from the comfort of their homes. The platform also incorporates an efficient admin interface, enabling seamless product management and customer interaction. Customers can explore an extensive catalog, place orders, and enjoy the convenience of online shopping, while administrators can easily oversee inventory and customer accounts.

Critical aspects of the project lifecycle included requirements analysis, system design, web development, rigorous testing, and successful deployment. Continuous user feedback was essential in refining the system and ensuring that it suited the different needs of both customers and administrators.

The evaluation of the E-Medic & Health Care E-commerce Website showcases promising results. Customers benefit from a hassle-free online shopping experience, access to a variety of healthcare products, and secure transactions. Meanwhile, administrators find it efficient to manage inventory and customer interactions through the user-friendly admin interface.

Future project recommendations include including advanced functions such as customized recommendations, integrating with secure payment channels, and continuously monitoring user feedback and industry developments. This approach will encourage ongoing improvements and innovation inside the E-Medic & Health Care E-commerce Website, hence improving the healthcare buying experience for all stakeholders.

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Chapter 1 - Introduction

Internships serve as a pivotal bridge between academic knowledge and practical application, offering students invaluable opportunities to explore their career interests and unearth their potential. These immersive experiences allow individuals to merge their theoretical foundations with real-world implementation, fostering skill development and personal growth.

Within the academic framework of Independent University, Bangladesh, internships are an integral component of the "Computer Science and Engineering" program, essential for fulfilling graduation requirements. In the course of my undergraduate studies, I embarked on a transformative three-month internship journey with "Appnap Technologies Limited," a well-regarded company in the industry.

This report endeavors to provide an in-depth account of my internship stint at "Appnap Technologies Limited." It will shed light on the breadth of my work, the depth of information I've accumulated, and the significant influence it has had on my development as a professional.

1.1 Overview/Background of the Work

Upon acceptance of the internship offer for the "Hire and Train Program By EDGE," I commenced my journey as an Intern in Web Development, specializing in PHP and the Laravel Framework, at Appnap Technologies Limited. This immersive internship program spans a period of three months, starting on June 10th, 2023, and has been instrumental in shaping my career trajectory.

During my internship, I got to have a role in the Web Development department. There I received extensive training and hands-on experience in web development. In recognition of my dedication and contributions, I will be provided with a travel allowance totaling 7,000.00 BDT (Seven Thousand Taka Only) over the course of the internship.

It is essential to emphasize that throughout the internship period, I am committed to adhering to all the rules, regulations, and discipline outlined by the training program. It is understood that this internship does not guarantee or imply any future claims or commitments regarding my regular appointment with Appnap Technologies Limited.

This internship represents an invaluable opportunity for professional growth and practical skill development, aligning with the mission of the "Hire and Train Program By EDGE" to nurture emerging talent in the field of web development. It is with great enthusiasm that I embark on this journey, eager to contribute to the success of Appnap Technologies Limited during this internship period.

1.1.1 Organization:

Appnap Technologies Limited, a worldwide tech firm, is all about bringing smart solutions that change digital stuff and do good things. We started in 2017 and are super good at making apps for your phones, whether you're team Apple or team Android. We are world widely liked by people

In today's world of screens and gadgets, having a strong online game is super important for businesses. Appnap totally gets this.Our team of intelligent individuals thrives on creating innovative ideas and executing them flawlessly. Whether it's creating user-friendly apps or developing cutting-edge new technology, we assist businesses in achieving their digital objectives. Appnap makes things just for you.

Making our customers happy and delivering an excellent job are both very important to us. Our staff is always updating our knowledge and following the most recent developments in our industry. When you partner with Appnap Technologies Limited, you get lots of cool stuff and people who work really well together.

Being friendly and attentive about our customers' needs is something we highly value. Then, we make stuff that's just right for them and even better than they hoped for. Appnap Technologies Limited is a big deal in the tech world, and we offer all kinds of services to help businesses do well online. We're very serious about doing things right, knowing lots of different things, and always putting our customers first.

1.1.2 Company Profile:

Appnap Technologies Limited, the ever-evolving global tech wizard, dedicates itself to bringing forth groundbreaking solutions, poised to make a positive dent in the vast digital universe. With a squad of devoted experts at the helm, Appnap passionately endeavors to hoist businesses into the digital stratosphere. Our claim to fame? We've been churning out native mobile apps for both iOS and Android platforms, delighting countless users across the globe since our inception back in 2017. We get it, in today's business arena, a sturdy online presence is your golden ticket, and guess what? From whipping up user-friendly mobile apps with a sprinkle of magic to pioneering cutting-edge tech marvels, or simply rolling out top-tier quality and unbeatable customer satisfaction – Appnap is all about providing tailor-made services that soar above and beyond your wildest imaginations. Building lasting bonds with our cherished clients is our mojo. Appnap Technologies Limited is your trusted sidekick on the thrilling journey to digital domination.

1.1.3 Products and service:

Appnap Technologies Limited, the masterminds behind a plethora of services, skillfully crafted to cater to the unique requirements of their cherished clients. Their forte encompasses crafting personalized software, whipping up mobile applications, and weaving the intricate web of web application development.Their wizardry extends to the realm of user interface and user experience design. They effortlessly dabble in the realms of machine learning and artificial intelligence, weaving seamless designs and driving business success through the art of crunching numbers. They've got an arsenal of cloud services, including AWS, Azure, and GCP, up their sleeves, alongside mind-bending AR and VR solutions that transport you to immersive wonderlands.

The backbone of their services is a stringent quality assurance and testing regimen. Their digital marketing maestros conjure up strategies that catapult their clients ahead in the cutthroat business landscape. They're wizards in e-learning and e-commerce too, providing robust platforms and unwavering support.What sets Appnap Technologies Limited apart is their unwavering commitment to innovation and top-notch quality, perfectly aligned with their clients' aspirations. They place effective communication and collaboration on a pedestal, offering unwavering support and post-purchase services, ensuring their clients reap the maximum benefits from their digital wares.

1.2 Objectives

With clear goals in mind that had to be achieved, this e-commerce website project started its development. Here are some of them:

- User-Friendly E-commerce Platform: Develop a user-friendly e-commerce platform that provides customers with a seamless shopping experience.
- User Account Management: Implement user account features allowing customers to create accounts, access order histories, and manage account settings.
- Product Listings: Enable customers to explore product listings with ease, making it convenient to find and select desired items.
- Cart Management: Provide customers with the ability to manage their shopping carts efficiently.
- Secure Payment Processing: Integrate secure payment processing mechanisms to ensure safe and trustworthy online transactions.
- Efficient Inventory Management: Optimize inventory management to ensure product availability, minimize stockouts, and streamline restocking processes.
- Admin Portal: Develop an admin portal that empowers administrators to efficiently manage orders, view order details, and process customer requests.
- Product Catalog Maintenance: Enable administrators to maintain an up-to-date product catalog for a seamless shopping experience.

1.3 Scopes

The project scope for the E-Medic & Health Care E-commerce Website is tailored to the specific needs of the healthcare-related products and devices industry:

- **User-Centric Shopping:** Develop an intuitive e-commerce platform tailored to healthcare products, ensuring seamless navigation and responsive design for user accessibility.
- **Efficient Product Management:** Enable administrators to efficiently manage healthcare product listings, including categorization, detailed descriptions, and catalog maintenance.
- **Secure Payments:** Implement secure payment processing through trusted gateways to ensure safe healthcare-related transactions.

- **Inventory Optimization:** Create a robust inventory system to optimize stock levels, monitor product performance, and automate restocking for healthcare items.
- **User Account Management:** Provide user-friendly account management features, allowing users to create profiles, access order histories, and reset passwords, with administrative tools for user account management.
- **Admin Portal:** Develop an admin portal with specialized features for healthcare order management, processing, tracking, and reporting.
- **Effective Communication:** Facilitate communication channels for healthcare-related inquiries, appointment scheduling, and issue resolution.
- **Service Provider Onboarding:** Simplify onboarding for healthcare service providers, including registration and verification processes.
- **User Feedback and Improvement:** Continuously improve the platform based on user feedback and usability testing, enhancing the healthcare shopping experience.
- **Scalability:** Design the platform to accommodate future expansion and additional healthcare product categories.
- **Data Security and Privacy:** Implement robust data security measures to protect healthcare-related customer and transaction data, ensuring compliance with data privacy regulations.
- **Digital Marketing:** Develop a digital marketing strategy to promote the platform within the healthcare industry, attracting users and establishing a strong online presence.
- **Sustainability:** Consider eco-friendly and socially responsible practices, contributing positively to the healthcare e-commerce industry and society as a whole.

Chapter 2 - Literature Review

2.1 Relationship with Undergraduate Studies:

The knowledge and skills I acquired during my undergraduate studies at IUB have been instrumental in the development of the "E-Medic & Health Care" E-commerce Website. These courses provided a strong foundation that significantly eased the challenges of this project. Here are some key courses that have been particularly valuable in this context:

• **CSE213 (Object-Oriented Programming in Java):** This course equipped me with a deep understanding of object-oriented programming (OOP) concepts using Java. This knowledge has proven directly transferable to my current project, where I am utilizing PHP, another object-oriented programming language.

• **CSE309 (Web Application):** My web application course was an invaluable introduction to various coding languages and marked the initial phase of my journey into web development. The skills gained here have been directly applicable to my internship project.

• **CSE307 (System Analysis and Design):** This course covered essential topics such as requirement analysis and diagram drawing techniques. These skills played a pivotal role in comprehending client requirements and subsequently designing the program accordingly.

• **CSE303 (Database Management):** The database management course provided insights into critical concepts like entity-relationship (ER) diagrams and database design. In my project, I leveraged SQL Server Management Studio to create the project's database.

• **CSE203 & 211 (Data Structures and Algorithms):** These courses deepened my understanding of data structures and algorithms, facilitating the adaptation to the architectural nuances of a new programming language. This knowledge has been invaluable in optimizing the functionality of the E-Medic & Health Care E-commerce Website.

The combination of these courses has been pivotal in my ability to successfully contribute to the development of the E-Medic & Health Care E-commerce Website, ensuring it meets the needs of the healthcare industry and its users.

2.2 Related works

The creation of the "E-Medic & Health Care" online store draws inspiration from established platforms like Arogga and LazzPharma. These websites specialize in selling medications and health-related stuff. Almost like these platforms, our project website aims to serve the healthcare industry's specific needs, offering a comprehensive range of products and services to users seeking medical supplies and healthcare solutions.

While Arogga and Lazzpharma provide a diverse selection of healthcare products, the "E-Medic & Health Care" E-commerce Website will be tailored to offer an extensive catalog of medicines, healthcare products, and devices, ensuring that customers can access the healthcare items they require conveniently and efficiently. This project is envisioned as a dedicated platform, similar in concept to Arogga and Lazz Pharma, but with a specific focus on the healthcare niche, providing a user-friendly experience for individuals seeking medical and healthcare-related solutions.

Chapter 3-Project Management and Financing

3.1 Work Breakdown Structure:

The Work Breakdown Structure (WBS) functions as a sophisticated project roadmap, charting out all tasks and their interconnections. Project managers rely on this tool to break down complex projects into manageable parts, allocate resources efficiently, and monitor progress. Enhancing clarity further, a Gantt chart can be used for detailed scheduling. In essence, the WBS is an essential project management tool that guides planning, execution, and adherence to the project's course.

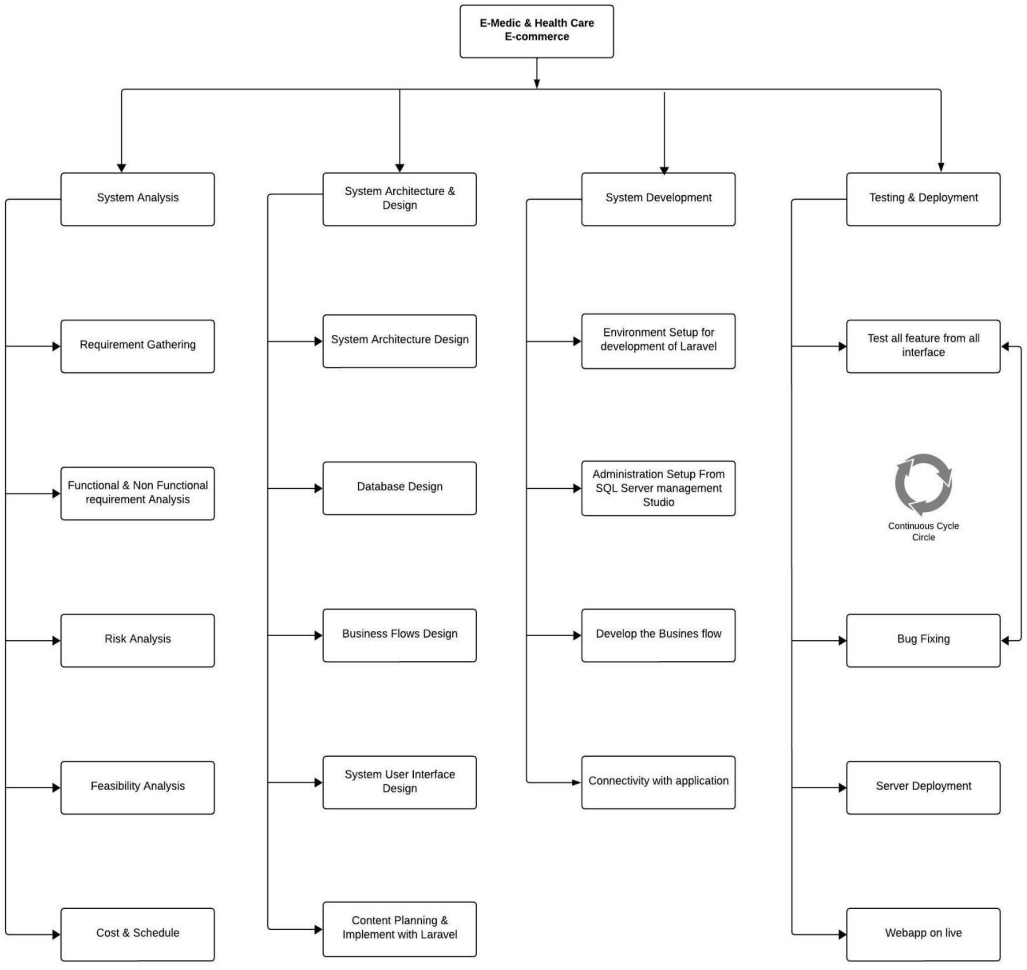

Figure 3.1 Work Breakdown Structure

3.2 Process/Activity wise Time Distribution:

A crucial component of determining a project's duration is allocating time for each process or activity. In order for the project to be completed as planned, it is necessary to determine the critical route, which is the longest sequence of jobs that must be finished on time. The successful execution of any task in the crucial path is necessary for all others. The project consists of a clearly defined set of actions taken in a certain sequence to accomplish the target result. Project managers may efficiently plan and allocate resources by analyzing the critical route and comprehending the time dependencies between tasks, ensuring that project milestones are fulfilled within the allotted time limit.

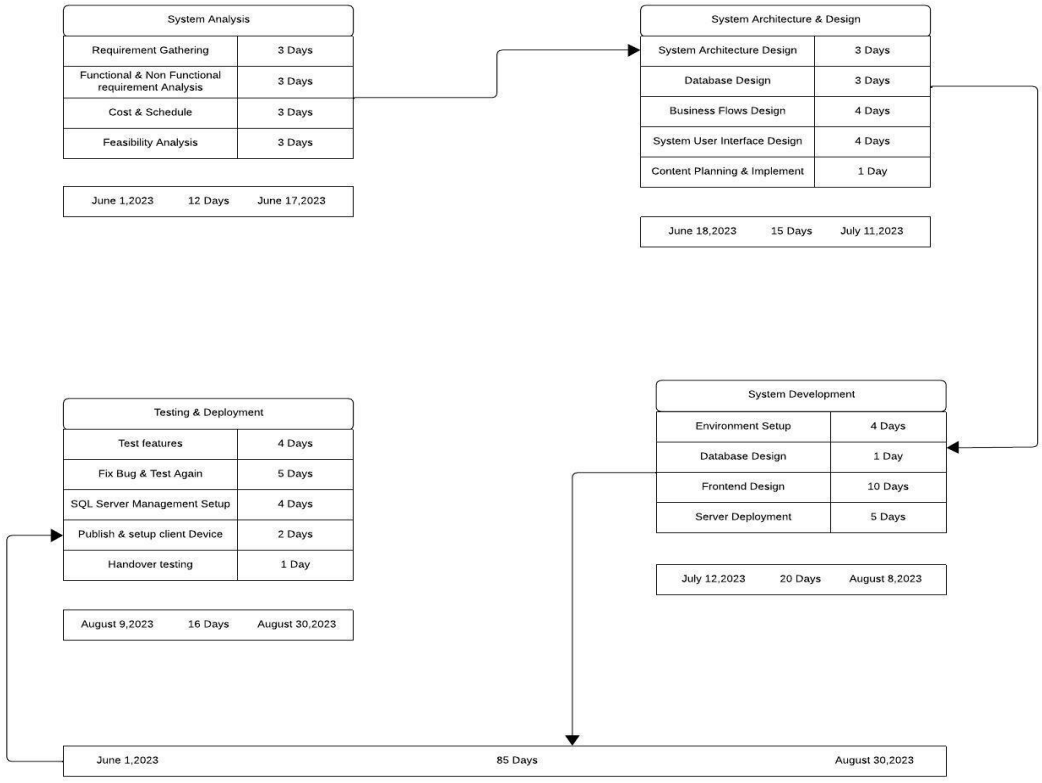

Figure 3. 2 Time Distribution

3.3 Gantt Chart

Throughout the project planning phase, we employed a Gantt chart, akin to a simplified visual schedule. It served as our compass, aiding in task and deadline management, while also highlighting task dependencies and assisting with resource allocation. Our primary resource, the developers, along with the requisite computers and servers, formed the backbone of our project. Each team member had their designated tasks and deadlines, and through collective effort, we triumphantly concluded the project. The subsequent section will delve deeper into the project's intricacies. Regrettably, the Gantt chart couldn't materialize due to company directives.

3.4 Process/Activity wise Resource Allocation:

In the "E-Medic & Health Care" E-commerce Website project, our most valuable resource is our team of developers, and they are closely followed by the office computers and servers essential for project implementation. Every member of our organization is considered a valuable resource, and we've assigned specific tasks to each with defined deadlines. Through collaborative effort, our team has successfully completed the project, ensuring its efficient execution.

- **Product Catalog Management:** We designated teams to curate and maintain our product catalog, which includes medicines, healthcare products, and devices. This involved the creative efforts of content creators, photographers, and graphic designers.
- **Website Development and Maintenance:** Our website's development and continuous upkeep were entrusted to skilled professionals, including web developers, UX designers, and IT administrators. They worked diligently on both the frontend and backend to provide a seamless user experience.
- **Order Processing and Fulfillment:** To manage order processing effectively, we assembled a dedicated team responsible for order verification, packaging, and dispatch. Warehouse staff, order processors, and logistics experts collaborated to ensure efficient order fulfillment.
- **Customer Support:** Our customer support team was in place to address inquiries, resolve issues, and guide customers through their shopping journey. Customer support representatives were available to provide prompt assistance and maintain effective communication.

- **Payment Processing and Security:** Ensuring secure and reliable payment processing was a priority. We had specialists focused on payment gateway integration and cybersecurity to protect our customers' financial information.
- **Marketing and Promotion:** For marketing initiatives, we allocated resources to digital marketers, content creators, and social media managers. Their efforts encompassed digital advertising, content creation, and social media campaigns aimed at promoting our platform.
- **Inventory Management:** Inventory managers and data analysts were responsible for optimizing stock levels, tracking product performance, and streamlining restocking processes.
- **Data Analytics:** A dedicated team of data analysts extracted valuable insights from user behavior, sales data, and market trends. These insights guided our marketing strategies and product offerings.
- **Sustainability Initiatives:** We committed resources to research and implement sustainable practices within the healthcare industry. This involved collaborating with eco-friendly suppliers and ensuring ethical product sourcing.
- **IT Infrastructure Maintenance:** Our IT professionals diligently managed server infrastructure, performed software updates, and maintained databases to guarantee the reliability and security of our platform.

3.5 Estimated Costing:

For the "E-Medic & Health Care" E-commerce Website project, our approach to estimating costs was comprehensive, considering various facets of development, maintenance, and sustainability. Here's a breakdown of the major cost elements:

- **Development Expenses:** This category covers costs related to web development, frontend and backend design, and database setup. It encompasses developer salaries, design software, and development tools.
- **Infrastructure Investments:** We allocated funds for IT infrastructure, including server hosting, cloud services, and domain registration, ensuring a robust and secure online

platform.

- **Marketing and Outreach:** Budgets were set for digital marketing campaigns, advertising expenses, content creation, and social media management to expand our reach and engage customers.
- **Inventory Management:** We considered costs for inventory management software, warehouse space, and the salaries of staff responsible for stock control and logistics.
- **Customer Support:** Budgets were allocated for hiring and training customer support representatives and implementing a ticketing system to enhance customer service.
- **Payment Processing Fees:** We accounted for transaction fees associated with payment gateways and credit card processing.
- **Data Analysis:** The cost of data analysis tools and specialized personnel for market research and performance tracking was included.
- **Sustainability Initiatives:** Funds were earmarked for researching sustainable healthcare practices, ethical sourcing, and partnerships with eco-friendly suppliers to promote responsible healthcare.
- **Maintenance and Upkeep:** We allocated resources for ongoing website maintenance, software updates, security enhancements, and server upkeep.
- **Contingency and Miscellaneous:** To handle unexpected expenses, we established a contingency budget, including items like legal fees and compliance measures.

While our current involvement is in a demo project for Appnap Technologies Limited, we maintain a thorough approach to cost estimation, ensuring a realistic projection of expenses for the successful development, launch, and operation of the "E-Medic & Health Care" E-commerce Website project.

Chapter 4 - Methodology:

Within this chapter, we plunge into the very essence of our project's methodology, unfurling the strategies and guiding principles that steer our development voyage. The selection of a fitting methodology assumes paramount importance, serving as the lodestar that aligns us with project objectives and empowers us with judicious techniques within our domain. Our chosen methodology ushers us into the realm of methodical application crafting, all while harnessing the latest technologies.

Software Development Life Cycle (SDLC) meticulously charts out every step, from inception to seamless operation. Diverse approaches exist, and for our venture, we've embraced the agile methodology. This approach entails a continuous progression, where we iteratively refine the project in small increments, all the while maintaining open channels of communication with end-users.With the agile methodology at the helm, our project remains in perpetual dialogue with its users, ever-evolving based on their invaluable feedback. Adaptability and swift responses to change take center stage. In this manner, we ensure that the project not only aligns with user needs but also perpetually excels in its performance.



Figure 4.1 Agile Development

4.1 Why Agile for this project?

We opted for Agile in this project because it offers numerous advantages in software development. A key benefit lies in its ability to parcel out the software in bite-sized chunks. This means we can keep refining it and addressing issues on the fly, enhancing efficiency and curbing the risk of major missteps down the road.

At the outset, our project's requirements weren't exhaustive, but Agile accommodates this. We have the liberty to inject new elements as we progress. As fresh features and design tweaks emerge, our team seamlessly integrates them, in line with Agile's ethos.

Our blueprint took shape in the planning phase, with the development team segmenting the work into daily tasks. Each day, we chipped away at a project fragment, culminating in a managerial rendezvous to ensure fidelity to requirements. Any requisite changes were executed promptly.

Chapter 5 - Body of the Project

The project's chapter dives deep into the project's details. It contains important documents like work descriptions, requirements analysis, system analysis, system design, development, and testing. This chapter is where you'll find all the nitty-gritty information about the project.

5.1 Work Description

The core aim behind the "E-Medic & Health Care" E-commerce Website centers on fashioning a user-friendly haven where patrons can effortlessly peruse and acquire a myriad of pharmaceuticals and healthcare wares via the virtual realm. This cyber-marketplace shall unfurl a cornucopia of categories, encompassing pharmaceuticals, medical gadgets, and health boosters, each harboring an assortment of subcategories to accommodate the multifarious gamut of healthcare exigencies. Patrons shall be endowed with the privilege of cherry-picking service purveyors, while an admin panel shall orchestrate the choreography, ensuring seamless operational mastery and product stewardship.

With the advent of the E-Medic & Health Care E-commerce Website, the era of laborious in-store perambulations and onerous pharmaceutical procurement shall ebb into obscurity. Formerly, the public was beholden to embarking upon pilgrimages to brick-and-mortar establishments or apothecaries, a time-draining and occasionally cost-prohibitive endeavor. However, this digital citadel simplifies the ordeal, economizing time and curbing expenditure through the advent of a digital conduit for healthcare accoutrement acquisition.

5.2 Requirement Analysis

5.2.1 Introduction:

The requirement analysis phase stands as a pivotal milestone within the development odyssey of the "E-Medic & Health Care" E-commerce Website. In this juncture, we embark on a meticulous expedition, methodically amassing, scrutinizing, and chronicling the distinctive cravings and anticipations harbored by our user cadre and overseers. This all-encompassing procedure lays the bedrock, molding the foundation for the inception of a bespoke e-commerce leviathan, judiciously tailored to the precise requisites of our invested stakeholders.

Moreover, this undertaking stands as a testament to our prowess in crafting and implementing streamlined, user-oriented e-commerce solutions. As custodians of this endeavor, we are bequeathed with a common litany of prerequisites, guiding our exertions, and assuring that our final creation stands in harmonious concordance with both the venerated benchmarks of the industry and the aspired criteria of our user pantheon. As we plunge deeper into the abyss of the requirement analysis phase, we pledge to contort our project to yield to the idiosyncratic cravings of our kaleidoscopic user collective and overseers, thereby sculpting it into a prized asset within the healthcare sphere. This threshold represents the dawn of our odyssey, one that aspires not only to meet the industry's exacting benchmarks but also to transcend the expectations enshrined by our invested stakeholders.

5.2.2 User Requirements

Our primary focus during requirement analysis is to understand and address the needs of our valued users. These requirements are essential for delivering a user-friendly and efficient online shopping experience. Here are the key user requirements:

- **Product Browsing:** Users must be able to easily browse through a variety of healthcare products, which will be organized into user-friendly categories for effortless exploration.
- **Shopping Cart:** We will provide users with the capability to add products to their virtual shopping cart, allowing them to review and modify their selections before proceeding to checkout.
- **Order Placement**: Users should have a straightforward process for placing orders, ensuring a seamless and hassle-free transaction.
- **Order Status Tracking:** Transparency is crucial, so users will be able to track the status of their orders, from placement to delivery.
- **Payment Options:** To accommodate user preferences, we will offer cash on delivery as the primary payment method, making the purchasing process convenient and accessible.

5.2.3 Admin Requirements

In addition to user needs, the system will also cater to the administrative requirements that facilitate efficient platform management. Here are the key admin requirements:

- **Product Management:** Admins will have full control over the product catalog, allowing them to add, update, and manage product listings easily.
- **Content Management:** Admins will be able to manage the frontend content of the website, ensuring that information is up-to-date and relevant to users.
- **Order Management:** Admins will have access to a comprehensive order management system, enabling them to oversee and process orders efficiently.
- **Order Status Tracking:** The system will provide admins with tools to monitor and update the status of all orders, ensuring smooth order processing.
- **User Management:** Admins will have the capability to manage other admin users, maintaining the integrity and security of the system.

5.2.4 Conclusion from Research and Analysis

In conclusion, the research and analysis phase of the "E-Medic & Health Care" E-commerce Website project has provided valuable insights and a solid foundation for our growth journey. We embarked on this effort with the goal of developing a high-performance and user-friendly e-commerce system tailored to the specific requirements of healthcare consumers and professionals.

During the needs assessment process, we carefully identified and documented the specific needs and expectations of our users and staff. From simplified requirements to simplified ordering and a comprehensive purchasing process for employees, our research has informed the direction and goals of the business

Our research highlighted the importance of user-centered policies, secure payment processing and inventory management in healthcare and commerce. We also highlighted the importance of maintaining data security and privacy while providing a seamless user experience.

As we move forward in the development phase, insights from research and analysis will continue

to guide our efforts. We are committed to using these findings to build a robust and reliable eCommerce system that not only meets but exceeds the expectations of our stakeholders.

In conclusion, our journey to develop an "E-Medic & Health Care" E-commerce Website is based on thorough research and analysis, and sets the stage for a successful project that meets the specific needs of the healthcare industry . We're excited to translate these insights into tangible solutions .

5.3 System Analysis

Systems analysis is like solving a puzzle – it is a systematic approach to understanding and analyzing the entire system. A computer system or otherwise, we break it down into parts, study how those parts work together, find out what works well, and what needs to be fixed. This approach is especially useful in the world of IT, where computer systems complex requires well-organized testing planned and run well. This is guaranteed.

5.3.1 Six Elements Analysis

PROCESS	SYSTEM ROLES					
	HUMAN	**NON-Computing Hardware**	**Computing Hardware**	**Software**	**Database**	**Networking & Communication**
Accessibility for Administrators	**Administrators:** Individuals entrusted with overseeing and managing the system, which includes utilizing the admin panel to carry out various administrative duties.	**Medicine/ Devices/ Food & Supplements:** Products whose data will be added. **Paper:**Product details might come printed on a sheet of paper.	**Server Infrastructure:** The server infrastructure that hosts the administrative panel software and databases, facilitating interaction with the backend of the eCommerce platform. **Client Devices:** The equipment employed by end-users for accessing and engaging with the Industrial Dashboard, which	**Admin Panel Software:** The software application or interface that provides administrators with the tools and features necessary for managing and configuring the eCommerce platform.	**User Access Database**: A database that stores information related to user access control, including the roles and permissions of administrators.	**Network Infrastructure:** The underlying network architecture and components that enable seamless data transfer between the Industrial Dashboard, data sources, and end-Users. **Data Communication Protocols:** The protocols and methods used for secure and efficient data communica

			includes desktop computers and mobile devices, among others. **Printer:** It might be used to print out product details.			tion between different components of the system, ensuring Data 25 integrity and confidentiality.
Admins Can add, edit or remove Category, sub-category, brand, products	**Administrators:** Individuals vested with the authority for curating the e-commerce platform, directing its daily functions, and executing administrative judgments, which may encompass category, sub-category, brand and product modification or removal.	**Medicine/ Devices/ Food & Supplements:** Products whose data will be added. **Paper:**Product details might come printed on a sheet of paper.	**Server Infrastructure:** The server infrastructure hosting The eCommerce platform's admin panel software and databases, enabling administrat ors to interact with the platform's backend and perform	**Admin Panel Software:** The software interface used by administrators to access and manage the eCommerce platform. It provides tools and features for editing or removing products.	**Data Sources:** A database that stores information about the products available on the eCommerce platform, including details like product descriptio n ons, prices, and inventory levels,	**Network Infrastructure:** The underlying network architecture and components that enable seamless data transfer between the Industrial Dashboard, data sources, and end-Users. **Data Communication Protocols:**

			product management tasks. **Client Devices:** Administators use client devices to access data environment, where they configure data connections and transformat ion pipelines.		along with category, sub-category and Brands. Administrators can modify this database to edit or remove products.	The protocols and methods used for secure and efficient data communication between different components of the system, ensuring Data 25 integrity and confidentiality.
Admins Can view order details and update status of order.	**Administrators:** Individuals vested with the authority for curating the e-commerce platform, directing its daily functions, and executing administrative judgments, which may encompass	**Medicine/ Devices/ Food & Supplements:** Products whose data will be added. **Paper:**Product details might come printed on a sheet of paper.	**Server Infrastructure:** The server infrastructure that hosts the administrative panel software and databases, facilitating interaction with the backend of the eCommerce platform.	**Admin Panel Software:** The software interface used by administrators to access and manage the eCommerce platform. It provides tools and features for Viewing and updating	**Data Sources:** A database that stores information about the Orders available on the eCommerce platform, including details like Order	**Network Infrastructure:** The underlying network architecture and components that enable seamless data transfer between the Industrial Dashboard, data sources,

	viewing and updating of orderdetails and updating order progress.		**Client Devices:** The equipment employed by end-users for accessing and engaging with the Industrial Dashboard , which includes desktop computers and mobile devices, among others.	order details.	details, Prices along with customer details. Administrators can modify this database to view and update order details and update order progress. .	and end-Users. **Data Communication Protocols:** The protocols and methods used for secure and efficient data communication between different components of the system, ensuring Data 25 integrity and confidentiality.
Users adding and removing items from carts	**End-Users:** Individuals who access the eCommerce platform to browse, shop, and manage items in their shopping carts.	**Medicine/ Devices/ Food & Supplements:** Products whose data will be added. **Paper:**Product details might	**Client Devices:** The equipment employed by end-users for accessing and engaging with the Industrial Dashboard	**Shopping Cart Software:** The software component responsible for managing the shopping cart functionality	**Data Sources:** A database that stores information about the items added to a user's shopping cart,	**Network Infrastructure:** The underlying network architecture and components that enable seamless data transfer between

		come printed on a sheet of paper.	, which includes desktop computers and mobile devices, among others.	on the eCommerce platform, allowing users to add and remove items.	including product details, quantities, and prices.	the Industrial Dashboard, data sources, and end-Users. **Data Communication Protocols:** The protocols and methods used for secure and efficient data communication between different components of the system, ensuring Data 25 integrity and confidentiality.

Table 5.1: Six Element Analysis

5.3.2 Feasibility Analysis

In the development journey of the "E-Medic & Health Care" E-commerce Website, conducting a feasibility analysis is a pivotal step to gauge its practicality and potential for success. The analysis covers several essential dimensions:

Technical Feasibility: This evaluation dives into the technical aspects of the project, including a scrutiny of existing hardware, software, and technological capabilities. It seeks to ensure that the project can adapt to current resources and assesses the proficiency of the development team. While the E-Medic & Health Care platform offers scalability options, it also considers user-friendliness aimed at non-technical consumers.

Operational feasibility : Operational feasibility is concerned with how effectively the software can satisfy user and corporate needs. It anticipates the platform's functioning after development and accounts for the skills of the software development team. Customers looking for healthcare-related goods and services make up the majority of visitors to the E-Medic & Health Care E-commerce Website. It also guarantees support for multiple languages to increase accessibility.

Economical feasibility : The purpose of this analysis is to ascertain whether the software will bring financial advantages to the company. It entails a thorough examination of the expenditures incurred by the software development team, the expected price of the necessary hardware and software, and the budget allotted for the feasibility study itself. The main objective is to make sure that everyone involved in the E-Medic & Health Care project benefits financially. Users will be empowered by the platform's ability to improve decision-making, monitor performance, and save time, which will ultimately drive profitability and justify the initial investment.

A thorough feasibility study ensures the technical strength, operational effectiveness, and financial viability of the E-Medic & Health Care E-commerce Website. It provides the project team with priceless insights that enable them to anticipate future problems and increase the possibility that they will succeed in delivering a user-centric and effective digital platform for health-related goods and services.

5.3.3 Problem Solution Analysis

In the context of the "E-Medic & Health Care" E-commerce Website project, we encountered specific challenges and devised corresponding solutions to ensure the successful development of the platform. While this project didn't involve surveys and questionnaires due to predefined requirements, we addressed the following key issues:

Problem 1: Managing Complex Inventory

Definition: The diverse range of healthcare products required efficient inventory management to avoid stockouts, optimize restocking, and ensure product availability.

Solution: We implemented a robust inventory management system capable of handling the complexities of healthcare product management. This system provided real-time insights into product availability, performance tracking, and automated restocking processes.

Problem 2: Comprehensive Product Management

Definition: With a wide range of healthcare products and devices, it was essential to streamline product management for administrators.

Solution: We developed a user-friendly admin interface for product management. This interface allows administrators to easily add, update, and categorize products, ensuring an up-to-date and well-organized product catalog.

Problem 3: Managing Admin Users

Definition: Efficiently managing admin users and their permissions was vital for smooth platform operation and security.

Solution: We created a comprehensive admin user management system, enabling superadmins to manage user roles and permissions effectively. This ensured that the platform's administration remained secure and well-organized.

Problem 4: Real-Time Order Tracking

Definition: Providing customers with real-time order status updates required seamless integration and efficient tracking mechanisms.

Solution: We implemented a real-time order tracking system that allowed customers to monitor their order status from placement to delivery. This feature enhanced transparency and customer satisfaction.

By proactively addressing these challenges and implementing tailored solutions, the "E-Medic & Health Care" E-commerce Website project aimed to create a secure, scalable, and user-friendly platform for the healthcare industry, meeting the specific requirements of both customers and administrators.

5.3.4 Effect and Constraints Analysis

In the development of the "E-Medic & Health Care" E-commerce Website, ee have found a number of restrictions that have affected the project's timeline, money, and scope, among other factors.

Budget Effect: The resources and schedule for the project are significantly influenced by the budgetary limitations. They decide how many team members we can hire and lead us through the entire process. Our allocated budget directly impacts the project's scale, scope, and resource availability.

Time Effect: Budget and time restrictions frequently coexist. Our budget and the project's timeline closely match each other. For the E-Medic & Health Care project, we have a set timeline to complete the project efficiently. Meeting our objectives within this timeframe requires meticulous planning and execution.

Scope Effect: The scope constraint defines the project's boundaries and requirements, ensuring that we meet the specified project objectives. During development, we carefully monitor these requirements. If deadlines approach, we may need to adjust the scope, defer certain features, or prioritize key elements. Regular discussions and reviews are essential to maintain project quality.

Implementation Effect: The implementation of the E-Medic & Health Care E-commerce Website significantly improves the manual process of managing medical and health-related products. Initially, not all stakeholders may have fully grasped the importance and advantages of this digital solution. However, all parties involved will gain as the technology completely transforms how transactions, maintenance, and general convenience are handled. This provides useful features that improve the effectiveness and efficiency of managing healthcare products.

Constraints: Constrictions regarding system adaptation were imposed during the switch from a manual system to the digital platform. People need some time to become accustomed to the digital interface. Furthermore, the initial project specifications were not fully finalized, which resulted in ongoing debates and new specifications. Instead, management broke down the requirements into manageable milestones, guaranteeing

project completion on schedule.

5.4 System Design

System design is like developing a complex system for a software system. In this framework, we painstakingly describe every aspect of the system, from the interconnected components to their complex interactions. We also care about important factors such as speed of operation, adaptability to increasing demand, and security and reliability. The crucible of system design transforms our software ideas and requirements into well-designed and optimized machines. This alchemy assures that the software will seamlessly match the needs of the business or organization. Through smart planning, we build an unshakable foundation, which is like building the cornerstone of a thriving industry.

4.1 Rich Picture:

A Rich Picture is a simple yet powerful way to illustrate and understand a complex situation. It provides a visual overview that aids in discussing and comprehending the situation. In our Rich Picture, we depict the roles of three key users: the admin and customers. The admin manages the system, while service providers handle service requests and customers request services, provide feedback, and make payments. Additionally, we include a representation of the database, which stores and manages essential system data. This visual tool helps facilitate discussions and promotes a shared understanding of the system's dynamics.

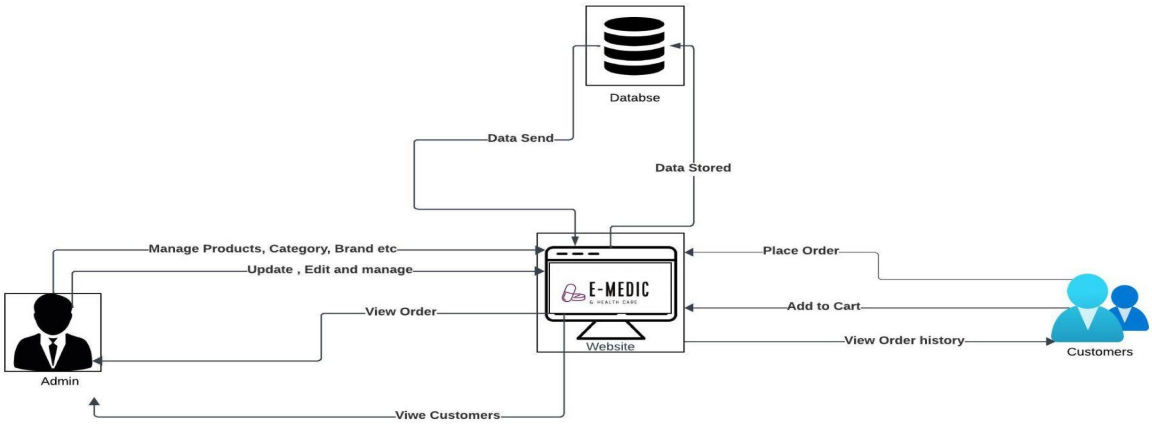

Figure 5. 1 : Rich Picture

5.4.2 UML Diagrams

UML diagrams are like visual blueprints for software systems. They use a standard language to show different parts of the system, like who's using it (actors), what it does (actions), and how things are organized (classes and artifacts). These diagrams are super helpful for understanding, changing, and explaining software. They're like a map that helps software folks and other interested parties see how everything fits together and how it all works. This makes it much simpler to deal with complicated software systems.

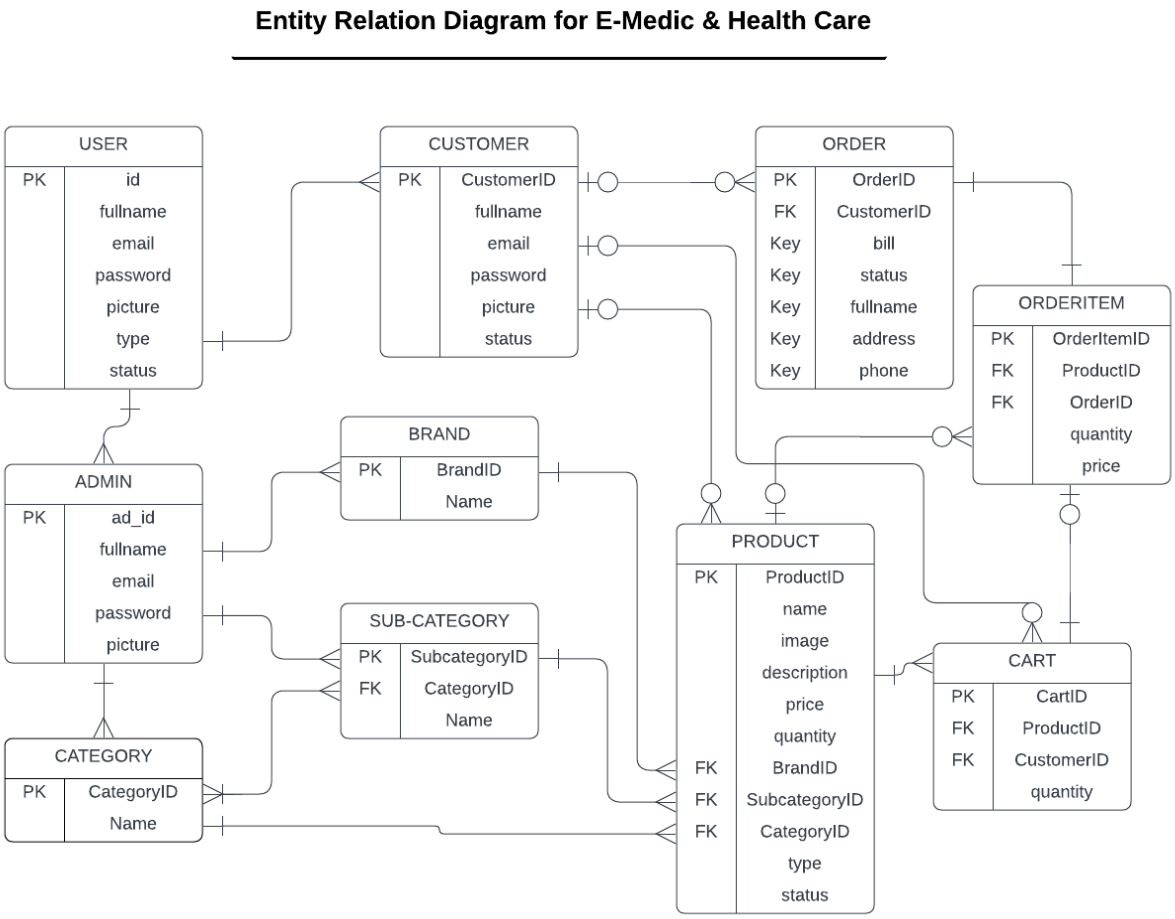

Figure 5. 2 : Entity Relationship Diagram

Use Case Diagram:

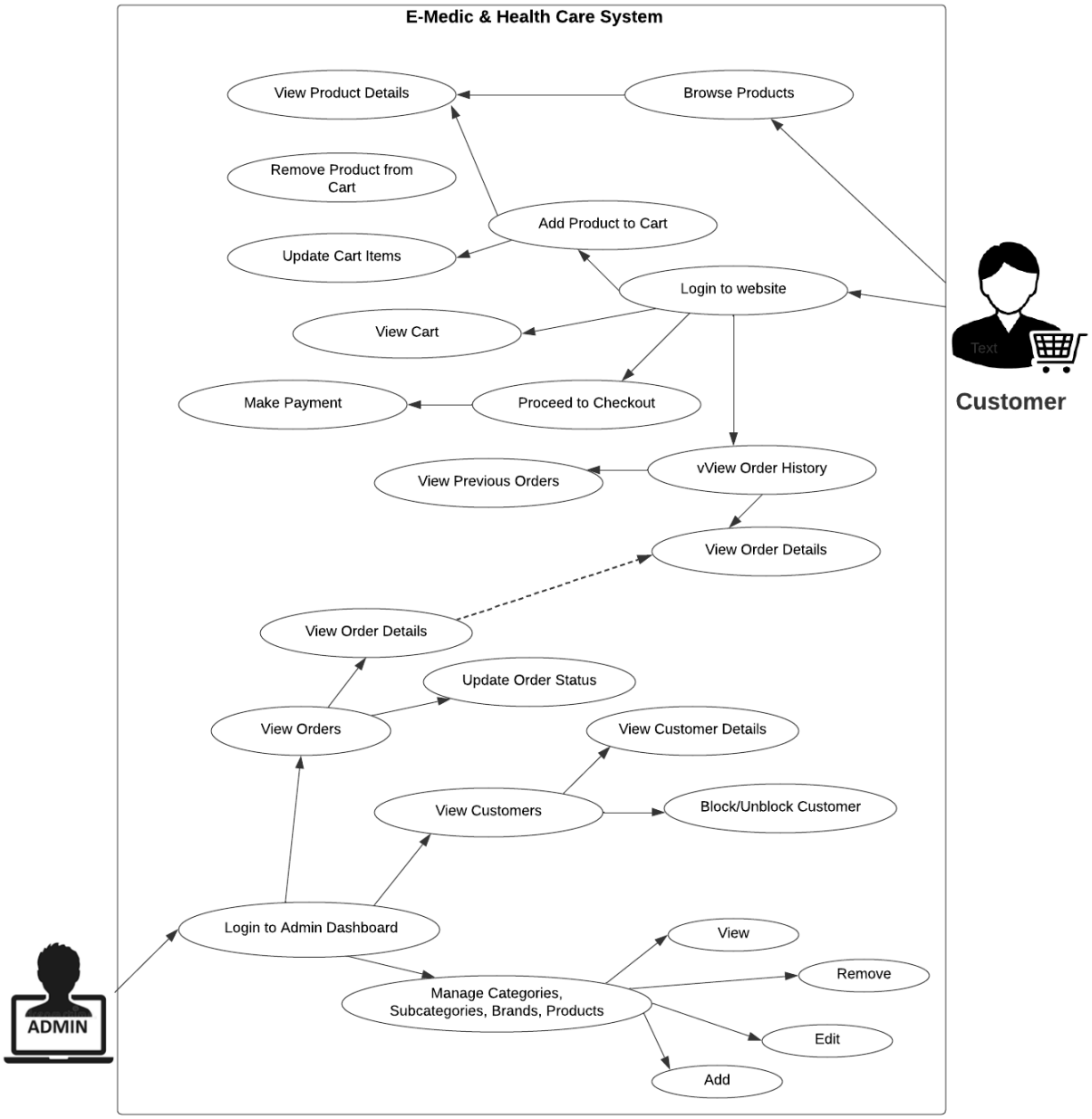

Figure 5. 3 : Use Case Diagram FOR Admin & Customer

5.4.3 Functional and Nonfunctional Requirement

5.4.3.1 Functional Requirements of E-Medic & Health Care :

A functional requirement is a specification that defines an essential action or behavior that a system must perform.

1. User Authentication and Authorization:

- Users (Admin and Customers) must be able to create accounts and log in securely.
- Admins should have access to an admin dashboard with specific privileges.
- Admins should be able to block/unblock customer accounts.

2. Product Management:

- Product categories ought to be addable, editable, erasable, and viewable by admins.
- Product subcategories ought to be addable, editable, erasable, and viewable by admins.
- Product brands ought to be addable, editable, erasable, and viewable by admins.
- Individual products ought to be addable, editable, erasable, and viewable by admins.
- It should be possible for customers to explore and search for products.
- Customers should have access to comprehensive product details.

3. Shopping Cart and Checkout:

- It should be possible for customers to add and delete items from their shopping cart.
- The quantity of items in the basket should be updatable by customers.
- Customers ought to have access to the checkout process.
- During checkout, customers should be allowed to enter their shipping and payment details.
- Order confirmation should be sent to customers following a successful checkout.

4. Order Management:

- Customers' orders should be viewable and controlled by administrators.
- The status of orders should be able to be updated by administrators (e.g., processing, shipped, delivered).
- Customers ought to have access to their order history.

- Customers ought to have access to information about previous orders.

5. Product Reviews and Ratings:

- Customers ought to be allowed to rate and review products.
- Customers ought to have access to product ratings and reviews.

6. Search and Filtering:

- Customers should have search functionality to find products based on keywords.
- Customers should be able to filter products by category, subcategory, and brand.

7. Account Management:

- Customers should be able to edit their profiles and account information.
- Customers should be able to change their passwords.

8. Security and Privacy:

- User data (personal and payment) must be securely stored and protected.
- Secure connections (HTTPS) must be used for data transmission.
- Admin actions must be logged and audited for security.

9. Customer Support:

- Provide a contact or customer support form for users to reach out for assistance.

10. Notifications:

- Send email notifications for order confirmations, shipping updates, and account-related activities.

5.4.3.2 Non-Functional Requirements of E-Medic & Health Care :

It is referred to as "quality attributes" within a system, representing requirements that establish benchmarks for evaluating the system's performance.

1. Performance: Response Time: The website should load quickly, with pages rendering within a specified time frame (e.g., under 2 seconds).

- **Scalability:** The system must handle an increasing number of users and products without a significant drop in performance.
- **Concurrency:** It should support a large number of simultaneous users and transactions.

2. Availability: The website should be available 24/7, with minimal planned downtime for maintenance. Define a minimum acceptable uptime percentage (e.g., 99.9%).

3. Security:

- **Data Encryption:** Sensitive data (e.g., user information, payment details) must be encrypted during transmission using industry-standard encryption protocols.
- **Authentication and Authorization:** Implement strong authentication mechanisms for users and ensure proper authorization levels.
- **Data Privacy:** Verify the data privacy laws (such the GDPR or HIPAA) are being followed, if necessary.
- **Firewall and Intrusion Detection:** Use intrusion detection systems and firewalls to defend against online attacks.
- **Regular Security Audits:** Conduct regular vulnerability and security audits.

4. Usability: The website should have an intuitive and user-friendly interface. Ensure accessibility for users with disabilities (e.g., WCAG compliance). Support various devices and screen sizes (responsive design).

5. Reliability: The system should be highly reliable, with minimal system failures or crashes.Implement backup and disaster recovery mechanisms.

6. Compatibility: Ensure cross-browser compatibility (e.g., Chrome, Firefox, Safari, Edge). Support various operating systems and devices (desktop, mobile, tablets).

7. Compliance: Comply with relevant industry standards and regulations.Ensure adherence to healthcare and pharmaceutical regulations if applicable.

8. Load Handling: The system should be capable of handling peak loads during sales events or promotions.

9. Logging and Monitoring: To keep track of system performance, failures, and security issues, use logging and monitoring tools.Create alerts for important events.

10. Data Backup and Recovery: Maintain regular data backups and use a reliable data recovery plan.

5.5 Implementation

We're absolutely thrilled to unveil our "E-Medic & Health Care" online store, the fruit of our relentless toil and unwavering dedication to crafting a user-friendly hub for all your medical and healthcare requisites.

Our website has been meticulously forged to bestow upon you a journey replete with seamlessness and immersion, guaranteeing that your quest for healthcare wares shall be a breeze. It's accessible across various gadgets, ensuring utmost convenience for one and all.

With an extensive array of healthcare merchandise, each accompanied by vivid descriptions and top-notch images, your treasure hunt shall be effortlessly fruitful. Our nifty search and filter tools expedite the process, and our secure checkout casts a protective shield around your financial dealings.

One of the crowning glories of our website is the user account management feature. This empowers customers to construct profiles, oversee their orders, and savor a shopping venture curated to their tastes. It's not just a boon for your shopping escapade but also serves as a conduit for our streamlined order handling.

Safety stands tall in our hierarchy of priorities. Stringent protocols and exhaustive testing have been marshaled to ensure the impregnability of your data and transactions. Secure payment gateways have been installed, ensuring your fiscal interactions march in lockstep with industry norms.

Post-launch, our commitment remains unwavering. We shall vigilantly keep tabs on the website's performance and user satisfaction, augmenting our customer base through astute marketing strategies, and staying nimble in our embrace of burgeoning trends and technologies.

This website unfurls the curtain on an exhilarating odyssey. Our vision is to bestow upon you a peerless online shopping experience for medical and healthcare products. We're brimming with anticipation to watch it metamorphose into a thriving nexus for healthcare aficionados.
Here are SAMPLE screenshots :

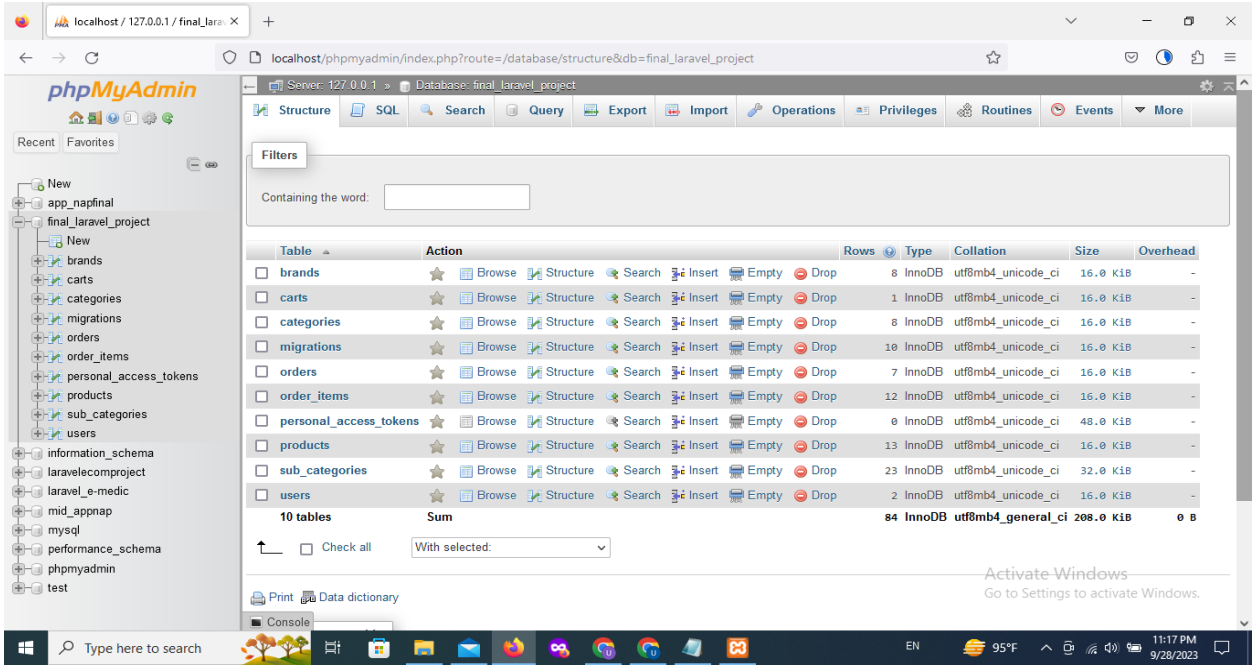

Figure 5.4: Database screenshot

General Page

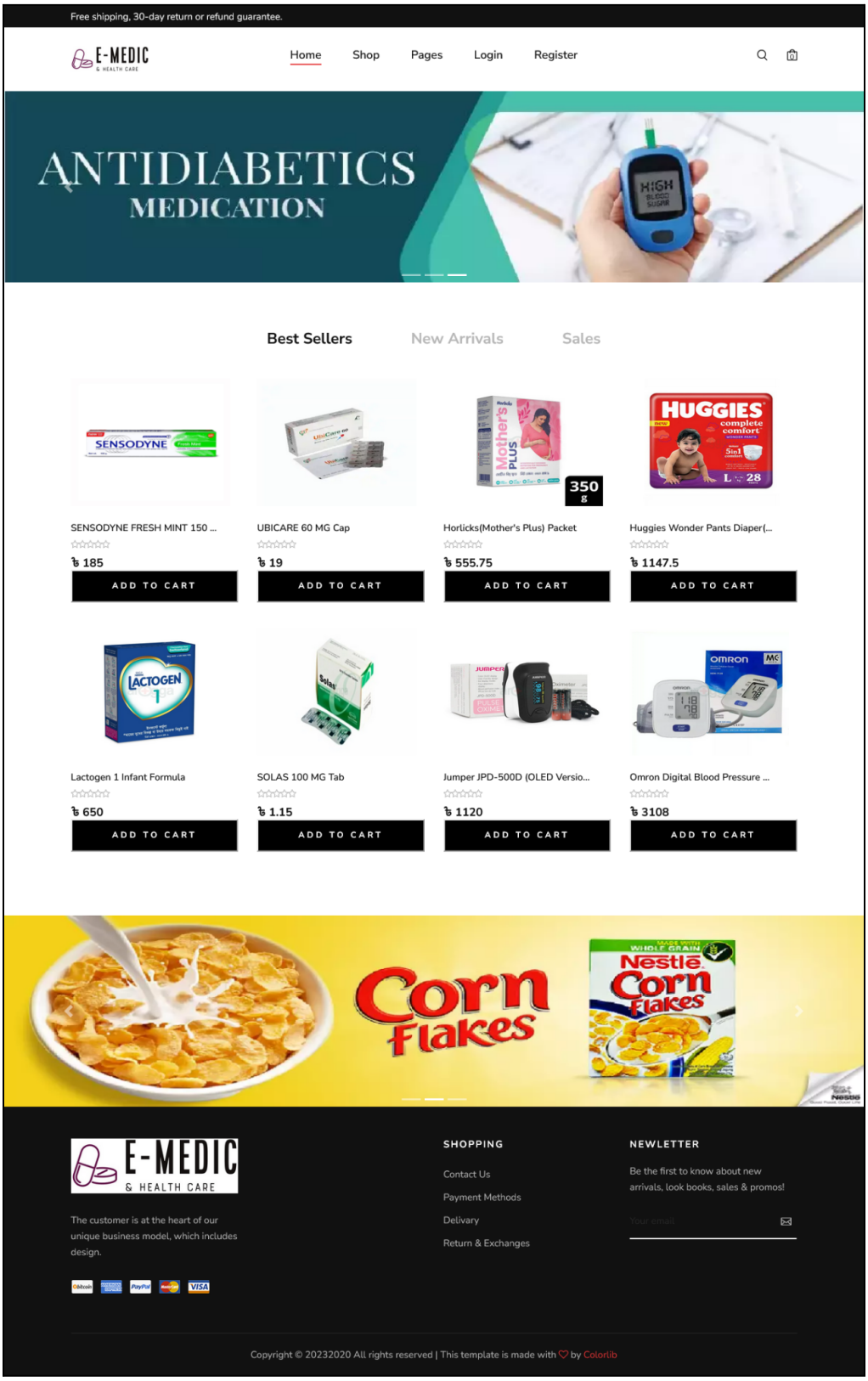

Figure 5.5 :Admin Dashboard screenshot

Admin Dashboard

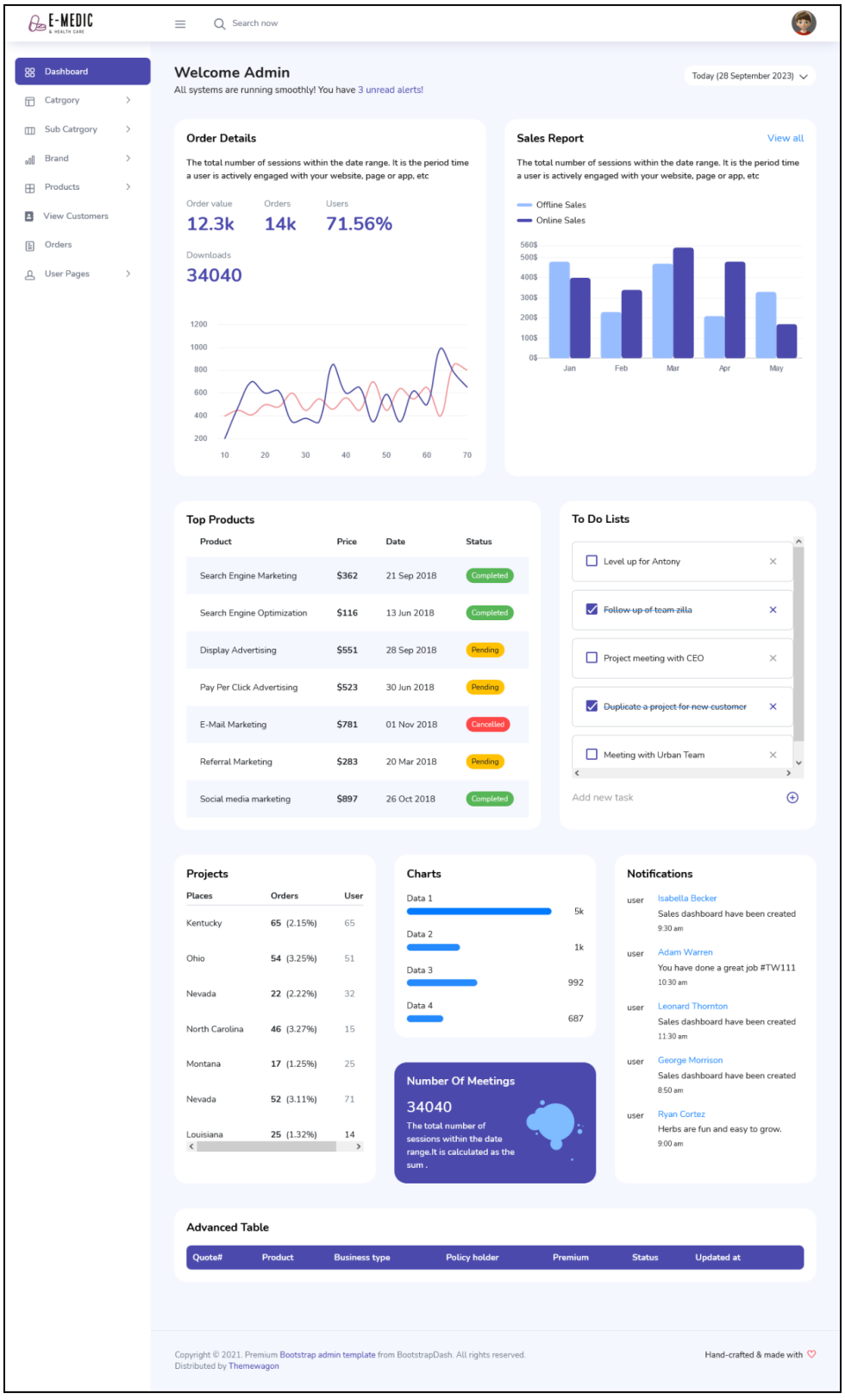

Figure 5.6 : General Page screenshot

Customer Side

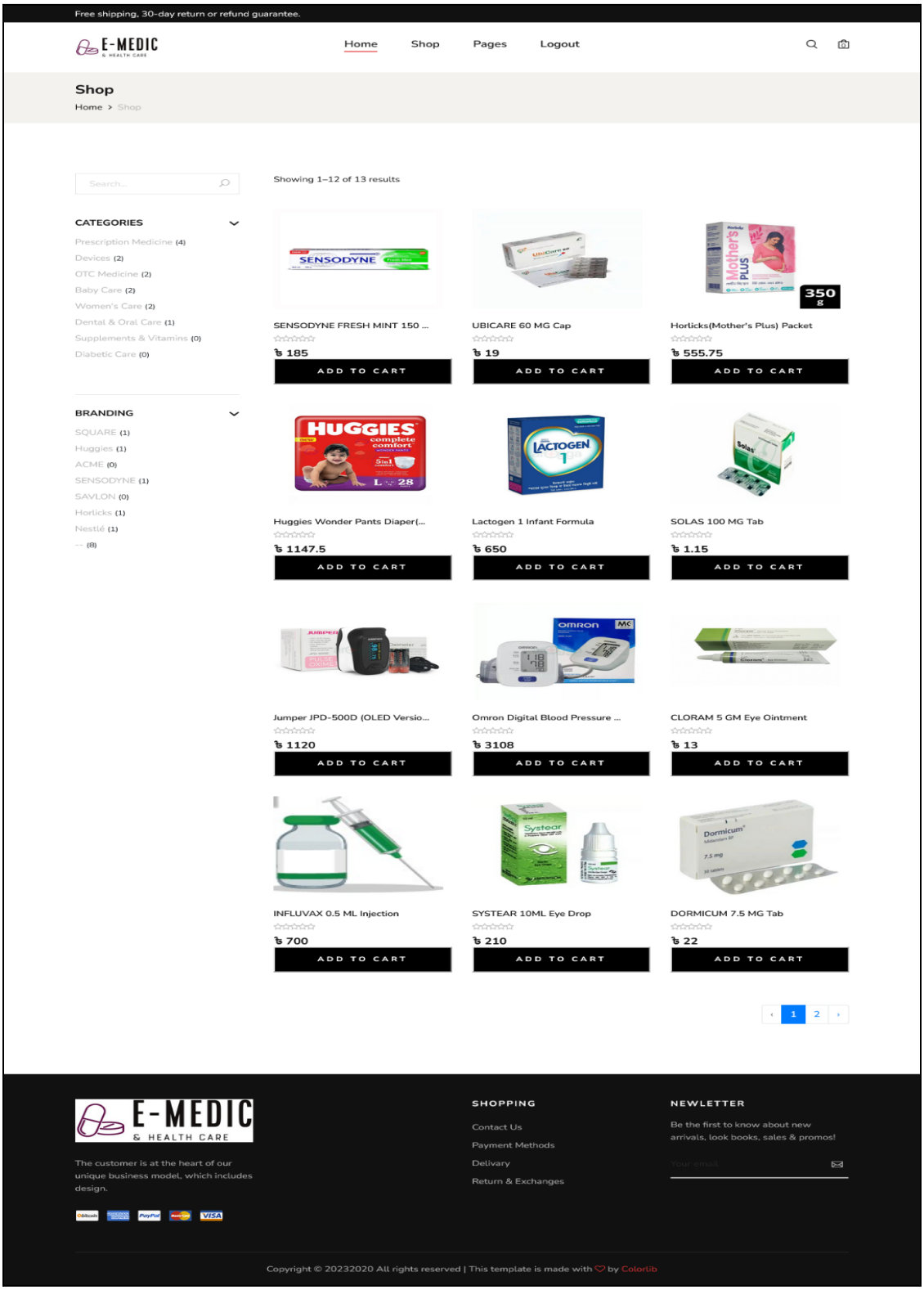

Figure 5.7 : Customer Side screenshot

5.6 Testing

Testing is super important in building the "E-Medic & Health Care" online store. It's like quality control to make sure everything works right, does what it's supposed to, and is easy to use. Our testing plan for the "E-Medic & Health Care" platform covers lots of different tests to make sure it works well, is fast, safe, and user-friendly.

5.6.1 System Input Table :

Test Case ID	Test Scenario	Test Inputs
TCI001	User Authentication & Registration	User information (name, email, password, and picture)
TCI002	User Login	User information (password and email)
TCI003	Add to Cart	Product ID, quantity
TCI004	Place Order	Items in the cart, shipping information, and payment data
TCI005	Update Profile Information	User ID, updated information (name, email, password, etc.)
TCI006	User View Order History	User ID
TCI007	Admin View Order	Order ID
TCI008	Admin Manage User Status (Blocked)	User ID
TCI009	Admin Edit Product Details	Product ID
TCI010	Admin manage order status (Delivered)	Order ID

Table 5.2: Input table with Field

5.6.1 System Output Table :

Test Case ID	Test Scenario	Test Output
TCI001	User Authentication & Registration	Message after successful registration and user dashboard
TCI002	User Login	Successful login and user dashboard
TCI003	Add to Cart	Product added to the cart
TCI004	Place Order	Successful ! Order is placed. message
TCI005	Update Profile Information	Profile update confirmation message
TCI006	User View Order History	List of previous orders
TCI007	Admin View Order	List of all orders
TCI008	Admin Manage User Status (Blocked)	User is Blocked
TCI009	Admin Edit Product Details (Image)	No error is showing and image is not updated
TCI010	Admin manage order status	Order status is updated

Table 5.3 : Output table with Field

5.6.3 Designing Test Cases

Test Case ID	Test Scenario	Test Inputs	Test Output	Pass/Fail
TCI001	User Authentication & Registration	User information (name, email, password, and picture)	Message after successful registration and user dashboard	Pass
TCI002	User Login	User information (password and	Successful login and user dashboard	Pass

		email)		
TCI003	Add to Cart	Product ID, quantity	Product added to the cart	Pass
TCI004	Place Order	Items in the cart, shipping information, and payment data	Successful ! Order is placed. message	Pass
TCI005	Update Profile Information	User ID, updated information (name, email, password, etc.)	Profile update confirmation message	Pass
TCI006	User View Order History	User ID	List of previous orders	Pass
TCI007	Admin View Order	Order ID	List of all orders	Pass
TCI008	Admin Manage User Status (Blocked)	User ID	User is Blocked	Pass
TCI009	Admin Edit Product Details (Image)	Product ID	No error is showing and image is not updated	Fail
TCI010	Admin manage order status (Delivered)	Order ID	Order status is updated	Pass

Table 5.4 Designing Test case Input/output Pass/Fail table

5.6.4 Test Results :

When examining the test results table, it is clear that the majority of test cases have produced positive results, indicating that the output is consistent with what was anticipated. There is, however, one test case (TC009) that did not provide the expected outcome. In this instance, the actual result—"No error is showing and image is not updated"—differed from the desired result, "Product is updated successfully."

The **Test Case ID** acts as a distinctive identifier for each test case in the context of this table.

The **expected** behavior or outcome predicted for the test case execution is described in the expected output.

Actual Output depicts the outcome or conduct that was noticed during testing.

Whether the actual output matches the anticipated output is indicated by a pass or fail. The test case is marked as "**Pass**" if the two match. On the other hand, it is indicated as "**Fail**" if they don't match.

Chapter 6 - Results & Analysis

In this section, we will delve into the outcomes achieved throughout the project/work and conduct a comprehensive analysis of their significance. These results are a direct consequence of the development and implementation of the E-Medic & Health Care system. Let's delve into the achieved outcomes and engage in a detailed analysis.

We have the Routes for both Admin and User where it routes the request to its database :

```php
<?php
use App\Http\Controllers\MainController;
use App\Http\Controllers\AdminController;
use App\Http\Controllers\CategoryController;
use App\Http\Controllers\SubCategoryController;
use App\Http\Controllers\BrandController;
use App\Http\Controllers\ProductController;
use Illuminate\Support\Facades\Route;
use Illuminate\Support\Facades\Session;


Route::get('/', [MainController::class,'index']);
Route::get('/cart', [MainController::class,'cart']);
Route::get('/shop', [MainController::class,'shop']);
Route::get('/single/{id}', [MainController::class,'singleProduct']);
Route::get('/checkout', [MainController::class,'checkout']);
Route::get('/register', [MainController::class,'register']);
Route::post('/registerUser', [MainController::class,'registerUser']);
Route::get('/login', [MainController::class,'login']);
Route::post('/loginUser', [MainController::class,'loginUser']);
Route::get('/logout', [MainController::class,'logout']);
Route::get('/myOrders', [MainController::class,'myOrders']);
Route::get('/profile', [MainController::class,'profile']);
Route::post('/updateUser', [MainController::class,'updateUser']);
Route::post('/addToCard', [MainController::class,'addToCard']);
Route::get('/deleteCartItem/{id}', [MainController::class,'deleteCartItem']);
Route::post('/updateCart', [MainController::class,'updateCart']);
Route::post('/checkout', [MainController::class,'checkout']);
Route::get('/product_by_cat/{id}',[MainController::class,'product_by_cat']);
Route::get('/product_by_brand/{id}',[MainController::class,'product_by_brand']);

// Admin routes
Route::middleware(['Admin'])->group(function () {
    Route::get('/admin', [AdminController::class,'index']);
    Route::get('/ad_profile', [AdminController::class,'ad_profile']);
    Route::post('/updateUser', [AdminController::class,'updateUser']);
    Route::get('/ourCustomers', [AdminController::class,'ourCustomers']);
    Route::get('/changeUserStatus/{status}/{id}',[AdminController::class,'changeUserStatus']);
    Route::get('/changeOrderStatus/{status}/{id}',[AdminController::class,'changeOrderStatus']);
    Route::get('/orders', [AdminController::class,'orders']);
    Route::get('/view_orderDetails/{id}', [AdminController::class,'view_orderDetails']);

      //Category Routes
    Route::resource('/categories', CategoryController::class);
    Route::get('/cat-status{category}', [CategoryController::class,'change_status']);
      //SubCategory Routes
    Route::resource('/sub-categories', SubCategoryController::class);
    Route::get('/subcat-status{subcategory}', [SubCategoryController::class,'change_status']);
    //Brand Routes
    Route::resource('/brands', BrandController::class);
    Route::get('/brand-status{brand}', [BrandController::class,'change_status']);
     //Product Routes
     Route::resource('/products', ProductController::class);
     Route::get('/product-status{product}', [ProductController::class,'change_status']);

});

```

Figure 6 .1 : Routes screenshot

We have the controller for the user which is MainController

```php
<?php

namespace App\Http\Controllers;
use App\Models\Cart;
use App\Models\Order;
use App\Models\OrderItem;
use App\Models\User;
use App\Models\Category;
use App\Models\SubCategory;
use App\Models\Brand;
use App\Models\Product;
use Illuminate\Http\Request;
use Illuminate\Support\Facades\DB;
use Illuminate\Support\Facades\Hash;
use Illuminate\Support\Facades\Session;


class MainController extends Controller
{
    public function index()
    {
        $allproducts = Product::latest()->limit(8)->get();
        $newArrivel = Product::where('type', 'new-arrivals')->latest()->limit(8)->get();
        $sale = Product::where('type', 'sale')->latest()->limit(8)->get();

        return view('index', compact('allproducts', 'newArrivel', 'sale'));
    }

    public function cart()
    {

        $cartItems = DB::table('products')
        ->join('carts','carts.pro_id','products.id')
        ->select('products.name','products.price','products.quantity as pQua', 'products.image','carts.*')
        ->where('carts.cust_id',Session()->get('id'))->get();
        return view('cart', compact('cartItems'));
    }
    public function addToCard(Request $data)
    {
        if(Session()->has('id'))
        {
            $item=new Cart;
            $item->quantity=$data->input('quantity');
            $item->pro_id=$data->input('id');
            $item->cust_id = Session()->get('id');
            $item->save();
            return redirect()->back()->with('success', 'Item Added into Cart');
        }
        else
        {
            return redirect('login')->with('error', 'Please login to system');
        }
    }
    public function updateCart(Request $data)
    {
        if(Session()->has('id'))
        {
            $item=Cart::find($data->input('id'));
            $item->quantity=$data->input('quantity');
            $item->save();
            return redirect()->back()->with('success', 'Item quantity updated');
        }
        else
        {
            return redirect('login')->with('error', 'Please login to system');
        }
    }
```

Figure 6 .2.1 : MainController screenshot

```php
public function deleteCartItem($id)
{
    $item=Cart::find($id);
    $item->delete();
    return redirect()->back()->with('success', 'Item has been deleted from Cart');
}

public function checkout(Request $data)
{
    if(Session()->has('id'))
    {
        $order=new Order();
        $paymentMethod = $data->input('payment_method');

            if ($paymentMethod === 'delivery') {
                $order->status = 'Pending'; // Payment on delivery
            } elseif ($paymentMethod === 'online') {
                $order->status = 'Paid'; // Online payment
            }

        $order->cust_id=Session()->get('id');
        $order->bill=$data->input('bill');
        $order->address=$data->input('address');
        $order->phone=$data->input('phone');
        $order->fullname=$data->input('fullname');


        if($order->save())
        {
            $carts=Cart::where('cust_id', Session()->get('id'))->get();
            foreach($carts as $item)
            {
                $product=Product::find($item->pro_id);

                $orderItem = new OrderItem();
                $orderItem->pro_id=$item->pro_id;
                $orderItem->quantity=$item->quantity;
                $orderItem->price=$product->price;
                $orderItem->order_id =$order->id;
                $orderItem->save();
                $item->delete();

            }

        }

        return redirect()->back()->with('success', 'Success! Your Order has been placed');
    }
    else
    {
        return redirect('login')->with('error', 'Please login to system');
    }
}

public function shop()
{
    $categories=Category::all();
    $subcategories=SubCategory::all();
    $brands=Brand::all();

    $totalProducts = Product::count();
    $products=Product::where('status',1)->latest()->paginate(12);
    return view('shop', compact('categories','subcategories','brands','products','totalProducts'));
}

public function myOrders()
{
    if(Session()->has('id'))
    {
        $orders=Order::where('cust_id',Session()->get('id'))->get();
        $items = DB::table('products')
            ->join('order_items', 'order_items.pro_id', '=', 'products.id')
            ->select('products.name', 'products.image', 'order_items.quantity', 'order_items.price', 'order_items.order_id')
            ->get();

        return view('orders', compact('orders','items'));
    }
    return redirect('login');
}
```

Figure 6 .2.2 : MainController screenshot

```php
    public function profile()
    {
        if(Session()->has('id'))
       {
        $user=User::find(Session()->get('id'));
        return view('profile', compact('user'));
       }

    }

    public function updateUser(Request $request)
{

    $rules = [
        'fullname' => 'required|string|max:255',
        'password' => 'nullable|string|min:8',
        'file' => 'nullable|image|mimes:jpeg,png,jpg,gif|max:2048',
    ];


    $user =User::find(Session()->get('id'));
    $user->fullname = $request->input('fullname');


    if ($request->filled('password')) {
        $user->password = bcrypt($request->input('password'));
    }

    if ($request->hasFile('file')) {
        $fileName = $request->file('file')->getClientOriginalName();
        $request->file('file')->move('uploads/profiles', $fileName);
        $user->picture = $fileName;
    }

    $user->save();

    return redirect()->back()->with('success', 'Profile updated successfully.');
}


    public function singleProduct($id)
    {

        $product=Product::find($id);

        $subcat_id=$product->cat_id;
        $related=Product::where('subcat_id',$subcat_id)->get();

        return view('singleProduct', compact('product','related'));
    }
    public function register()
    {
        return view('register');
    }
```

Figure 6 .2.3 : MainController screenshot

```
    public function registerUser(Request $data)
{
    $customMessages = [
        'fullname.required' => 'Please enter your full name.',
        'email.required' => 'Please enter your email address.',
        'email.email' => 'Please enter a valid email address.',
        'email.unique' => 'The email address is already in use.',
        'password.required' => 'Please enter a password.',
        'password.min' => 'The password must be at least 8 characters long.',
        'file.required' => 'Please upload a profile picture.',
        'file.image' => 'The uploaded file must be an image.',
        'file.mimes' => 'The uploaded file must be in JPEG, PNG, JPG, or GIF format.',
        'file.max' => 'The uploaded file cannot exceed 2MB in size.',
    ];

    $data->validate([
        'fullname' => 'required|string|max:255',
        'email' => 'required|email|unique:users,email',
        'password' => 'required|string|min:8',
        'file' => 'required|image|mimes:jpeg,png,jpg,gif|max:2048',
    ], $customMessages);

    $newUser = new User();
    $newUser->fullname = $data->input('fullname');
    $newUser->email = $data->input('email');
    $newUser->password = bcrypt($data->input('password'));
    $newUser->picture = $data->file('file')->getClientOriginalName();
    $data->file('file')->move('uploads/profiles', $newUser->picture);
    $newUser->type = "Customer";

    if ($newUser->save()) {
        return redirect('login')->with('success', 'Congratulations! Your Account is Ready.');
    }

    return view('login');
}

    public function login()
    {
        return view('login');
    }
    public function logout()
    {
        Session()->forget('id');
        Session()->forget('type');
        return redirect('/login');
    }
```

Figure 6 .2.4 : MainController screenshot

We have the controller for the admin named AdminController

```php
<?php

namespace App\Http\Controllers;

use App\Models\Order;
use App\Models\OrderItem;
use App\Models\User;
use Illuminate\Http\Request;
use Illuminate\Support\Facades\DB;

class AdminController extends Controller
{
    public function index()

    {
            return view('Admin_Dashboard.index');

    }
    public function ad_profile()
    {
        if(Session()->has('id'))
       {
        $user=User::find(Session()->get('id'));
        return view('Admin_Dashboard.profile', compact('user'));
       }

    }


    public function updateUser(Request $request)
    {

        $rules = [
            'fullname' => 'required|string|max:255',
            'password' => 'nullable|string|min:8',
            'file' => 'nullable|image|mimes:jpeg,png,jpg,gif|max:2048',
        ];


        $user =User::find(Session()->get('id'));
        $user->fullname = $request->input('fullname');


        if ($request->filled('password')) {
            $user->password = bcrypt($request->input('password'));
        }

        if ($request->hasFile('file')) {
            $fileName = $request->file('file')->getClientOriginalName();
            $request->file('file')->move('uploads/profiles', $fileName);
            $user->picture = $fileName;
        }

        $user->save();

        return redirect()->back()->with('success', 'Profile updated successfully.');
    }
```

Figure 6 .3.1 : AdminController screenshot

```
    public function ourCustomers()
    {
        $customers=User::where('type','Customer')->get();
        return view('Admin_Dashboard.customers', compact('customers'));
    }
    public function changeUserStatus($status,$id)
    {
        $user = User::find($id);
        $user->status=$status;
        $user->save();
        return redirect()->back()->with('success', 'User Status changes successfully.');
    }
    public function orders()
    {

        $orders=DB::table('users')
        ->join('orders','orders.cust_id','users.id')
        ->select('orders.*','users.fullname','users.email' , 'users.status as userStatus')
        ->get();

        return view('Admin_Dashboard.orders', compact('orders'));
    }
    public function changeOrderStatus($status,$id)
    {

        $order = Order::find($id);
        $order->status=$status;
        $order->save();
        return redirect()->back()->with('success', 'Order Status updated successfully.');
    }

    public function view_orderDetails($id)
    {
        $orders=Order::where('orders.id',$id)->first();
        $orderItems=OrderItem::where('order_id',$id)->get();



        return view('Admin_Dashboard.view_orderDetails',compact('orders','orderItems'));
    }
}
```

Figure 6 .3.2 : AdminController screenshot

We have the controller for the Categories name CategoryController

```php
<?php
namespace App\Http\Controllers;
use App\Models\Category;
use Illuminate\Http\Request;

class CategoryController extends Controller
{
    public function index()
    {
        $categories=Category::all();
        return view('Admin_Dashboard.category.index', compact('categories'));
    }
    public function create()
    {
        return view('Admin_Dashboard.category.create');
    }
    public function store(Request $request)
    {
        $request->validate([
            'name' => 'required|unique:categories',
        ]);

        $category = new Category;
        $category->id=$request->category;
        $category->name=$request->name;
        $category->save();
            return redirect()->back()->with('success','Category Successfully Created');
    }
    public function change_status(Category $category)
    {
        if($category->status==1){
            $category->update(['status'=>0]);
        }
        else{
            $category->update(['status'=>1]);
        }
        return redirect()->back()->with('success','Status Change Successfully');
    }
    public function edit(Category $category)
    {
        return view('Admin_Dashboard.category.edit', compact('category'));
    }
    public function update(Request $request, Category $category)
    {
        $request->validate([
            'name' => 'required|unique:categories',  ]);

        $update=$category->update([
            'name'=>$request->name, ]);

        if($update)
        {
            return redirect('/categories')->with('success','Category Updated Successfully');
        }
    }
        public function destroy(Category $category)
    {
        $delete=$category->delete();
        if($delete)
        {
            return redirect()->back()->with('success','Category Deleted Successfully');
        }

    }
}
```

Figure 6 .4 : CategoryController screenshot

We have the controller for the Subcategories name SubCategoryController

```php
<?php
namespace App\Http\Controllers;
use App\Models\SubCategory;
use App\Models\Category;
use Illuminate\Http\Request;
class SubCategoryController extends Controller
{
    public function index()
    {
        $subcategories=SubCategory::all();
        return view('Admin_Dashboard.subcategory.index', compact('subcategories'));
    }
    public function create()
    {
        $categories=Category::all();
        return view('Admin_Dashboard.subcategory.create', compact('categories'));
    }
    public function store(Request $request)
    {
        $request->validate([
            'name' => 'required',
        ]);

        $subcategory = new SubCategory;
        $subcategory->cat_id=$request->category;
        $subcategory->name=$request->name;
        $subcategory->save();
        return redirect()->back()->with('success','SubCategory Successfully Created');
    }
    public function show(SubCategory $subcategory)
    {
        if($subcategory->status==1){
            $subcategory->update(['status'=>0]);
        }
        else{
            $subcategory->update(['status'=>1]);
        }
        return redirect()->back()->with('success','Status Change Successfully');
    }
    public function edit(SubCategory $subCategory)
    {
        $categories=Category::all();
        return view('Admin_Dashboard.subcategory.edit', compact('categories','subCategory'));
    }

    public function update(Request $request,SubCategory $subCategory)
    {
        $request->validate([
            'name' => 'required' . $subCategory->id,
        ]);
        $update=$subCategory->update([
            'name'=>$request->name,
            'cat_id'=>$request->category,

        ]);
        if($update)
        {
            return redirect('/sub-categories')->with('success','SubCategory Updated Successfully');
        }
    }
    public function change_status(SubCategory $subcategory)
    {
        if($subcategory->status==1){
            $subcategory->update(['status'=>0]);
        }
        else{
            $subcategory->update(['status'=>1]);
        }
        return redirect()->back()->with('success','Status Change Successfully');
    }
    public function destroy(SubCategory $subCategory)
    {
        $delete=$subCategory->delete();
        if($delete)
        {
            return redirect()->back()->with('success','SubCategory Deleted Successfully');
        }
    }
}
```

Figure 6 . 5 : SubCategoryController screenshot

We have the controller for the Brands name BrandController

```php
<?php
namespace App\Http\Controllers;
use App\Models\Brand;
use Illuminate\Http\Request;
class BrandController extends Controller
{    public function index()
    {
        $brands=Brand::all();
        return view('Admin_Dashboard.brand.index', compact('brands'));
    }
    public function create()
    {
        return view('Admin_Dashboard.brand.create');
    }
    public function store(Request $request)
    {
        $request->validate([
            'name' => 'required|unique:brands',
        ]);
        $brand = new Brand;
        $brand->id=$request->brand;
        $brand->name=$request->name;
        $brand->save();
        return redirect()->back()->with('success','Brand Added Successfully');
    }
    public function change_status(Brand $brand)
    {
        if($brand->status==1){
            $brand->update(['status'=>0]);
        }
        else{
            $brand->update(['status'=>1]);
        }
        return redirect()->back()->with('success','Status Change Successfully');
    }
    public function edit(Brand $brand)
    {
        return view('Admin_Dashboard.brand.edit', compact('brand'));
    }
    public function update(Request $request,Brand $brand)
    {
        $request->validate([
            'name' => 'required|unique:brands',
        ]);
        $update=$brand->update([
            'name'=>$request->name,
        ]);

        if($update)
        {
            return redirect('/brands')->with('success','Brand Updated Successfully');
        }
    }
    public function destroy(Brand $brand)
    {
        $delete=$brand->delete();
        if($delete)
        {
            return redirect()->back()->with('success','Brand Deleted Successfully');
        }
    }
}
```

Figure 6 .6 : BrandController screenshot

We have the controller for the Products name ProductController

```php
<?php
namespace App\Http\Controllers;
use App\Models\Brand;
use App\Models\Category;
use App\Models\Product;
use App\Models\SubCategory;
use Illuminate\Http\Request;
class ProductController extends Controller
{
    public function index()
    {
        $products=Product::paginate(10);
        return view('Admin_Dashboard.product.index', compact('products'));
    }
    public function create()
    {
        $categories=Category::all();
        $subcategories=SubCategory::all();
        $brands=Brand::all();

        return view('Admin_Dashboard.product.create', compact('categories','subcategories','brands'));


    }
    public function store(Request $request)
    {
        $request->validate([
            'name' => 'required|unique:products',
            'price' => 'required|numeric|min:0',
            'quantity' => 'required|numeric|min:0',
        ]);

        $product = new Product;
        $product->id = $request->product;
        $product->cat_id = $request->category;
        $product->subcat_id = $request->subcategory;
        $product->br_id = $request->brand;
        $product->name = $request->name;
        $product->type = $request->type;
        $product->price = $request->price;
        $product->quantity = $request->quantity;
        $product->description = $request->description;


        if($request->hasFile('image')){
            $file=$request->file('image');
            $extension=$file->getClientOriginalExtension();
            $filename=time().'.'.$extension;
            $file->move(public_path('product'),$filename);
            $product->image=$filename;
        }
            $product->save();
            return redirect()->back()->with('success','Product Successfully Added');
    }
```

Figure 6 .7 . 1 : ProductController screenshot

```php
    public function change_status(Product $product)
    {
        if($product->status==1){
            $product->update(['status'=>0]);
        }
        else{
            $product->update(['status'=>1]);
        }
        return redirect()->back()->with('success','Status Change Successfully');
    }
    public function edit(Product $product)
    {
        $categories=Category::all();
        $subcategories=SubCategory::all();
        $brands=Brand::all();
        return view('Admin_Dashboard.product.edit', compact('categories','subcategories','brands','product'));
    }
    public function update(Request $request, Product $product)
    {
        $request->validate([
            'name' => 'required|unique:products,name,' . $product->id,
            'price' => 'required|numeric|min:0',
            'category' => 'required|exists:categories,id',
            'subcategory' => 'required|exists:sub_categories,id',
            'brand' => 'required|exists:brands,id',
            'quantity' => 'required|numeric',
            'image' => 'image|mimes:jpeg,png,jpg,gif|max:2048',
        ]);
        $filename = $product->image;
        if ($request->hasFile('image')) {
            $file = $request->file('image');
            $extension = $file->getClientOriginalExtension();
            $filename = time() . '.' . $extension;
            $file->move(public_path('product'), $filename);
        }
        $update = $product->update([
            'name' => $request->name,
            'price' => $request->price,
            'type' => $request->type,
            'quantity' => $request->quantity,
            'cat_id' => $request->category,
            'subcat_id' => $request->subcategory,
            'br_id' => $request->brand,
            'image' => $filename, // Update the image field
            'description' => $request->description,
        ]);

        if ($update) {
            return redirect('/products')->with('success', 'Product Updated Successfully');
        }
    }
    public function destroy(Product $product)
    {
        $delete=$product->delete();
        if($delete)
        {
            return redirect()->back()->with('success','Product Deleted Successfully');
        }
    }
}
```

Figure 6 .7 . 2 : ProductController screenshot

System Functionality Result:

- Our innovative "E-Medic & Health Care" e-commerce system has been meticulously conceived, crafted, and executed, forging a resilient digital arena for medical and healthcare retail.
- This system adeptly orchestrates pivotal operations, encompassing the precise management of product catalogs, streamlined order processing, and comprehensive order tracking, all contributing to a seamless and unhindered experience.
- Through judicious automation and the minimization of human intervention, our system efficiently elevates operational efficiency, resulting in cost savings and an enriched overall functionality that is truly distinctive.

Impact on Business Operations:

- The implementation of the "E-Medic & Health Care" platform had a transformative impact on the business operations of the healthcare eCommerce venture.
- It streamlined previously manual processes, resulting in significant time and cost savings, optimizing resource allocation for sustainable growth.
- The platform's user-centric design and features led to improved customer engagement, satisfaction, and loyalty, translating into increased customer retention and long-term business viability.

Analysis of Challenges Faced:

- We embraced agile development methodologies, allowing us to swiftly adapt to evolving requirements and seamlessly incorporate user feedback, thus maintaining a customer-centric approach.
- We placed paramount importance on data security and system reliability, proactively addressing critical concerns to establish a secure and trustworthy shopping environment for all users.

Future Recommendations:

- Based on the findings and analysis, the "E-Medic & Health Care" eCommerce platform presents numerous opportunities for future enhancements and expansion.
- To further improve user experiences, additional features like sophisticated reporting and analytics, loyalty programs, and seamless interaction with different online payment methods can be added.
- For the "E-Medic & Health Care" platform to continue to be a dominant force in the rapidly changing healthcare and medical eCommerce sector, it will be crucial to continuously monitor user input and stay abreast of market trends.

Chapter 7-Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

The organization has created strategic plans to guarantee the long-term prosperity of "E-Medic & Health Care." Engaging fresh graduates and focusing on organizations for private applications are the initial goals. The project aims to expand its client base and achieve sustainability through:

Community Sustainability: The objective is to foster a sense of community among users and encourage them to refer the application to others. This organic growth will lead to an expanding client base.

Financial Sustainability: To ensure profitability, the company must effectively manage the project's development costs. This includes expenses such as license fees, database storage costs, and ongoing maintenance.

Organizational Sustainability: The company intends to remain operational well beyond the application's initial release. This sustainability can be achieved through the existing team, an extended team, or potentially a new team. The company plans to adapt to changing user needs by implementing updates and feature enhancements. This flexibility will also allow for the expansion of the company's offerings in the healthcare and medical sector.

7.2 Social and Environmental Effects and Analysis

The E-Medic & Health Care system prioritizes eco-friendliness by providing digital receipts instead of paper ones via email. It operates exclusively online, necessitating electricity and devices. Effective financial management, including cost control for licenses, storage, and maintenance, ensures long-term profitability and sustainability.

7.3 Addressing Ethics and Ethical Issues

Following the initial launch, the E-Medic & Health Care project focuses on sustained operations. This may involve team retention or augmentation to meet evolving user demands. Security is a priority, with a two-step authentication process and strict data access control.
Ethical considerations address fraud prevention and data security. The project's goal is to increase user and stakeholder trust while preserving system sustainability and integrity in the area of healthcare e-commerce.

Chapter 8 - Lesson Learned

I recently finished my internship as a programmer at E-Medic & Health Care, which provided me with several educational chances. When I joined E-Medic & Health Care, I eagerly embraced the role of a developer and embarked on a rewarding journey of knowledge acquisition. Our project, which involved transitioning from the "Fashion World" system to the "E-Medic & Health Care" system, introduced me to the world of healthcare technology. Collaborating with the E-Medic & Health Care team was a novel experience, and although I encountered some challenges during this period, the chances for learning were abundant. Here, I've summarized some of the key insights I gained during my internship:

Skill Enhancement: During my internship, my central objective revolved around enhancing my skill set and embracing new competencies. I understood the paramount significance of nurturing a versatile skill set in line with my career ambitions. I invested considerable time in mastering tasks relevant to my professional aspirations and fine-tuning my existing skills. This unwavering commitment to continual enhancement facilitated significant professional growth throughout my internship.

Professional Communication: I learned the vital role of professional communication in the workplace. Adapting to this environment came with challenges, but I soon realized the importance of clear and poised communication in various contexts, including face-to-face, phone, and email interactions. This experience underscored the value of professional communication.

Networking: Networking during my internship was a remarkable experience. It provided me with unique opportunities to connect with colleagues and establish lasting professional relationships. In addition to making friends at work, I also fostered important relationships that might help me in my job search following graduation. During my internship, networking gave me a solid support system and exposed me to potential future routes.

Establishing Goals: During my internship, the importance of goal setting became clear. I became aware of the importance of having specific goals early on. I started conversations with my supervisor to set up our shared expectations so that I could be sure I understood my duties completely. I also took the effort to create personal goals, concentrating on the particular information and abilities I want to acquire throughout the internship.

Time Management: Mastering effective time management was a learning curve, especially as a newcomer to the professional world. I quickly recognized the value of maintaining organization through task lists and prioritization. Prioritizing tasks based on their importance and urgency became a key strategy. By tackling the most crucial tasks first, I efficiently distributed my time, guaranteeing that projects were completed promptly. This method enabled me to stay concentrated, meet deadlines, and uphold productivity during my internship.

Maintaining enthusiasm was key during my internship. Approaching it with eagerness, seeking new skills, and taking on extra responsibilities improved my experience.

8.1 Problems Faced During this Period

Adapting to the new environment right from the start proved to be a relatively smooth process. I had the valuable support and guidance of senior colleagues from my own university, which made the transition easier. Moreover, the institution's management structure is outstanding, fostering a collaborative atmosphere where everyone is willing to assist and work together as a cohesive team to achieve our goals efficiently.

8.2 Solution of those Problems

As a newcomer to the field of development, I faced a steep learning curve to catch up with my more experienced peers. This journey entailed acquiring the necessary skills to handle complex tasks, ensuring client contentment, and regularly updating the office management on the status of my projects

Chapter 9 - Future Work & Conclusion

9.1 Future Works

The evolution of the E-Medic & Health Care e-commerce platform is an ongoing journey, marked by a commitment to continuous improvement and expansion. We have a vision for several exciting future developments, which include:

- **Discounts and Coupons:** Implement a discount system where we can offer discounts on specific products, categories, or order totals. Allowing customers to apply coupon codes during checkout for additional savings.
- **Wishlist:** Creating a wishlist feature. This will allow customers to save products they are interested in for future purchase. You can also send notifications when items on their wishlist go on sale.
- **Product Recommendations:** Implement a recommendation system that suggests related or complementary products to customers based on their browsing and purchase history.
- **Multi-language and Currency Support:** Currently we are using English as languages and taka as currency. But if we plan to expand internationally, consider adding support for multiple languages and currencies to cater to a broader audience.

By continuously improving and extending the features of E-Medic & Health Care, we are committed to maintaining our position as a leader in the industry and adjusting to the changing preferences and needs of our valued users. Our primary objective is to enhance user experience, introduce new categories and services, and provide a smooth and effective online platform for all your medical and healthcare-related shopping and service requirements.

9.2 Conclusion

My internship at Appnap proved to be an invaluable experience, centered around the development of an application geared towards enhancing the experiences of online buyers which makes everyone's life essay . This endeavor exposed me to the intricacies of working with Laravel, a prominent web development framework, and our project was meticulously designed to address the time-related challenges frequently encountered by eCommerce users.

During my internship period I was able to fully enhance myself in the development process. This

gave me valuable insights into the ever-evolving job market landscape. I not only honed my ability to adeptly handle a wide spectrum of software development requirements but also cultivated a knack for employing optimal approaches to craft resilient solutions. This immersive experience has significantly sharpened my problem-solving acumen, positioning me as a proficient troubleshooter primed to tackle any future challenges that may arise in my career as a web developer.

I extend my sincere gratitude to Appnap for affording me this opportunity, and I deeply appreciate the knowledge I have garnered during this internship. I hold a firm belief that, with continued refinements and enhancements, the software I contributed to has the potential to evolve into an exceptional solution for our clients. This internship not only gave me a thorough grasp of what it's like to work as a web developer, however, it also fully equipped me for all the responsibilities and obligations that came along with it. I am eager to begin the next phase of my profession, where I want to use the knowledge and abilities I've gained to develop new software solutions in the future.

Bibliography

Umme Hani, a dedicated intern at Appnap Technologies Limited, is currently pursuing her undergraduate degree in Computer Science & Engineering at Independent University Bangladesh. She was born on November 2 ,2001 in Dhaka, Bangladesh, and has consistently shown a remarkable commitment to both education and community service. Umme Hani is on track to complete her BSc in Computer Science & Engineering at Independent University, Bangladesh. She completed her secondary education at Kamrunnesa Government Girls High School and her higher secondary education at Motijheel Ideal School and College.

During her internship at Appnap Technologies Limited, Umme Hani worked diligently on the Laravel Framework, where she successfully developed an eCommerce project. Her vision extends into the field of Data Science, where she aspires to continue her career and make significant contributions. Umme Hani is known for her adventurous spirit and enjoys traveling as well as procuring essential items for her family. Her free time is dedicated to skill development activities such as problem-solving, learning new frameworks or languages and taking on new projects. Throughout her life, she firmly believes in the power of hard work and dedication, values that have helped her overcome various challenges and achieve excellence.

As she looks ahead, Umme Hani remains committed to pushing the boundaries of technology and envisions a future where technology is leveraged for the betterment of society. Her ambition includes pursuing a Ph.D. and further advancing her career. Umme Hani's journey, from a tech enthusiast to a promising figure in the tech industry, stands as a testament to the transformative impact of passion, innovation, and unwavering commitment. Her contributions to the tech field and dedication to positive change continue to inspire and shape the world of technology.

An Undergraduate Internship/Project on

E-Medic & Health Care E-Commerce Website

By

Umme Hani

Student ID: **1930330**

Summer, 2023

Consent from Supervisor

The student modified the internship final report as per the recommendations made by his/her academic supervisor and/or panel members during and/or before final viva, and the department can use this version for archiving as well as the OBE course material for CSE499.

This internship report is checked with Turnitin and plagiarism checker, and the score is:

Turnitin Score (%): 8%

Dr. Md. Tarek Habib

Assistant Professor | CSE

Department of Computer Science & Engineering

Independent University, Bangladesh