



An Undergraduate Internship/Project on Online Shopping Website Management System

By

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Science in Computer Science

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Attestation

This is to certify that the report was written by me, Maria Sultana (1720529) and submitted in partial completion of the Computer Science and Engineering degree requirement from Independent University, Bangladesh (IUB). It was finished under the supervision of Mohammad Noor Nabi. I also attest to the fact that all of my work is authentic, as what I learnt throughout my internship. All information sources used in this project and report have been properly acknowledged.

Signature

Date

Maria Sultana

Name

Acknowledgement

I would like to thank Almighty Allah first and foremost for providing me the patience and capacity to work hard and enabling me to write this report as well as helping me to complete my internship at University Road and AdmissionPortal. Also my parents for their unwavering love and support which has sustained, nourished, and prepared me for the sake of this task. I would want to express my gratitude to my honorable faculty and supervisor Mohammad Noor Nabi, Lecturer, Department of Computer Science and Engineering, Independent University, Bangladesh, for his excellent instruction, tolerance, time, and constructive criticism as well as wise counsel on several elements of my internship and preparation for this report. Then I would want to thank Md. Ataur Rahman, CEO, for allowing me to finish my internship at AdimissionPortal, as well as Md. Islam, Senior Full Stack Developer, for his advice and assistance during this three-month internship program. The knowledge and experiences I have gained here have really improved me as a developer, and they will undoubtedly benefit me in my future endeavors. I would also want to convey my appreciation to all of my co-workers for assisting me and making the Internship experience so pleasant. This journey would not have been simple without them.

Letter of Transmittal

September 10, 2021

Mohammad Noor Nabi

Senior Lecturer

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Subject: Internship Report submission Summer,2021.

With due honor and respect, I, Maria Sultana, from Summer 2021, Section 1, would like to submit my Internship report. This report is written to kindly inform you that I have completed my internship program and its report. My internship was conducted from 1st June 2021 to date. I have completed my internship at AdmissionProtal. This report is based on my experience and the work I did at AdmissionProtal during my internship. The primary goal for my internship was to gain experience in all the different technology related fields of the company, including research and development, documentation, website development, and to get acquainted with website development processes and practices. Over the period of my internship at Admissionportal, I found out that I have learned and applied a lot of new skills and technologies. The company comprises of a small team of software craftsmen who learn, collaborate, and innovate together. I would like to thank you immensely for all your guidance and support. I hope and pray that this report fulfills all the requirements and is up to your expectations.

Sincerely,

Maria Sultana

1720529

Evaluation Committee

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Internal Examiner

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Convener

Abstract

The experience and knowledge I gained throughout my internship program at AdmissionPortal is written in this report. AdmissionPortal is a EdTech IT company based in Dhaka, Bangladesh. It was founded in 2019. With the aim to bring a change AdmissionPortal started off with just 3 members.

As an intern, I worked on a company project with the Full stack developer team. Most of the materials were unfamiliar to me during the first phase of the internship because I had no formal experience in the web development industry. AdmissionPortal provided me with an opportunity to develop myself and was introduced to the web development process, which I can use in the future.

I was introduced to the technologies used in the Development phase during internship. I learned about useful skills and tricks for creating a fully functional and responsive website. Throughout this timeline, I gradually became acquainted with some of the Software Engineering Process and tools that are involved in taking an application from conception to development and production. After completing all basic learning sessions, I was assigned to work on a company project in which my task was to work in a team to develop an E-commerce website admin dashboard called Shopper, and the idea of the website is to create a platform for users where they can find all daily life products in one place.

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Chapter 1

Introduction

1.1 Overview/Background of the Work

Technological developments have always had a massive effect on all parts of human civilization and they also have had a range of effects on our everyday life. Over the previous two decades technical breakthrough has changed our communication, entertainment, and business techniques and practices. Since the Internet's inception in the late 1960s as a tiny network of computers it has grown to become the primary and most essential link between corporations, governments, and individuals. Geographical limitations, time limits, and financial constraints are all eradicated by the Internet. It is also easily accessible to everyone. It is a low-cost method of spreading cutting-edge technology, business concepts, and ideas to a wide number of people and it creates an excellent atmosphere for entrepreneurs.

E-commerce (also known as electronic commerce or EC) is the buying and selling of products and services through an electronic network, most notably the internet. All types of transactions are available including business-to-business, business-to-consumer, consumer-to-consumer, and [] consumer-to-business. [1]

Shopper is an e-commerce platform that will be able to supply every customer in Bangladesh with any sort of commodity or necessity that is needed in one's day to day life. Any consumer with a smartphone or computer and an internet connection will have access to the whole global market at their fingertips. It is a marketplace where customers may purchase a wide range of products from a single website. The website sells anything from memory card to a camera to shoes.

1.2 Objectives

The project's major objective is to provide a user-friendly interface that allows sellers and consumers to communicate easily. We want our mobile website to include the same

content and information as our desktop website but it should look better on a mobile device. Our objective is to make the website responsive as well as simple and easy to use on mobile devices. Our main aim is to keep our customers' and administrators' information safe. Hash encrypted passwords will be given, ensuring that no one can obtain the password, not even from the database.

1.3 **Scopes**

Features available to the user after the development of this web application:

1. Home page- The first page the user will see after visiting the website
2. Product category- User can see any product from category panel.
3. Customer Registration- Customer can register from the registration page.
4. Customer Login- Customer can login from the login page.
5. Admin Registration- Admin can register from the Admin dashboard.
6. Admin Login- Registered admin can login from the Admin dashboard.
7. Add/Remove Product- Admin can add or remove product from any category or sub-category.
8. Sort products- Customer can sort products by relevance, price.
9. Shopping Cart- Customer can add product in cart.
10. Order history- Customer can check the status of their ordered products from order history.

1.4 **Problem statement**

E-commerce makes it simple to sell products to a large number of people. However there is a lot of competition among e-commerce websites. Users expect to find what they're looking for fast and simply when they visit an e-commerce site. [2] Also, users are not sure of the brands or products they wish to buy. They have a basic concept of what they wish to purchase. Rather than visiting specific e-commerce site, many shoppers start looking for their products on Google. They expect that Google will redirect them to e-commerce sites where their products are available.

Any e-commerce website's goal is to assist clients in narrowing down their broad ideas and finalizing the things they want to buy. Consider the case of a customer who wants

to buy a mobile. His or her mobile phone search should include factors such as mobile phone brands, operating systems, screen sizes, and other features. As he or she selects more features or options from the facets presented the search narrows down to a short list of mobiles that suit the customer's preferences. If the list is short enough and the customer likes one of the phones on the list, he or she will buy it.

Another issue is that we have no idea what the customer is looking for. A website that presents a large number of products from many categories such as electronics, mobile phones, clothing, or books must be able to recognize the customer's demands. A customer might look for Samsung in mobile phones, tablets, electronics, or computers. The site should be able to tell if the buyer typed in the author's name or the title of the book. By raising the precision of the search results, identifying the input would help to increase the relevancy of the result. Most e-commerce sites offer category-based search suggestions to assist clients in finding the right category during their search.

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

- CSE 203, Data Structures: This is the most basic course that helped with the ideas of several data structures and their applications.
- CSE 213, Object-Oriented Programming: In the developing industry most of the data is represented as an object. It also taught how to write modular programs which made codes less repetitive and more reusable.
- CSE 303, Database Management: This was the first course that taught me how to design and plan a project. It covered popular planning and strategy practices such as System Development Life Cycle, Rich Picture, Requirement Analysis, Entity Relationship Diagram, Business Process Model and Notation Diagram, and many more.
- CSE 307, System Analysis and Design: This course gives an overview of different SDLCs and how to adopt each one of them to the project.
- CSE 309, Web Application and Internet: This is the course where the development of web applications was taught. It covered very important technologies that are highly in demand in the industry, such as HTML, CSS, JavaScript, jQuery, PHP. It is one of the course which helped me most in my project.

2.2 Related works

Daraz: Daraz is one of the most well-known names in the field of e-commerce, and it is currently one of the most prestigious and leading e-commerce sites in Bangladesh. Their website accurately portrays the company's true identity.

Alesha Mart: Aleshamart.com is a new generation e-commerce site with customized facilities and services to meet all human needs. They say, they have the best technology and the best plan to serve each and every member. They have created their own delivery system, which is the first and only 24 hour delivery system in Bangladesh. They are dedicated to exceeding customers' expectations and making them smile with delight. They have introduced some cutting-edge technology to help one find what they're looking for, as well as search tools that meet ones needs.

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

WBS is a hierarchical structure which demonstrates a project's breakdown into smaller segments. For our project, we have produced a WBS so that our work is coordinated. WBS offers a visual of all the scopes, risks, points of communication, responsibilities, costs and guarantees that it does not skip essential deliverables. For brainstorming and collaboration, it is the ideal tool for the team. In our WBS, we have used the top-down approach.

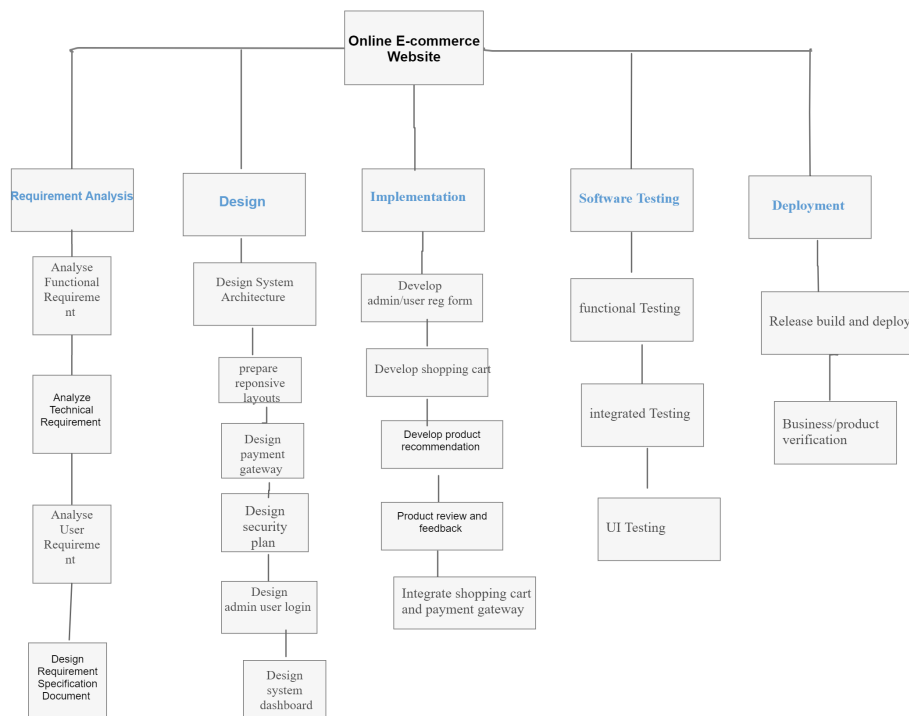


Figure 3.1: Shopper work breakdown structure

3.2 Process/Activity wise Time Distribution

For each section that I have mentioned in my Work Breakdown Structure, time was allocated so that the project completes on time. This table below shows the time allocation of the work-

Task	Days	Work Percentage
Requirement Analysis	10	7
Design Layout	10	20
Development	25	47
User Acceptance Testing (UAT)	10	15
Deployment	7	10
Total	60	100

Table 3.1: Time distribution table

3.3 Gantt Chart

We have used the Gantt Chart to plan and schedule all the activities that were needed to be done to complete the project successfully.

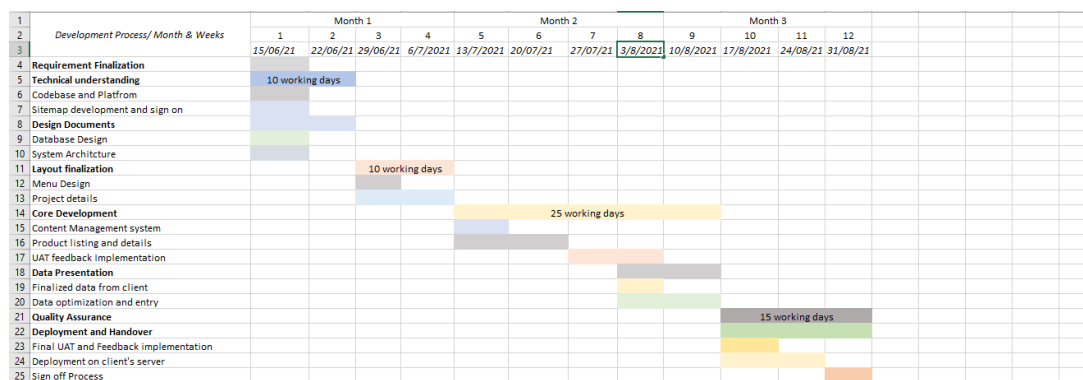


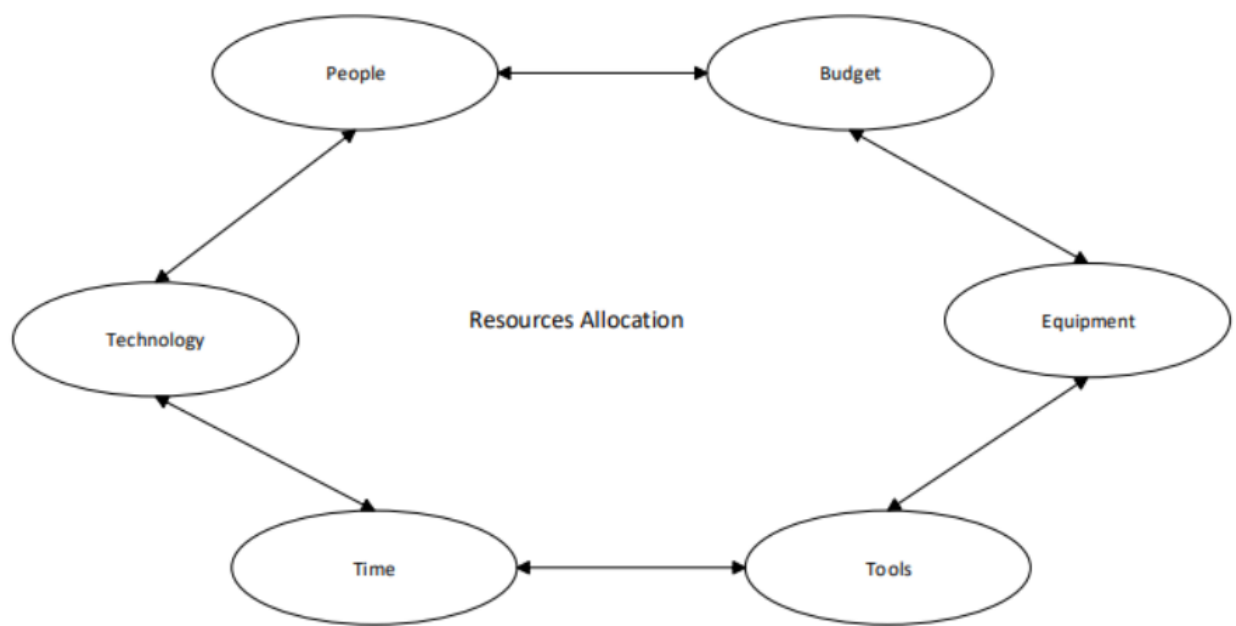
Figure 3.2: Gantt chart

3.4 Process/Activity wise Resource Allocation

Resource allocation—part art, part science as some call it, is recognizing the best available resources for the project, assigning them to your team and monitoring their workload throughout the work, and re-assigning resources if needed. “In project management, resource allocation or resource management is the scheduling of activities and the resources required by those activities while taking into consideration both the resource availability and the project time” Let’s look at how to effectively use resources at your disposal:

- Know the project and the team
- Uncover risks early on
- keep track of the project
- Analyze the project

We have used the Gantt Chart to plan and schedule all the activities that were needed to be done to complete the project successfully.



Activat

Figure 3.3: Resource allocation

3.5 Estimated Costing

The cost was calculated on the basis of the features the client demanded for the website. It depends on the size, requirements, functionalities and design of the website. This includes pre-designed themes, logo design cost, the cost for home page sliders, search engine optimization, chat option, social media connection, SSL certificates and many other tools that were used to build this website.

The cost of developer and resources used were also taken into account. The approximate cost estimated was Tk.3,35,000. If any additional service support is required within 1 year of deployment, then some additional charges will be taken for hosting and domain.

Work Distribution	Costing
Design	30,000
Programming	1,20,000
Integrations	40,000
Domain and Hosting (Annual)	45,000
SEO(Annual)	1,00,000
Total	3,35,000

Table 3.2: Estimated costing table

Chapter 4

Methodology

A website is a collection of interconnected, publicly accessible Web pages with a single domain name. Individuals, groups, businesses, and organizations can create and maintain websites for a variety of purposes. The World Wide Web is made up of all publicly accessible websites. We are surrounded by new technologies on all sides, which help in the development of even more advanced technologies. One such development is the Agile methodology, which was created specifically for e-Commerce websites, apps, and software.



Figure 4.1: Agile methodology

In my project I have used Agile methodology. Its goal is to promote automation and quick delivery, as well as coordination between development and operations and product quality improvement through quality control testing. [3] My project's Agile methodology is concerned with the flow and performance of the entire e-Commerce system by utilizing

development and operations to create value streams within the business. The model also gives clients a real behind-the-scenes look at the project, which helps developers learn about the clients' likes and dislikes. It enabled me to make the changes I needed at the time and reallocate my resources as needed. Agile methodology and e-Commerce have long been thought to be a perfect match, and there are numerous examples to back this up, including the following advantages that I have come across-

- Increased speed
- Keeping track of market sentiment
- Product quality that is higher
- Adaptability
- Risks are reduced
- Testing is done on a regular basis and is very thorough
- Customers who are happier

Chapter 5

Body of the Project

5.1 Work Description

The purpose of Shopper is to facilitate online trade easily for both sellers and buyers. My work was to build an e-commerce website for Shopper from the scratch. I have used HTML, CSS, JavaScript, PHP to build the website. I have used MySQL as the database of the system. For the back-end work I have used composer software and for the database I have used phpMyAdmin.

5.2 Requirement Analysis

Rich Picture

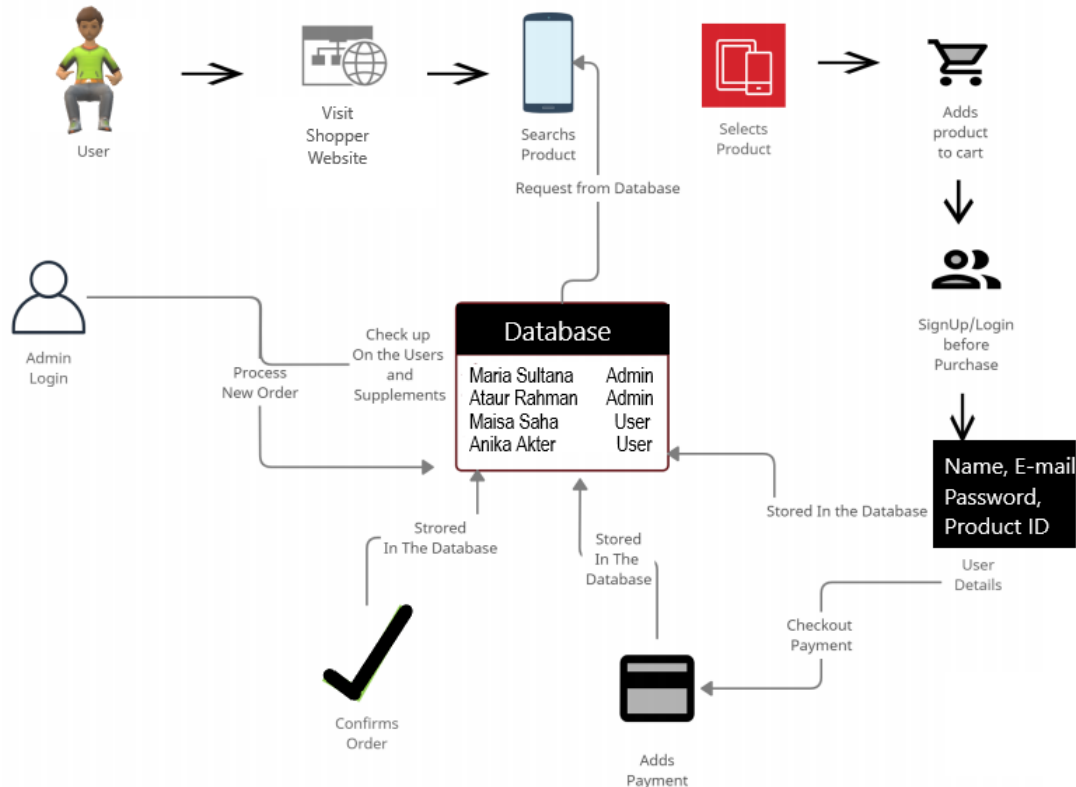


Figure 5.1: Rich picture

Functional and Non-Functional Requirements

Functional Requirements-

- **Mobile Friendliness:** Shopper should be adapted to the screens of all local computer, PC, mobile and all the models of those after researching the target audience and learning about their devices.
- **Product Attributes:** Simple and bundle product types will be supported on the website. Zooming in on product images on the product detail page should be possible.
- **Order Checkout Flow:** The following order statuses must be displayed on the website: pending, confirmed, processing, shipped, delivered, and cancelled.
- **Social Sharing:** Our product information should be shared on social media platforms such as Facebook, Instagram, Pinterest, and LinkedIn. Facebook user comments

should appear in the "Customer Reviews" section of the product detail page.

Non-Functional Requirements-

- Usability: Without contacting us, a customer should be able to find the right product for them, understand what problems it solves, and make a purchase. No multistep checkout: Users must go from product details page to the "add to cart" button in one step.
- Security: Only the Admin has the ability to assign roles and change the system's access permissions.
- Maintainability: The website will eliminate all back-end complexities, allowing in-house engineers to make system changes in the future.

5.3 System Analysis

5.3.1 Six Element Analysis

	Human	Non-computing hardware	Computing hardware	Software	Database	Communication
Create Products & Offers	Admin	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
View Products & Offers	User	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
Update Product & Offers	Admin	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
Delete Products & Offers	Admin	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
Place Order	User	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN
Manage Order	Admin	N/A	Computer, Mobile	Web browser	RDBMS	WAN/LAN

Table 5.1: Six element analysis

5.3.2 Feasibility Analysis

Because a feasibility analysis assesses a project's chances of success, perceived objectivity is a critical factor in the study's authenticity with potential investors and lenders. It determines whether the project is morally, theoretically, and financially viable, as well as whether it is worthwhile to invest in. [4] For this project, four feasibility studies are being considered.

- **Economic Feasibility:** The cost and advantages of this website have been evaluated in this section. On the website, there are no hidden expenses for users. When a customer views the website and decides to make a purchase, they are hoping to make money.

- **Legal Feasibility:** All legal restraints, including data protection acts, social networking regulations, e-cab rules and zoning laws were evaluated before moving forward with this project to ensure that it would not face any legal complications in the future.
- **Operational Feasibility:** Because of the ongoing pandemic and the current economic circumstances, purchasing any product from a market or shopping mall is now highly risky. With the help of our website, visitors and potential purchasers can now readily locate all of the information they need to make an informed purchase. Furthermore, all of the customer's criteria are met by the product details.
- **Feasibility of Scheduling:** In order for a project to be successful, it must be completed on time. All of the scheduled tasks were completed on time, and the project was completed on time.
- **Technical Feasibility:** The technical resources accessible in our organization are the subject of this assessment. It helps in examining whether technical resources are sufficient and whether the technical experts is capable of converting ideas into functional solutions for the website. The proposed system's hardware, software, and other technical needs are also evaluated for technical viability.

5.3.3 Problem Solution Analysis

There were a number of problems that were encountered while completing the project and they were solved accordingly. Some of the problems were –

1. **Hashing Password:** Hashing password in the database was a challenge which was solved by using bcrypt hash password.
2. **Responsive Website:** Making the website responsive for all devices was a great challenge. This problem was solved by using Bootstrap5 and custom CSS.
3. **Product Images Issue :** Another issue that was faced while uploading pictures in the feeds in bulk is that the image of one product shows up for another product and so on. This means the image of one product shows up for another product and so on. So after manually error checking of all product images and their URLs the problem was solved.

5.3.4 Effect and Constraints Analysis

This website allows users to buy and sell products and other daily necessities from a distance. Users can browse through various offers and campaigns, purchase and sell things from the campaigns which they can buy in the regular shop. However our approach

has significant limits. We're continuously working hard to make additional updates and add more services to our website that will assist and encourage more individuals to begin purchasing things online rather than going from store to store looking for what they want. This will not only make people's life easier but it will also be a significant benefit during the pandemic.

5.4 System Design

UML Diagrams

The activity diagram is an important UML diagram that shows the flow of one activity to another. The activity diagram of the user and admin help to visualize the flow of their activity in graphical form.

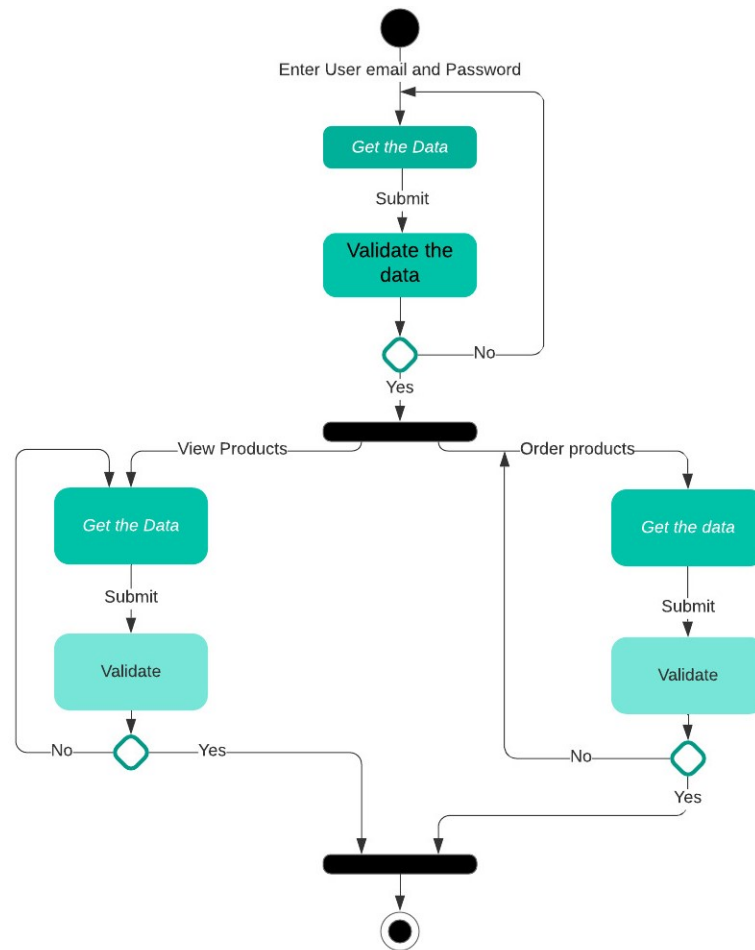


Figure 5.2: Activity diagram of User

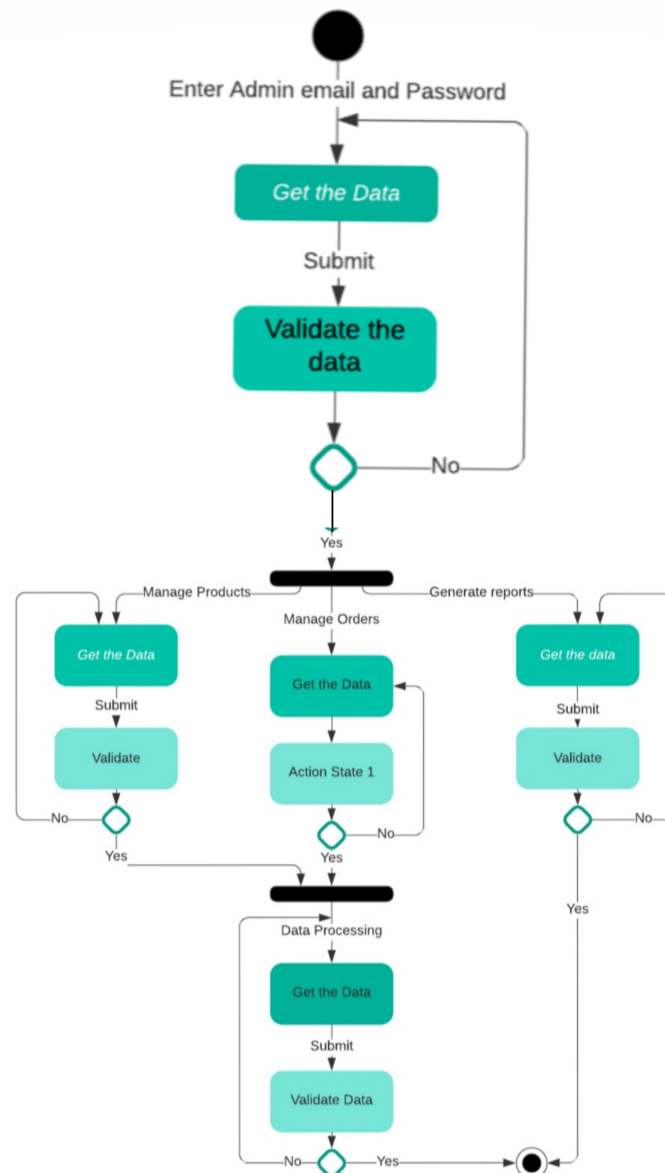


Figure 5.3: Activity diagram of Admin

Use-case Diagram: The use case diagram represents the functional requirements of the system. It shows the actors, cases, communication links, system and relationship.



Figure 5.4: Use Case diagram

5.5 Architecture

To develop this project, MVC pattern has been used. The model contains a function which is used to insert, retrieve and update information from the database. The view contains the data that is presented to the user. The controller is used to connect model and view to process HTTP access and this generates a web page. Controller receives all the requests and passes it to the model and view. [5] When a user visits the website it views information.

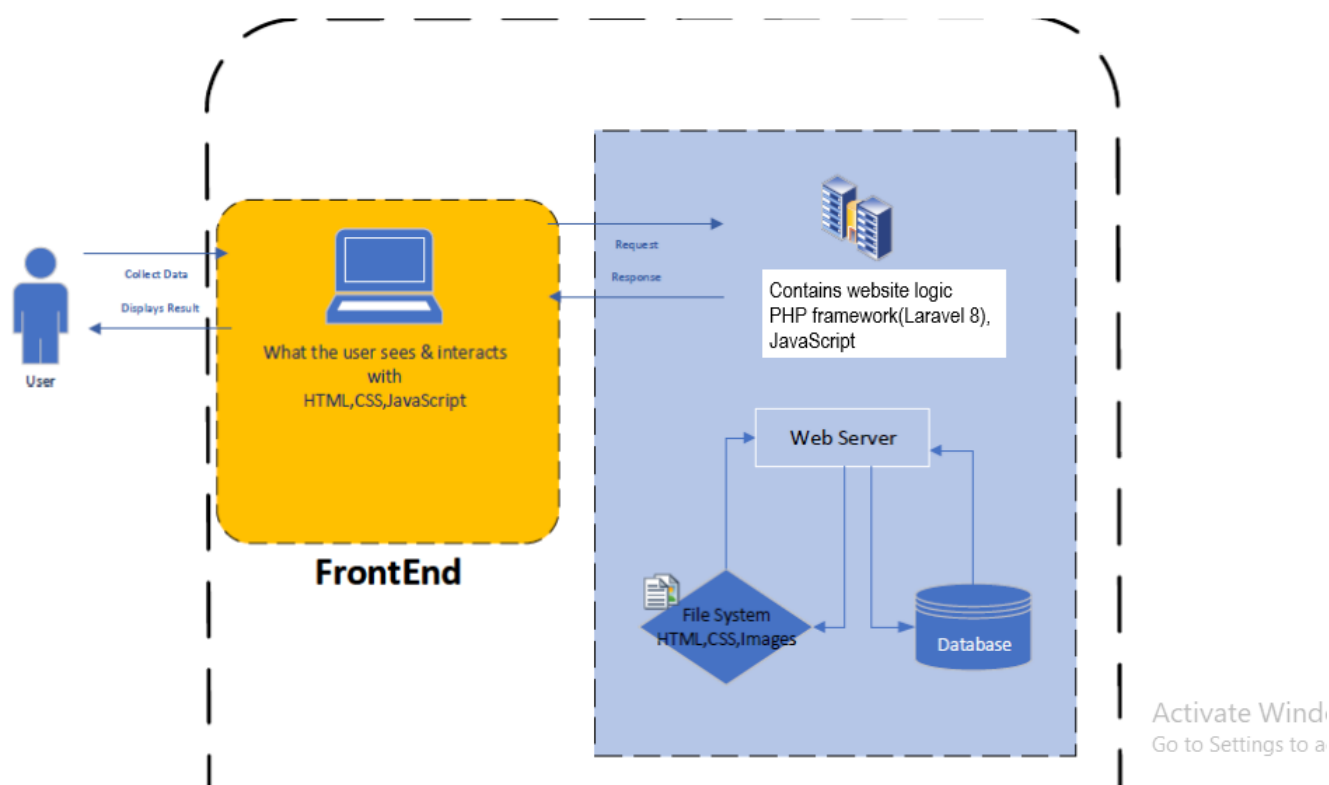


Figure 5.5: Model-View-Controller Architecture

5.6 Implementation

1. Strategic business planning and roadmaps: Making the proper decisions to achieve the stated business objectives is what strategy is all about. By having a clear cut vision, mission and objective about what will be achieved, in how much time, within what budget, identification of the right resources for and constraints in the face of execution of the strategy mentioned in the business plan, and what elements will be considered for roadmap helped much in achieving the goals.
2. Technology selection/ website audit and analysis – In order to provide the maximum benefit to the end customer, chosen ecommerce technology is fully capable of being customizable, and is capable of complementing the business concept and adhering to existing offline retail quality standards.
3. Business analysis and customer insights – The final step in the entire process is about fine-tuning and understanding the product categories that have performed well compared to other products displayed in the webstore. This is critical because each of these categories, as well as the products within them, occupy the most

valuable real estate in the online world - the web shop.

5.7 Testing

Here I have included all the input and output features a user will receive from this project.

Input

In this admin login from admin will give his email and password which is stored in database and will try to login to the website's admin panel dashborad.

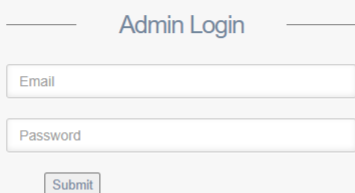
A screenshot of an 'Admin Login' form. The form is centered on a light gray background. It features a title 'Admin Login' in a blue font, flanked by horizontal lines. Below the title are two input fields: 'Email' and 'Password', both with light gray borders. A 'Submit' button is positioned below the 'Password' field.

Figure 5.6: Admin Login Form

Output

1. Admin Dashboard: After logging in the website, this dashboard appears where admin can go to category, products and orders page.

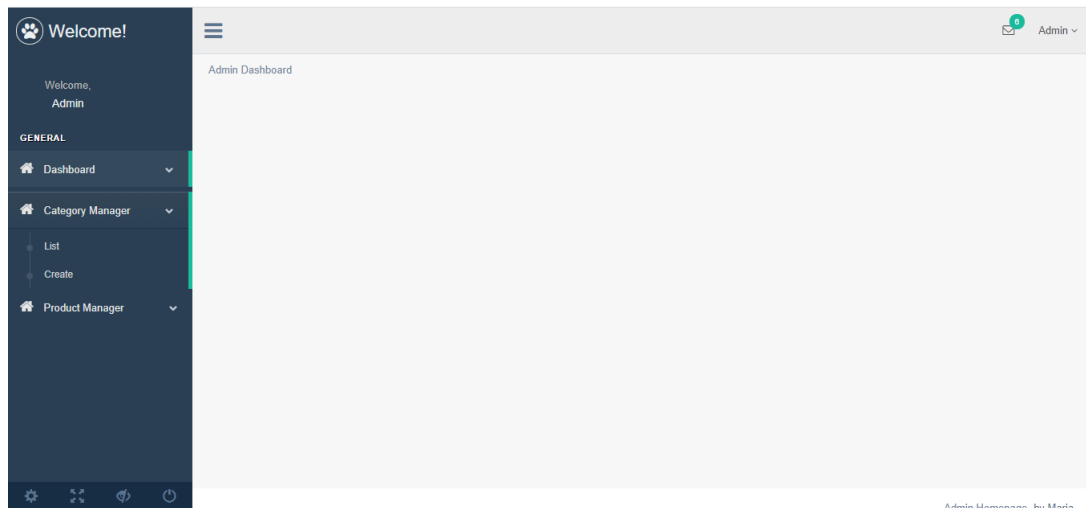


Figure 5.7: Admin Dashboard

2. Category Manager: In this option admin can view the list of the categories and can create, edit and delete a category.

- List: In this page Admin can see all the category and subcategory that is created to sort out the products more specifically.

Serial No	Category Name	Parent Category Name	Create Date	Action
1	ELECTRONICS	No parent category	2021-08-19 12:10:45	
2	Cameras	ELECTRONICS	2021-08-19 12:27:53	
3	Mobile Phone	ELECTRONICS	2021-08-19 12:29:14	
4	CLOTHES	No parent category	2021-08-19 12:32:05	
5	Kids Clothing	CLOTHES	2021-08-30 14:06:45	
6	Women's Clothing	CLOTHES	2021-08-30 14:07:49	
7	HEALTH & BEAUTY	No parent category	2021-08-30 14:33:17	
8	Eye products	HEALTH & BEAUTY	2021-08-30 14:34:09	
9	Medicine	HEALTH & BEAUTY	2021-08-30 14:36:21	
10	Sound & Vision	ELECTRONICS	2021-08-30 14:37:14	
11	BOOKS & ENTERTAINMENTS	No parent category	2021-08-30 14:39:23	

Figure 5.8: List of Category and Subcategory

Admin can also edit a category by clicking on edit icon which is on the right side of the page. After editing category and clicking on the submit it will be stored in database and admin can view it in category page as an edited category.

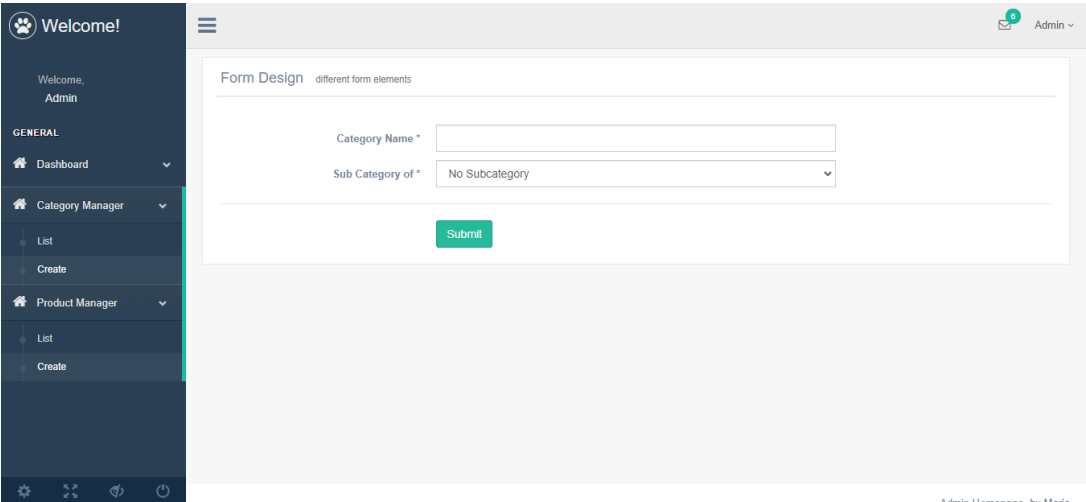


Figure 5.9: Edit category and subcategory

Admin can delete category by clicking on delete icon which is on the right side of the page. After deleting a category it will be deleted from the database and admin can't view it in category page anymore.

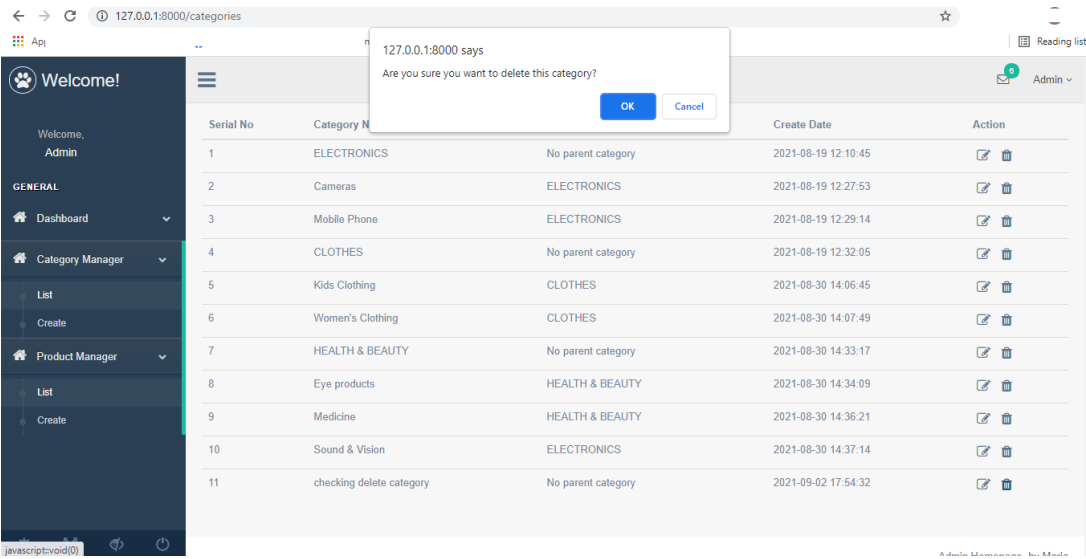


Figure 5.10: Selected the last category to delete

Serial No	Category Name	Parent Category Name	Create Date	Action
1	ELECTRONICS	No parent category	2021-08-19 12:10:45	
2	Cameras	ELECTRONICS	2021-08-19 12:27:53	
3	Mobile Phone	ELECTRONICS	2021-08-19 12:29:14	
4	CLOTHES	No parent category	2021-08-19 12:32:05	
5	Kids Clothing	CLOTHES	2021-08-30 14:06:45	
6	Women's Clothing	CLOTHES	2021-08-30 14:07:49	
7	HEALTH & BEAUTY	No parent category	2021-08-30 14:33:17	
8	Eye products	HEALTH & BEAUTY	2021-08-30 14:34:09	
9	Medicine	HEALTH & BEAUTY	2021-08-30 14:36:21	
10	Sound & Vision	ELECTRONICS	2021-08-30 14:37:14	

Figure 5.11: View of category list page after deleting a category

- Create: Admin can add new category by clicking on create. After clicking create a form will be shown for adding a new category. After adding category, it will be stored in database and admin can view it in category page.

Form Design different form elements

Category Name *

Sub Category of *

Figure 5.12: Create category form

3. Product Manager: This option is same as it is for category manager. The features of edit, create and delete are same.

Designing Test Cases

A test case is a set of actions executed to verify a particular feature or functionality of your system. A Test Case contains test steps, test data, precondition, post=condition

developed for specific test scenario to verify any requirement. The test case includes specific variables or conditions, using which a testing engineer can compare expected and actual results to determine whether a software product is functioning as per the requirements of the customer.

Test Results

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/Fail
TU01	Check Customer Login with valid Data	Go to site http://127.0.0.1:8000/admin/login Enter UserId Enter Password Click Submit	UserId = maria Password = pw12	User should Login into the website	As Expected	Pass
TU02	Check Customer Login with invalid Data	Go to site http://127.0.0.1:8000/admin/login Enter UserId Enter Password Click Submit	UserId = maria Password = pw56	User should not Login into the website	As Expected	Pass

Table 5.2: Result of test cases

Chapter 6

Results & Analysis

Shopper website was solely made to make the whole purpose of buying daily products much more convenient for buyers. The main goal was to incorporate all products under one site so that prospective buyers can get all the necessary items easily without the hassle of personally going and buying from market.

Even a small super shop is a complex datahub. Because of privacy laws and state regulations, this type of data must be handled with prudence. You may turn that to your advantage with analytics functionality and set up customer care strategies in the right way. After submitting them this project, they give us a great feedback. After using this website they get every facilities which they want. This website reduces seller's cost of employee, space, save their times, make their job more easy and so on. Online shopping website is very important at this time. By using this website, they get highly benefitted. Management should oversee the stock of goods and other items for sale in the inventory. This is particularly important for offered products and other special and discounted items, which should be checked more regularly. Shopper website was solely made to make the whole purpose of buying daily products much more convenient for buyers.

This system is quite user-friendly and it has the ability to keep a record of customers, searched products, viewing product's information as well as a product related product which will surely come in use while the will purchase products from the website in future. After last of all they get some bugs which we will fix soon.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

The ability of a product to be maintained and upgraded is referred to as its sustainability. In today's environment, any new application or website must be maintained and updated on a regular basis for its users. By implementing these small but major adjustments, the website has become more sustainable. Image optimization to reduce file size: to reduce load time, the maximum number of photos per section has been kept constant. The image's size and resolution have also been taken into account so that load time and energy consumption are not hampered.

Easy navigation system- We have kept the navigation system as simple as possible so that users get the maximum ease while surfing through the website.

All unnecessary data deleted- All the data that is not used by us anymore including all the unwanted themes and plugins, old post revisions, unused media, categories and tags, spam comments, broken links, etc. were deleted. We plan on carrying out this exercise once a year to free up the database.

Easy URL for admin and user- we have written the routes in such a way that user and admin both will find it really easy to browse any of the page in the website.

7.2 Social and Environmental Effects and Analysis

Social Effect - The major purpose of the website was to bring all of the products from various firms together on one page so that consumers could receive all of the information they needed without having to go to the market. The website simplified the difficult work of visiting to the market or shopping complex. Environmental effect-The website has been a lifesaver during the global epidemic, as it is no longer safe to travel as it once

was. People need to be more cautious, and the website allows them to buy anything from groceries to cars from the comfort of their own homes rather than venturing out in the middle of the pandemic.

7.3 Addressing Ethics and Ethical Issues

There are some unstated norms and ethics principles that must be observed when working on establishing and releasing a website in the world of smartphones with so much data harvesting, hacking, cybercrime and so on. The developers made certain that there were no violations of conduct and that all of the points were seriously considered. The following are a few of them: Only necessary user data is collected: The website only gathers necessary user data, such as a user's name and email address. No other information is gathered. Data Storage Security: The backend server and database are only accessible to the Shopper developer. The data stored can be considered safe and secure because they are housed in the cloud and can only be accessed using the Shopper developer's login credentials. No Discrimination or Favoritism: There is no discrimination or favoritism on the website based on race, sexuality, gender, religious beliefs, color, language, political or other viewpoints, national or social origin, property, birth, or any other status.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

It was extremely difficult for me to cope with all of the barriers and challenges that I encountered throughout my internship.

First and foremost, getting an internship during this pandemic, when everyone has put their lives on the line, is not an easy task. After a few weeks of working under a tarp over there, lockdown was prevailed in all over the country so I had to do all the work from home and been co-operative while doing home office. However, when it came to the technical side, there were some obstacles I had to overcome in terms of learning and productivity, as this is not a typical project to build and takes a long time consuming. The information I needed from the internet was extremely difficult to come by. Because I was not given any data or a demo for the project, I was unable to do my job.

8.2 Solution of those Problems

By God's grace, everything appears to be going swimmingly throughout this journey. I successfully completed my internship with a reputable and well-known company. As the day progressed, I gradually became more accustomed to the work's flow and the entire burden of responsibility. During lockdown, I did home office and worked solely at home to complete my tasks, had time to time skype meeting with my external supervisor and developer teammates.

In terms of learning, I've learned a lot. I'm learning a variety of programming languages and how to incorporate them in frameworks that will aid in my development as a Back-End Developer. On my own, I've tried harder to improve my project. That also reflected on my work, which appears to be extremely productive and valuable. And I successfully completed the project as well as the report to present to my internal supervisor within the time frame.

Chapter 9

Future Work & Conclusion

9.1 Future Works

As the project is still evolving, the company plans on adding a lot more features to the website to make it even more helpful for people and to make it look more appealing. In my opinion, some more backend developers can be hired for the project to add some more intrinsic features to the website. In the future the project will have many more features that clients demand for as well as what is needed for the comparative market.

9.2 Conclusion

It was a wonderful experience working with AdmissionProta family as an intern. During the internship period, I have learned and applied a great deal. I was introduced to new cutting-edge technologies and I was pushed to do even better. I have also learned a great deal about different development styles. I was pushed to adapt to changes rapidly and come up with logical solutions. During my project, I cooperated with my mentors and seniors to solve the challenges faced. Despite their workload, my supervisors were always there to answer any queries and help me settle nicely. This internship opportunity has paved the way to investigate the development environment and marketplace. I would like to appreciate once again everyone who has made my life as an intern such a great experience.

Bibliography

- [1] K.-J. Lin, “E-commerce technology: Back to a prominent future,” *IEEE Internet Computing*, vol. 12, no. 1, pp. 60–65, 2008.
- [2] G. J. Udo, “Privacy and security concerns as major barriers for e-commerce: a survey study,” *Information Management & Computer Security*, 2001.
- [3] J. Bergin, C. Kussmaul, T. Reichlmayr, J. Caristi, and G. Pollice, “Agile development in computer science education: practices and prognosis,” in *Proceedings of the 36th SIGCSE technical symposium on Computer science education*, pp. 130–131, 2005.
- [4] J. Wangmo, S. Tenzin, T. Lhamo, and T. Dorji, “Report on the feasibility study of e-commerce website development for the cooperative store at college of science and technology,” in *2018 International Conference on Current Trends towards Converging Technologies (ICCTCT)*, pp. 1–6, IEEE, 2018.
- [5] J. Deacon, “Model-view-controller (mvc) architecture,” *Online*[Citado em: 10 de março de 2006.] <http://www.jdl.co.uk/briefings/MVC.pdf>, 2009.