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Online Computer Components Selling Shop Website

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An Undergraduate Internship/Project on Online Computer Components Selling Shop Website

By

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Summer 2022

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September 14, 2022

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

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Attestation

This is to certify that the report is completed by myself Md. Towhidul Islam (1730264), submitted in partial fulfillment of the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). It has been completed under the guidance of Ms. Sabrina Alam. I also certify that all my work is genuine which I have learned during my internship. All the sources of information used in this project and report has been duly acknowledged in it.

Name

Acknowledgement

Firstly I would like to thank to my Almighty Allah for giving me the endurance and the ability to work hard, for giving me the ability to write this report and for giving me the chance to be able to do my internship at (Mediasoft Data Systems Ltd). Also, my parents for their unconditional love and support that have sustained, nurtured, and got me ready for this challenge. I would like to thank my honorable faculty and supervisor Ms. Sabrina Alam, Lecturer, Department of Computer Science Engineering, Independent University, Bangladesh, for her invaluable guidance and thoughtful advice regarding various aspects of my internship and to make prepare this report. Then I would like to express my gratitude to my supervisor Fazle Imamul Karim for giving me the opportunity to work with him and complete my internship as a developer at Mediasoft Data Systems LTD and also I would like to thank Ariful Islam, Laravel developer for giving me the chance to work with him, for his guidance and support in this internship program. The learning, experiences and productivity I have gathered under them in this company have helped me a lot and I hope this will surely help me in the next phase of professional life.

Letter of Transmittal

01 September, 2022
Ms. Sabrina Alam
Lecturer
Department of Computer Science and Engineering Independent
University, Bangladesh.

Subject: Letter of Transmittal for Internship Report, Summer 2022.

This is to inform you that with due respect Myself, Md Towhidul Islam (1730264), from Summer 2022, Section 01, would like to submit my Internship report. This report is based on my internship program and the project I have worked on. I have been working as an intern since June 05 and I have completed my internship at Mediasoft Data Systems Ltd. This report is based on my experience and the work I did at Mediasoft Data Systems Ltd 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, software development, and to get acquainted with software development processes and practices. Over the period of my internship at Mediasoft Data Systems Ltd I found out that I have learned and applied a lot of new skills and technologies.

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, Md Towhidul Islam, 1730264

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Abstract

The experience and knowledge I gained throughout my internship program at Mediasoft Data Systems Ltd is written in this report. Mediasoft Data Systems Limited is the largest retail software & solution provider company in Bangladesh. It was found in 1998. Their development team consists of experienced and qualified System Analysts, Application Developers, Database Administrators, Programmers, Support Engineers, Quality Assurance engineers, DevOps, testers, etc. As an intern, I worked on a company project with the 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. They 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. After completing all basic learning sessions, I was assigned to work on a project in which my task was to work on an Online Computer Accessories shop's website with the daily basis tasks.

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Chapter 1

Introduction

1.1 Overview

I was involved to work with my super visor Mr. Imamul Karim and my leader Ariful Islam and my task was to work on a computer accessory selling shop-based website where customer can buy products and during shopping can add products to (add to cart) and continue shopping. A customer can add multiple products to the cart and he/she can order product from the cart. To make the order user must have to give address in the address section then the order will be confirmed. Also, for their future purchases they can add the product on Wishlist. If the supplier gives any discount on a product that the customer wished to buy, he/she can view that product they added in Wishlist.

Supplier is the owner of the of website his role admin in the website. He has the access on everything of the website such as products, employee, customers.

This is the website of a computer components selling shop for selling / buying products in online also users can view the updated prices of computer accessories such as mouse, keyboard, graphics card, monitor, speaker, ram, headphone and so on.

Also the final task was admin can download the pdf of the report of the order history according to the users .

1.2 Objectives

- Applying theoretical knowledge to the project / website
- The project's main goal is to ensure that the website is easy to use to the seller and customers through a user-friendly interface.
- Working with developer team members and solving problems with the daily basis tasks.
- Observing how engineers and managing team deal with the clients and give best service to their clients
- Observing how they monitor and maintain the project according to their client's requirement
- To work with the developer team and learn many new stuffs

.

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. Category- Users can see all the products from category section individually.
- 3. Admin Registration- Admin has to register as an admin from the registration page.
- 4. Admin Login- Registered admin can login as an admin who can view the admin panel.

- 5. Customer Registration- Customer can register from the registration page.
- 6. Customer Login- Customer can login from the login page.
- 7. Adding/Removing Product- Admin can add or remove any product from any category section.
- 8. Add to Cart- Customer can add single or multiple products into the cart.
- 9. Wishlist- Customer can add products into the wishlist for their future purchase/they wish to buy.
- 10. Download Order history- Admin can download the pdf all the ordered products from the order history.

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 will assist in analyzing the system and designing the website in accordance with the client's requirements by following the system's drawings and diagrams.
- **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, Bootstrap.

2.2 Related works

Startech: Startech is one of the largest computer shop in BD . They are dealers as well as one of the biggest selling shop of any computer components from different brands. You can purchase built-in pc from here or can build your pc separately according to your own choice.

Ryans: Ryans is also a well-known computer shop in BD. They sell multiple computer accessories from different brands. You can buy any computer accessories using their website as in mouse. Keyboard, speaker, headphone, monitor, gaming chair, gaming table and you can build/customize you're your pc as well from them.

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.

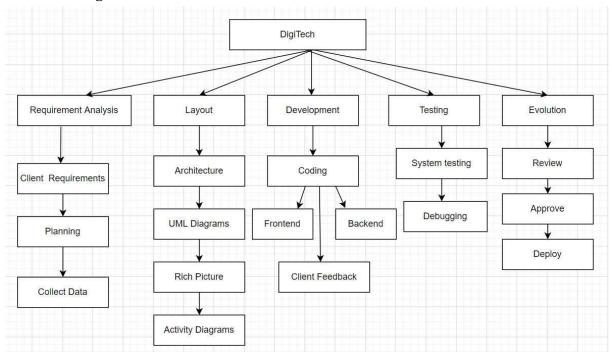


Figure 3.1: Work breakdown structure

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
Requirements Analysis	10	10
Project planning	10	15
System Design	15	25
Development	25	25
Testing	15	20
Evolution	7	5

3.2: 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.

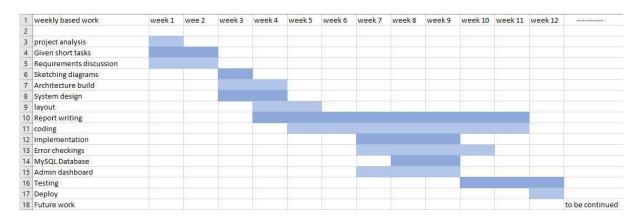


Figure 3.3: Gantt Chart

3.4Process/Activity wise Resource Allocation

The following is a list of activities and the resources required by those activities, taking both resource availability and project time into account:

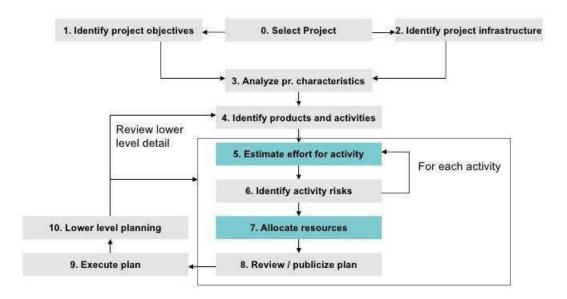


Figure 3.4: Resource Allocation

3.5 Estimated Costing

The pricing was determined by the features requested by the customer for the website. It is determined by the website's size, requirements, functionalities, design and software quality assurance. The cost of the developer and the resources employed were also considered.

Work Distribution	Costing		
Designing	30,000		
Structure building	30,000		
Development	1,00,000		
Software quality assurance	50,000		
Total	2,10,000		

Chapter 4

Methodology

Here we followed Agile methodology. The term "agile process model" refers to a software development approach that is based on iterative development. Agile methods break tasks into smaller iterations, or parts, and do not directly involve long-term planning. The project scope and requirements are laid out at the start of the development process, with plans for the number of iterations, duration, and scope of each iteration clearly defined in advance.

Phases of Agile Model:

- 1. **Requirements gathering:** In this phase, you must define the requirements. You should describe business opportunities and estimate the time and effort required to complete the project. You can assess the technical and economic feasibility based on this information.
- 2. **Design the needs**: Once the project has been selected, collaborate with stakeholders to create the requirements. You may use a user flow diagram or a high-level UML diagram to demonstrate the functionality of new features and how they will interact with your existing system
- 3. **Construction/iteration**: Work begins when the team defines the requirements. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.
- 4. **Testing:** In this phase, the Quality Assurance team examines the product's performance and looks for the bug.
- 5. **Deployment:** In this phase, the team issues a product for the user's work environment.
- 6. **Feedback:** After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback.

Chapter 5

Body of the Project

5.1 Work Description

The purpose of the website is to facilitate online trade easily for both sellers and buyers. My work is to build an online computer components shop's website. I have used HTML, CSS, JavaScript, Bootstrap for frontend and Laravel, PHP for backend work to build the website. I have used XAMPP to import/manage database to the website

5.2 Requirement Analysis

5.2.1Rich Picture

A Rich Picture is a means to investigate, acknowledge, and identify a situation while also expressing it visually to build a rough mental model.

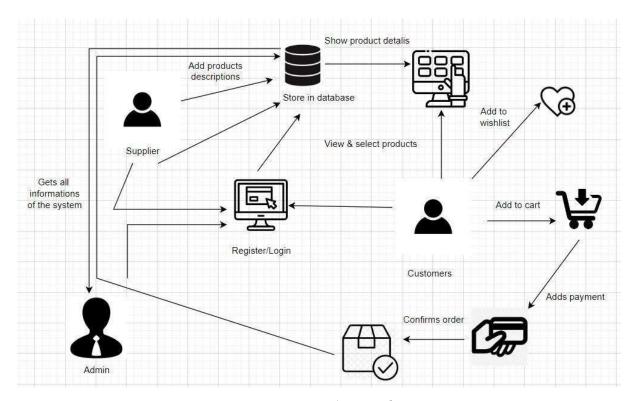


Figure: 5.2.1 Rich Picture

5.2.2 Functional and Nonfunctional Requirements

Functional Requirements

- Function: Sign up as admin
 - > Input: Name, email, password.
 - Output: Signed up as an admin.
 - Condition: Sign up has to be successful to login as an admin successfully.
- Function: Sign up as customer
 - > Input: Name, email, password.
 - Output: Signed up as a customer.
 - Condition: User/Customer signing up has to be successful to login as a user /customer successfully.

Function: AddtoCart

➤ Input: Name, email, password

Output: Singed up

➤ Condition: To add products to the cart users must have to logged in first.

Function: Wishlist

> Input: Name, email, password

Output: Signed up

Cndition: Users must have to logged in first to add products in the wishlist

Non-Functional Requirement

• Responsiveness:

Every device may access the site. It may be viewed through phone, laptop, desktop, or any other similar device without sacrificing functionality. The site may also be seen via Google Chrome, Internet Explorer, Mozilla Firefox, or any other web browser.

• Smoothness and performance:

This system's response time is pretty fast. You don't have to wait too long. The login and registration process are really seamless also other functions are also much smoother and You do not have to wait longer.

5.3 System Analysis

5.3.1 Six Element Analysis

Process	Human	Non-computing hardware	Computing Hardware	Software	Databas e	Communication/Networ k
Create products	Admin	Pen, paper & stationary	Computer	Excel sheet, MS Word	RDBMS	Lan/Wan
View Products	Admin	Pen, paper & stationary	Computer	Excel sheet, MS Word	RDBMS	Lan/Wan
Update products	Admin	Pen, paper & stationary	Computer	Excel sheet, MS Word	RDBMS	Lan/Wan
Delete products	Admin	Pen, paper & stationary	Computer	Excel sheet, MS Word	RDBMS	Lan/Wan
Place Order	Customer	Pen, paper & stationary	Computer	Excel sheet, MS Word	RDBMS	Lan/Wan
Add to cart/ wish list	Customer	Pen, paper & stationary	Computer	Excel sheet, MS Word	RDBMS	Lan/Wan
Manage order	Admin	Pen, paper & stationary	Computer	Excel sheet, MS Word	RDBMS	Lan/Wan

Figure-5.3.1: 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. Such as:

- It was not that easy to complete the project on time in order for it to be successful. The project was completed on schedule, and all of the assigned tasks were completed on time.
- This website's advantages and costs have both been taken into account. On the website, there are no extra fees for users. When a person accesses the website and chooses to make a purchase, they do so in the hopes of making money.

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. Login/Register Authorization: Setting up unique key for signed up users and admins was a problem which was solved by using role system.
- 2. Hashing Password: Hashing password in the database was a challenge which was solved by using bcrypt hash password.
- 3. Responsive Website: Making the website responsive for all devices was a great challenge. This problem was solved by using Bootstrap5 and custom CSS.

5.3.4 Effect and Constraints Analysis

This website helps users to buy computer component products at updated prices. Customers can visit the website to look at the various components from different brands with updated prices. However, our system has some limitations and it will be updated to bring out more changes and add more features for the customer to make it more user friendly so that a customer visits this site and buy products from here instead of purchasing from other sites.

5.4System Design

5.4.1 UML Diagrams

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

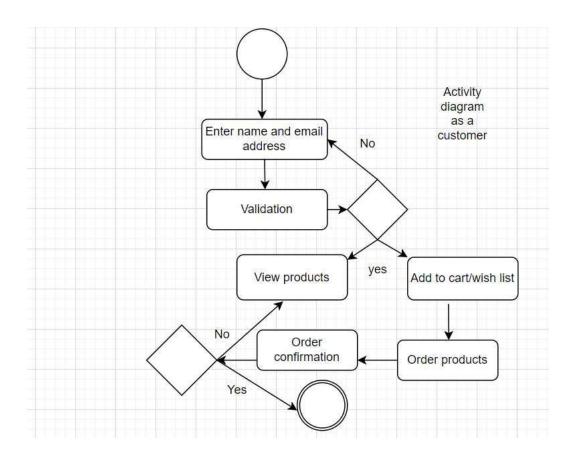


Figure-5.4.1: Activity Diagram of customer

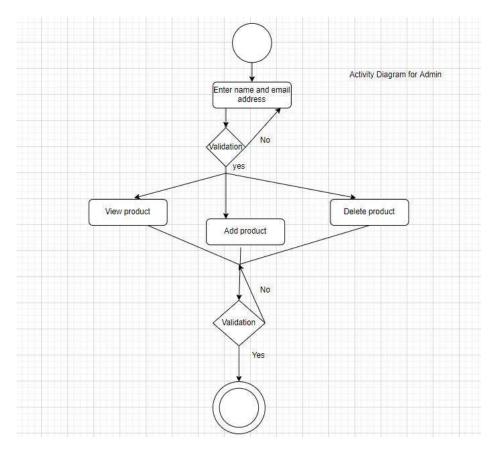


Figure-5. 4..2: Activity Diagram of Admin

5.4.2 Use-case Diagram:

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

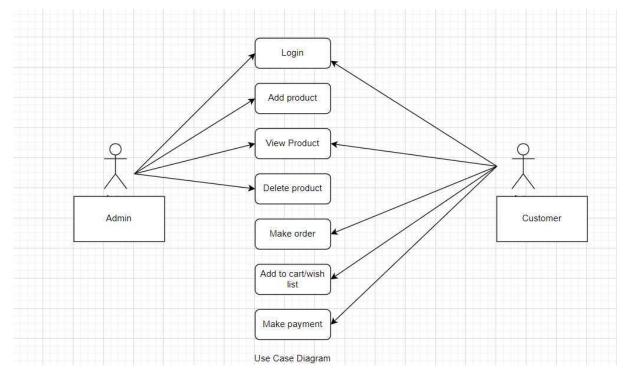


Figure-5.4.2: Use Case Diagram

5.4.3 Architecture

- The MVC design pattern was used to create this project. MVC is basically Model, View and Controller.
- The model includes a function that is used to insert, retrieve, and update data from the database. The data that is displayed to viewers is contained in the view.
- The controller is used to connect model and view to process HTTP access and this generates a web page. All requests are received by the controller, which then sends them to the model and view. A user views information when they visit the website.

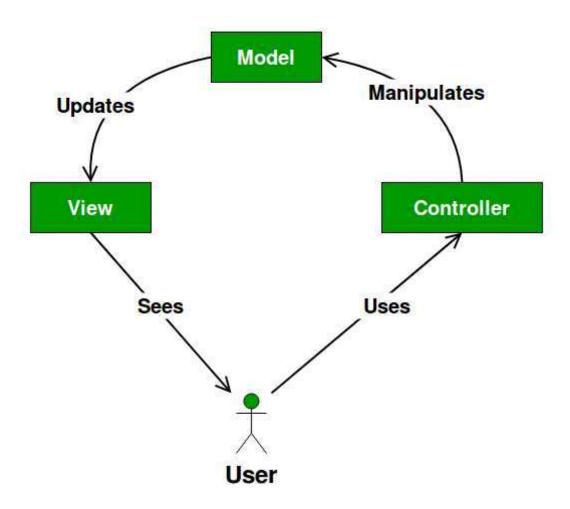
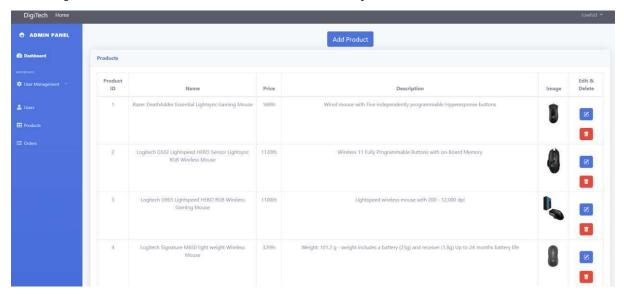


Figure: 5.4.3

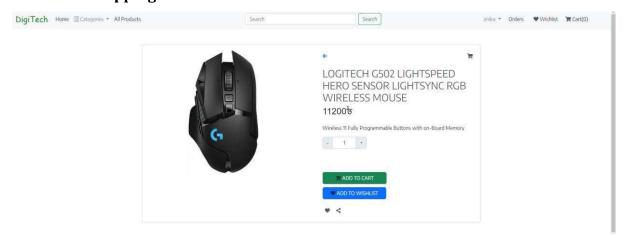
5.5 Implementation

Admin panel: Product add, delete, edit, view and update



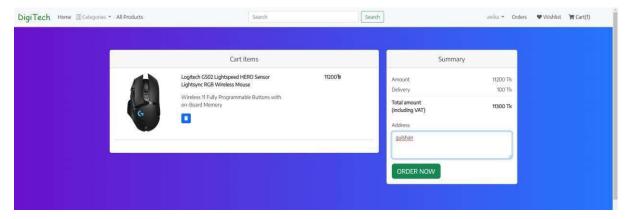
This is the admin panel of the website and admin can view and add/edit/delete products as he wants.

Customer Shopping Cart:



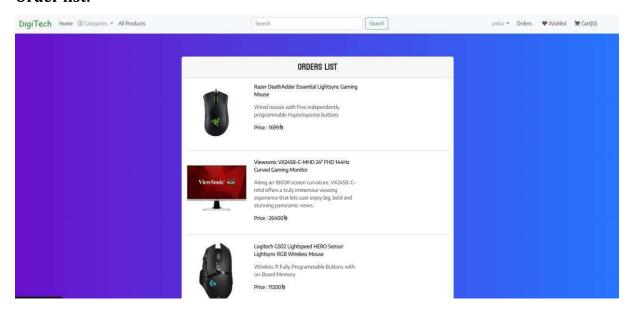
User can add order to the Shopping Cart

Order: This option will show total amount and place order



Customer needs to write down his/her address to place order then order will be confirmed

Order list:



After confirming the order customer can view his orders from the order section

5.6 Testing

5.6.1 Input

Sign-Up as admin

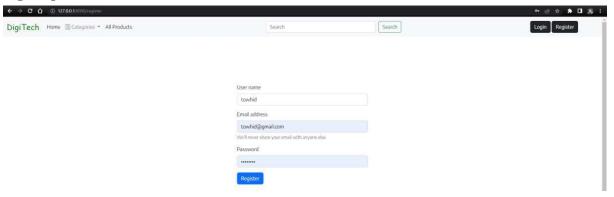


Figure 5.6.1 .1: Admin Sign In

Sign-Up as customer

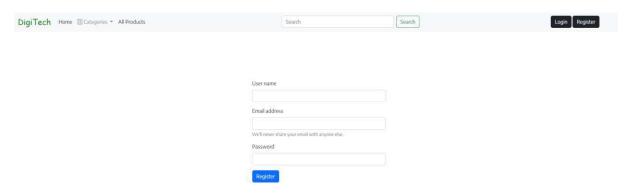


Figure 5.6.1.2: Admin Sign Up

Sign-in as user: Any user can login who are registered but only admin can view the admin dashboard

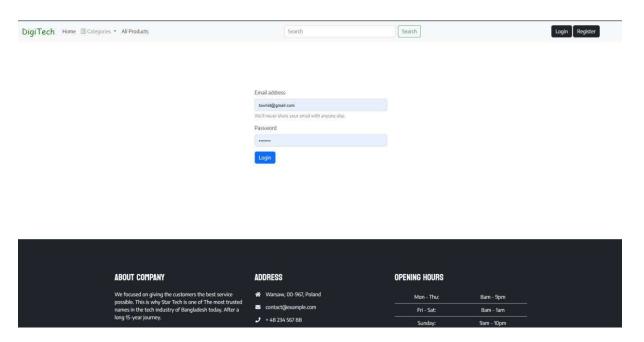


Figure: 5.6.1.3

5.6.2 Output

Users view page:

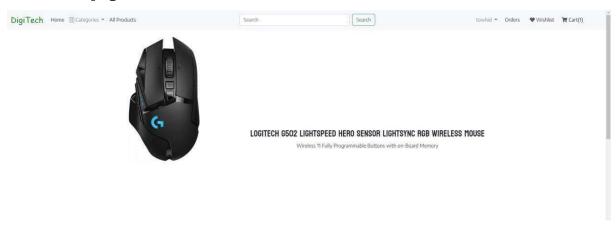


Figure: 5.6.2.1

Users can view cart:

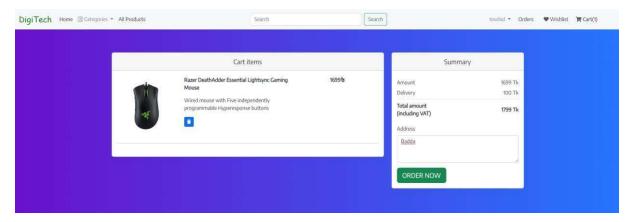


Figure: 5.6.2.2

Users can view Wishlist:

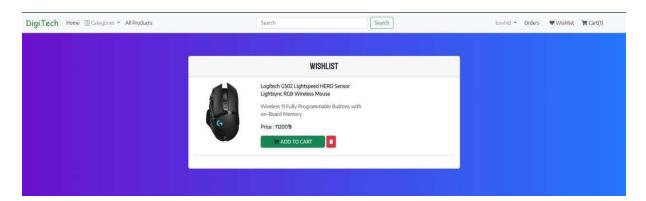


Figure: 5.6.2.3

5.6.3 Test Results:

Different Users can successfully place his/her order by writing down his address from the cart section and they can view their orders individually

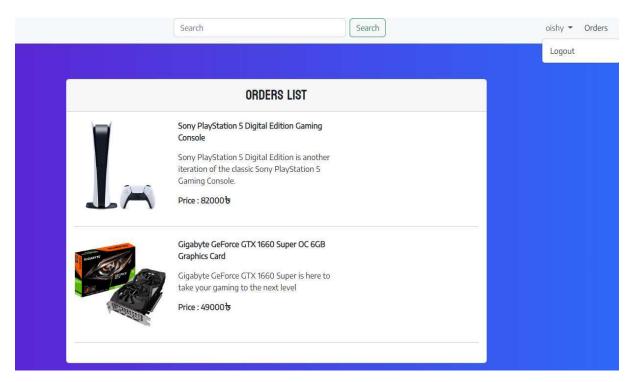


Figure: 5.6.3.1

Admin panel:

Admin can view various ordered items for individual users

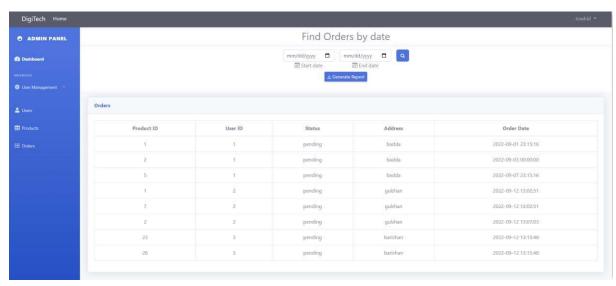


Figure: 5.6.3.2

Chapter 6

6.Results & Analysis

This website was solely made to make the whole purpose of buying daily products much more convenient for buyers. The main goal of the project was all computer related products of this shop will be under one site so that respected customer can get all the computer components items easily without the hassle. This chapter contains screenshots of the website so it can be seen about how the actual website looks like:

Admin Panel: After logging as an admin, he/she can see the dashboard and go to users, products and orders page.

Admin Dashboard

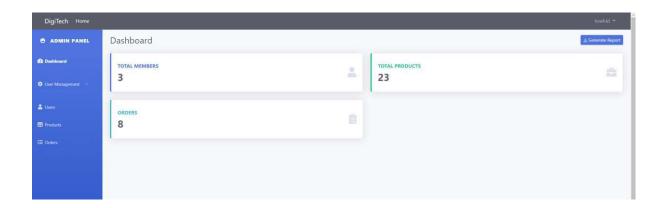


Figure: 6.1

Admin product view page: From here admin can add/delete or edit product and details

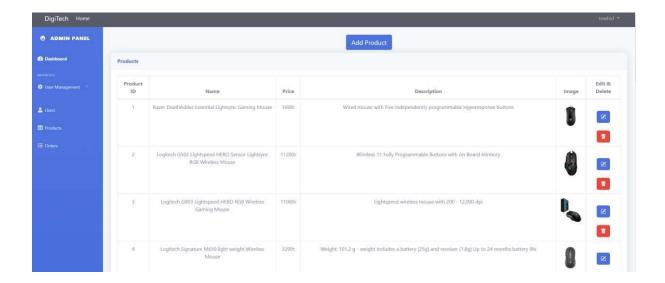


Figure: 6.2

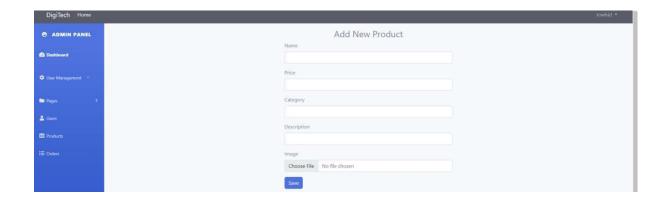


Figure: 6.3

Ordered list view for admin:

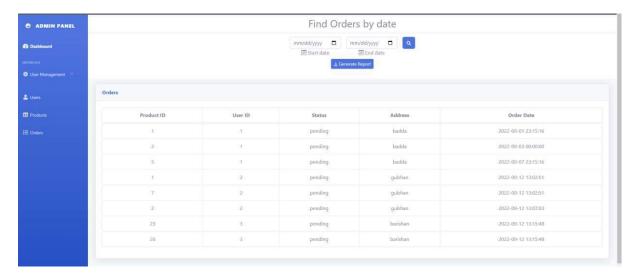


Figure :6.4

Report download For Ordered Items

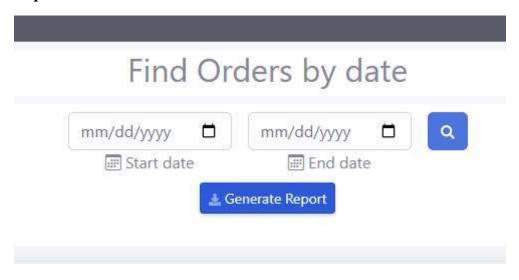


Figure:6.5

Downloaded Pdf:

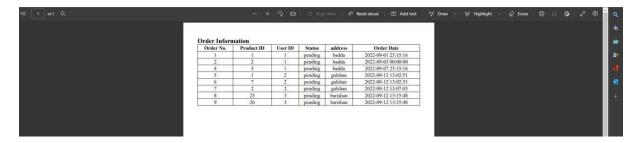


Figure:6.6

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

The product's capacity to be updated and maintained is referred to as its sustainability. Every new website or app that is published in the current era needs to be updated often for its user base.

These very little but crucial modifications have made the website viable. Image optimization to minimize file size: To speed up loading, the maximum number of photos number of products per section has been maintained. Also this project's responsive is good for large and small screens.

7.2 Social and Environmental Effects and analysis

Social Effect - The main goal of the website is to incorporate all the products of many categories/products from different brands under one site so that people could get all the information easily from home

Environmental Effects- People need to be more careful and the website will be allowed people to buy any items from different categories/brand of the website.

7.3 Addressing Ethics and Ethical Issues

Collecting only needed data: Only necessary user information is collected by the website, such as name, email address, and phone number. No more data is collected.

Security of Data Storage: The database and backend server are only accessible to the main developer.

No Favoritism or Discrimination: The website does not discriminate in any way based on race, sexual orientation, gender, religious views, color, or language, or on one's property, place of birth, or any other status.

Chapter 8

Lesson Learned

8.1 Problem faced during this period

It was difficult for me to cope with all of the barriers and challenges that I encountered throughout my internship. However, I was not familiar to the Laravel framework. So my leader Mr. Ariful Islam game me some task related Laravel and gradually I became familiar with it. 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.

8.2 Solution of those problem

By God's grace, everything appears to be going swimmingly throughout this journey. I successfully completed my internship with a reputed 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 my critical time. In terms of learning, I've learned a lot. 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

This website still has a lot of work to do and it will be developed gradually step by step. As in

Category section: More categories will be added in the category section as well as Brands name

Responsiveness: This website will be made more responsive for all devices and for large or small screens as well

Cart Option: There are still some works to be done in this section

Admin panel: The admin panel will be modified more according to the requirements in future

Reports/Billing Download: Billing report downloads for specific customers will be added later

Total amount: As the payment option is not added into the website so total amount total amount will be in the future work

9.2 Conclusion

Working as an intern with the Mediasoft Data Systems Ltd family was a fantastic experience. I have learnt a lot and put what I have learned to use throughout the internship. I was exposed to new technology and encouraged to do even better. I have gained a lot of knowledge about various development approaches. I worked together with my mentors and seniors throughout my assignment to overcome obstacles. Despite their busy schedules, my managers were always available to answer questions and make me feel comfortable. This internship opportunity has made it possible to research the market and development environment. I want to thank everyone who helped make my time as an intern such a wonderful experience once more.

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An Undergraduate Internship/Project on Online Computer Components Selling Shop Website.

By

Md. Towhidul Islam Student ID: 1730264

Summer, 2022

Consent Form

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

(Signature of the Supervisor)

Sabreia Alem

Ms. Sabrina Alam

Department of Computer Science & Engineering Independent University, Bangladesh