

# **WEB DEVELOPER INTERN AT TECHTRIX TECHNOLOGY**

**BY**

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering.

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**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

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## APPROVAL

This Project titled “**WEB DEVELOPER INTERN AT TECHTRIX TECHNOLOGY**”, submitted by **MD. Abdullah Al Abid** ID No: 172-15-9886 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering (BSc) and approved as to its style and contents. The presentation has been held on 9<sup>th</sup> July 2020

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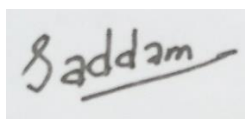
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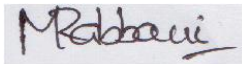
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## DECLARATION

I hereby declare that; this Project/Internship has been done by me under the supervision of **Masud Rabbani, Lecturer, Department of Computer Science and Engineering** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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## ACKNOWLEDGEMENT

In the beginning I would like to express my heartiest thanks to my creator Allah for blessing me with enough time and opportunity to complete this internship successfully.

I filled with gratitude and I should give thanks to my supervisor **Masud Rabbani**, Lecturer, Department of CSE Daffodil International University, Dhaka. His constant support and motivation, endless encouragement and criticism, and productive guidance help me to complete my internship within time. It is completely impossible to get this internship without his support and valuable advice.

I should express my heartiest gratefulness **Dr. Syed Akhter Hossain**, Professor and Head, Department of CSE, for his caring assistance to finish our internship and also to other workers and the staff of the CSE department of Daffodil International University.

Finally, I am very thankful to my beloved Daffodil International University that has given me enough opportunity to get this internship, which is an approach to reshape my preparation for the near future.

In the end I must acknowledge and give respect to my parents whose constant support and patients made me who I am today.

## **ABSTRACT**

Technology is a marvelous thing, that is growing and evolving day by day and creating many opportunities to market business on the internet. If we can create a web application that will be very beneficial for us as we can get to it, from wherever of the world. It will be very helpful in our daily day life. For this reason, I choose to do an internship in the web industry field as I have prior knowledge of web development.

Working as a web developer intern at TechTrix Technologies gives me insight how big companies run and work which will undoubtedly help me in near future. This report is going to reflect each and every aspects of my work during the internship period. To develop a web application, we need certain types of programming language, some of them are used to develop frontend and some for backend. For example, HTML5, CSS3, JavaScript, Bootstrap framework and so on are used for frontend design and for the backend development and dynamic movement language like PHP, python Laravel framework and so forth.

## TABLE OF CONTENTS

<b>CONTENT</b>	<b>PAGE</b>
Board of examiners	ii
Declaration	iii
Acknowledgement	iv
Abstract	v
Table of Content	vi
List of Table	viii
List of Figure	viii
<b>Chapter No.</b>	
<b>Chapter 1: Introduction</b>	
1.1 Introduction	1
1.2 Motivation	1
1.3 Internship Objectives	2
1.4 Introduction to the Company	2
1.5 Layout of Report	3
<b>Chapter 2: Organization</b>	
2.1 Introduction	5
2.2 Product and market situation	5
2.3 Target Group	7
2.4 SWOT Analysis	7
2.5 Organization Structure	8

<b>Chapter 3: Tasks, Projects and Activities</b>	
3.1 Daily Tasks and Activities	10
3.2 Events and Activities	11
3.3 Project Tasks and Activities	11
3.4 Challenges	19
<b>Chapter 4: Competencies and Smart plan</b>	
4.1 Competencies Earned	20
4.2 Smart Plan	24
4.3 Reflections	24
<b>Chapter 5: Conclusion and Future Plan</b>	
5.1 Discussion and Conclusion	25
5.2 Scope for Further Career	25
<b>References</b>	26
<b>Appendices</b>	27
<b>Plagiarism Result</b>	30

## List of Table

<b>Table</b>	<b>Page No</b>
Table 1.1 Report Layout	3
Table 2.1 Products	6

## List of Figure

<b>Figure</b>	<b>Page No</b>
Figure 2.1 Company Structure	8
Figure 3.1 Front or Landing Page	12
Figure 3.2 Product Detail	13
Figure 3.3 User Registration Form	14
Figure 3.4 User Profile	15
Figure 3.5 Cart	15
Figure 3.6 Admin Panel	16
Figure 3.7 Data Insert Update Delete	17
Figure 3.8 Database	18



# Chapter 1

## Introduction

### 1.1 Introduction

In the modern web programming world PHP is undoubtedly the most used web language of all. Compared to other languages for example Java and ASP, PHP is much easier to learn and execute. PHP is remarkably outstanding with database access, text manipulation, system administration, and content control.

PHP is an abbreviation of Hypertext Preprocessor which is a high -level computer programming language developed by Rasmus Lerdorf in 1994. PHP can be embedded into an HTML document, which is a big help if anyone interest in web development. Where HTML file is long with lots of commands, PHP pages contain HTML code makes it easier to run and manipulate. Where HTML is used to create a static website and show text and picture and other data, using PHP we can utilize it to dynamic webpages.

In the end, it is absolutely undeniable that PHP is a great choice for novice learners as it's easy to peak while having all the advanced features a professional developer need.[1]

### 1.2 Motivation

Web based application like websites are easily accessible from every internet connected devices. Creating this type of application is challenging as we have to think what others people will like and what they want. Since I accepted as a web developer intern in TechTrix Technology all these challenges feel easy to me. As I am a beginner level to learn web development it is easy for me to catch al the new things and learn different technology like HTML, CSS, Bootstrap, JavaScript and PHP.

### **1.3 Internship Objectives**

The main objective of my internship was to enhance my knowledge of related field. Learn to work in an unknown environment and to get professional web development practice. Expose me into an unfriendly situation to build up employer valued skills like team-work, communication, and attention to detail.[2]

My intern duration was about 3 months, in this time I completed my position as a web developer. My objective is used to work with different web design problems and solution and participate in the advanced fundamental course of web development which I partake to complete my internship position. I have to complete my internship in may month so they separated my work into many days. First, I learned HTML, CSS and Bootstrap framework their history and how to easily implement them in real life, over the time I leaned about JavaScript, PHP and MYSQL and its basics and advanced uses like PHP order, record registry, database handling etc. So, the main idea is to teach us enough to handled different web page and advanced development.

### **1.4 Introduction to the Company**

TechTrix is a fast-growing private software firm in Bangladesh. They work with different ICT related work and give training on different subjects like mobile apps development, Web design, and development, UI/UX design, digital marketing, etc.

Although the company started 3 years back, it has earned a reputation for building a different type of application in the market. They are a very active, ambitious, and hard-working company and cares about their employee and products.[3]

## 1.5 Report Layout

Report layout consists of different chapter and their objectives. In this report layout I have added different chapter their name and page number and the brief description of those chapter.

Chapter No	Description
Chapter 1	In this chapter I have described the objective and motivation of this internship. I have also introduced to my company where I am doing internship. I have talked about goals about web design and development and different language that needed for my internship.
Chapter 2	In this Chapter I have talked about my organization. Their place in the market. Different IT services they offer and their play in the job program.
Chapter 3	I have described my daily task and activities. Attending in the training and having those responsibilities and work through them. I have included different templates figures from my internship company, works that I have handled, projects that I have done.
Chapter 4	In this chapter I have described different skills that I have gathered during the internship period. Smart plan and reflection of my work.
Chapter 5	In this chapter I have mention the future scopes of my career on web design and development and given an easy conclusion.

Table 1.1: Report Layout

### **Table 1.1: Report Layout**

In report layout table we can see the whole report is divided into five chapters. In first chapter there is introduction, motivation and company introduction. In the second chapter there are given full detail of the company and its structure and different application build by the company. In chapter four daily task and progress report are given. In the fourth chapter we have talked about different skills and Competencies that I have gathered also talk about some reflection during internship. And in the final chapter five we bring conclusion for this report talked about some future scopes and career.

## **Chapter 2**

### **Organization**

#### **2.1 Introduction**

TechTrix Technologies is one of the fastest growing IT farms in Bangladesh. Its sole focus is to create a better tomorrow based on national dream of Bangladesh vision 2021. They are working very hard to create a stable and friendly market in the platform. Their ambition is to build user friendly and easily accessible web and mobile platform application. They have the sustainable and blended business knowledge to build and deliver high-quality products at an affordable rate to maximize client's keen benefit and productivity. They are very customer focused which reflect in their work and they possess every techniques and art to satisfy their customer need. There is a chance to get entry level position for undergrad student if one has personal and professional skills.[1]

#### **Head Office**

**Organization Name:** TechTrix Technologies

**Organization Address:** Second Floor, Mohammadia Super Market, Sobhanbag,  
Mirpur Road, Dhaka 1207

**Phone:** (+880) 1725-258324

**Email:** techtrixbangladesh@gmail.com

#### **2.2 Product and market situation**

Digital market place are rapidly changing and making it more challenging and complex for developer and companies to change with the wind. Research shows that more than 67% of marketplace are generating \$50 million annually and the rest of 32% are generating more than \$100 million annually with most of the market place showing a Gross Merchandise Volume (GMV) of between \$500M to \$999M. More than 59% market executives said that launching a new market place is objective of 2019.[4]

Bangladesh's digital market place is growing very fast. This platform is very reliable for developers and companies. It has independence and flexibility to work with different kinds of innovation. This market place is for those who want challenges and have the courage to risk something. This market place has its unique charisma anyone can build and join the market place.

TechTrix also following this market place pattern and they are creating user friendly and customer-oriented products like web application and mobile application. Some of their excellent products are,

<b>Product Name</b>	<b>Product URL</b>
Lunartemp.com-- Website	<a href="https://lunartemp.com/">https://lunartemp.com/</a>
DIU Question Bank-- Android App	<a href="https://play.google.com/store/apps/details?id=com.techtrixbd.diuhelper">https://play.google.com/store/apps/details?id=com.techtrixbd.diuhelper</a>
Shortcut Technique-- Android App	<a href="https://play.google.com/store/apps/details?id=com.diatomicrosoft.short_technique">https://play.google.com/store/apps/details?id=com.diatomicrosoft.short_technique</a>
Countries of the world Quiz-- Android App	<a href="https://play.google.com/store/apps/details?id=com.diatomicrosoft.worldquiz">https://play.google.com/store/apps/details?id=com.diatomicrosoft.worldquiz</a>
Inspirational Quotes-- Android App	<a href="https://play.google.com/store/apps/details?id=com.techtrixbd.quotexpedia">https://play.google.com/store/apps/details?id=com.techtrixbd.quotexpedia</a>

Table 2.1 Products

### **Table 2.1 Products**

In the products table we can see different types of application build by TechTrix Technologies. First, we can see “Lunartemp.com” which is a website build for a domain and hosting company. Secondly, we can “DIU Question Bank” which is a very popular android app specially build for the students of Daffodil International University. Then there is another Mobile apps named “Shortcut Technique” for people who want to finish their jobs without any hassle. Then there is an application named “Countries of the world” which is basically a quiz application for learning more about the world. And in last an application named “Inspirational Quotes” for motivating oneself.

## **2.3 Target Group**

TechTrix Technology often targets final year undergrad students to train them and create industry-standard skilled people. Their main objective is to create ICT based products like web applications and mobile applications for the people who are involved in the online market place. They give their best to fulfill all the requirements of their customer and make user friendly and quality full products. They have training programs like Web and Mobile application development for interested people.

## **2.4 SWOT Analysis**

Strength, Weakness, Opportunities and Threats in short SWOT. An analysis technique simple yet very powerful to develop business plan or strategy. Whether you are building a new business or reconstructing the old one. Strength and weakness are the controllable and company somehow can change them, on the other hand Opportunity and Threats are external things that are out of control. When you will begin a SWOT analysis you will be able to change and create a hard-solid strategy to build and grow your business. This analysis gives a full sight to look your business into a whole new level and it force you to look at your strength and weaknesses. For doing a SWOT analysis companies leaders and high rank employees need to be involved deeply in this. This task that should not handle by others. Once you gathered everyone u took every piece of advice and pile them to rank and see what's wrong and what's need to solve. SWOT analysis not only beneficial for companies but also give personal benefit who are looking for a job. Doing a personal SWOT analysis can achieve someone their goal. It gives full access to self-assessment to help yourself and find the right path where you need to be headed.[5]

Doing a SWOT analysis on myself I found that I have many weaknesses and strength. I found out that I have many opportunities if I can resolve my weaknesses and make them my strength.

## 2.5 Organization Structure

An organization structure is a system where a company takes different measures in order to achieve some goals. In organizational structure there can be many activities like who is the employee, who are the leaders. What are their responsibilities and how they run the company?

Organizational structure examines how the information is going to every person in a company and how this information is being used by its employee and leaders. A complete organization structure shows how all the employees fit in their roles on a System and how they achieve their goals.

An organization structure showed a visual representation of every section from CEO to Watchmen of an organization or company. These visualizations were done by a simple chart or diagram like a pyramid or process where companies top-level role players sit on the top and the rest of the people in the bottom sorted by their position and roles.[6]

TechTrix Technologies organization structure given below,

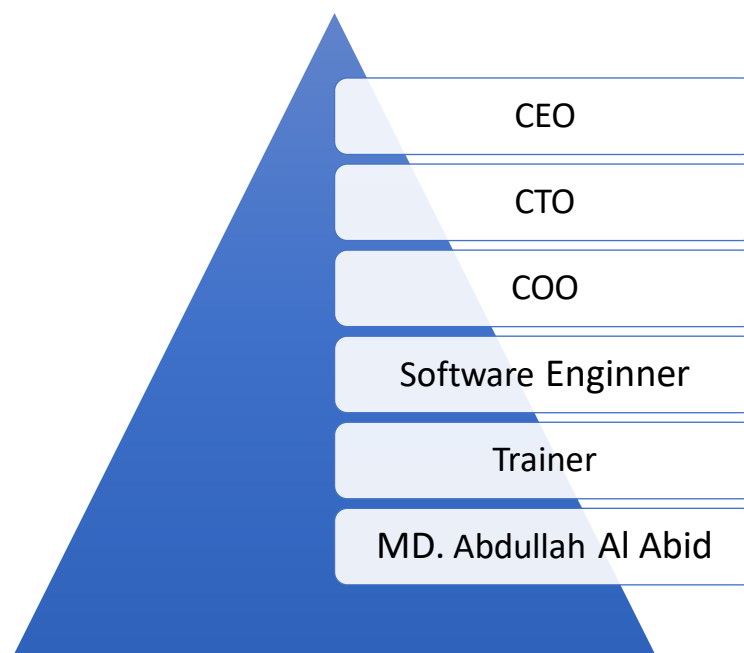


Figure 2.1: Company Structure



### **Figure 2.1: Company Structure**

In the company structure figure, we can see TechTrix Technologies have a modern company model where Chief Executive Officer (CEO) is the highest-ranking person in the company, whose job is to manage organization advise the board of directors and motivate employees, takes the necessary decision about the company and its employee. In the second position we can see that the Chief Technical Officer (CTO) manages all the technical stuff of the company. His responsibility is to maintain scientific and technical issues within the organization. Next, we can see the Chief Operating Officer (COO) whose job is to manage the company under and in the absence of the CEO. COO is the second in command within a company. Next, we can see a software engineer who is an employee of the company who develops different types of applications for the company. The trainer is the last one from TechTrix Technologies whose work is to train a new employee and teach them how technical stuff work also teaches them company rules and motivate them.

The trainer also trains interns or temporary employees. On the last, there is an Intern who is a temporary employee on a company working for gathering experiences and study purposes.

## Chapter 3

### Tasks, Projects and Activities

#### 3.1 Daily Tasks and Activities

During the time of the internship, I have learned web design and development from scratch. First, they teach us the basics of design and then show us some different techniques to code quickly with industry standards. Gradually we learned how to code and use our imagination to make responsive and quality full design, in the meantime we worked with different projects given us by the company to make small changes asked by the customer.

After learning the design part, we started the development part where I learned server-side language PHP. We go through its history basics coding to object-oriented programming. PHP is a scripting language and its main task is to enhance the routine task for the application. We have created databases with MySQL and connect them through PHP. We have done different operations like creating, deleting, and manipulating data. We learned how to restrict user access, how to start and end seasons and some security-related function like encryption, authorization.

Things I have learned during the internship period are,

- HTML5
- CSS3
- Bootstrap
- JavaScript
- jQuery
- PHP
- OOP
- MySQL

### **3.2 Events and Activities**

As a web developer my responsibilities were to build appearance and look for technical aspects like how the website will perform during high traffic. I have also written content for technical features. I have created code to optimize the database with frontend design also performing different website updates like improve stability and speed, resolve problems, and validating data. Events like evaluating code to find bugs and meet code to industry standard and analyzing different problems.

- Creating layout of webpage
- Writing Code to design website
- Database creation and connection
- Building backend and development
- Analyzing problems and create solutions
- Bug fixing create update delete and insert data
- Optimizing performance troubleshoot problems and code for improvement

### **3.3 Project Task and Activities**

As a student of CSE I love different technology and devices. So, I created a web project named “Gadget Park”. It’s an online ecommerce site for selling computer components and different types of gadget.

#### **Project Description**

1. Front or Landing page
2. Product Details
3. User registration Form
4. User Profile
5. Shopping Cart
6. Admin Panel
7. Data Insert Update Delete
8. Database

## Front or Landing page

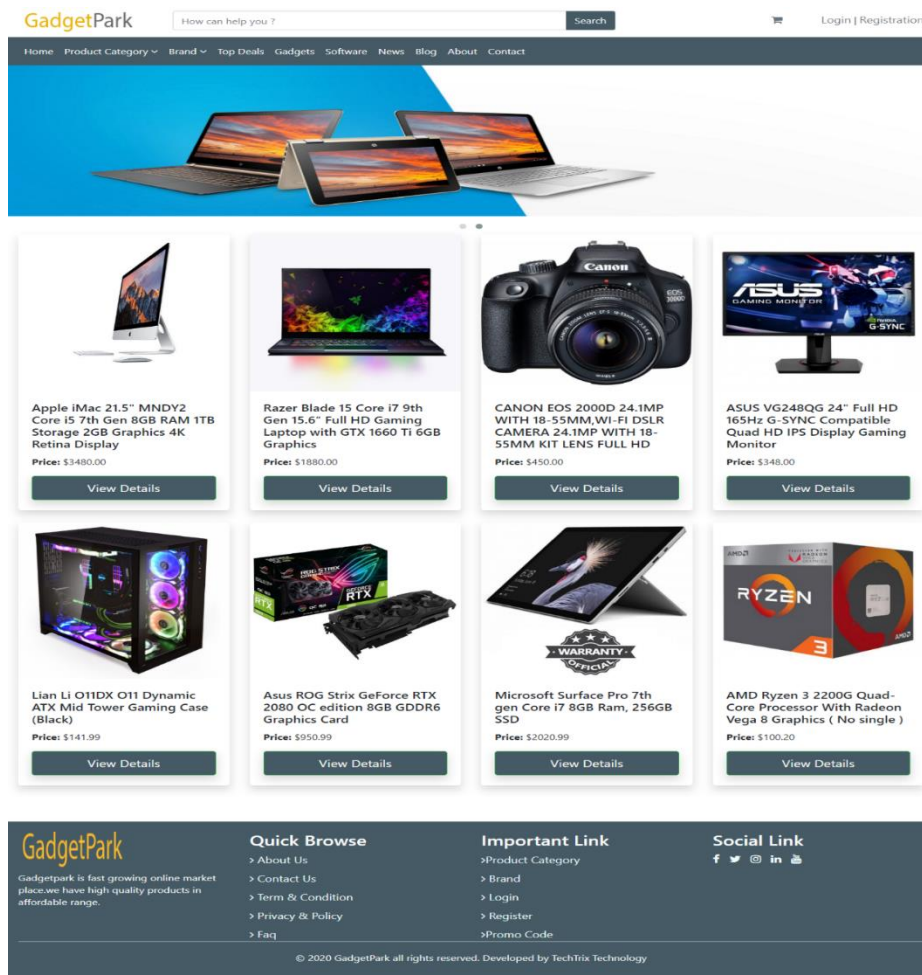



Fig 3.1: Front or Landing Page

### Fig 3.1: Front or Landing Page

Frontpage or the homepage of the website consists of a menu, search option, different products, or top-ranking products and footer with useful links. Users can search or can browse the different menu for their desire products. They can sign up or registration through the login registration option. For viewing any specific brand, they have to go to the brand category and select brands, and all the products of the related brands will show up. For tech-related news, they can go for the blog option in the navbar.

## Product Detail



APPLE 10.5" iPad Pro - 64 GB, Space Grey (2019)

**\$ 619.00**

**Category:** Tablets

**Description:**

- 4K video recording at 30 fps
- 12-megapixel camera
- Fingerprint resistant coating
- Antireflective coating
- Face Time video calling

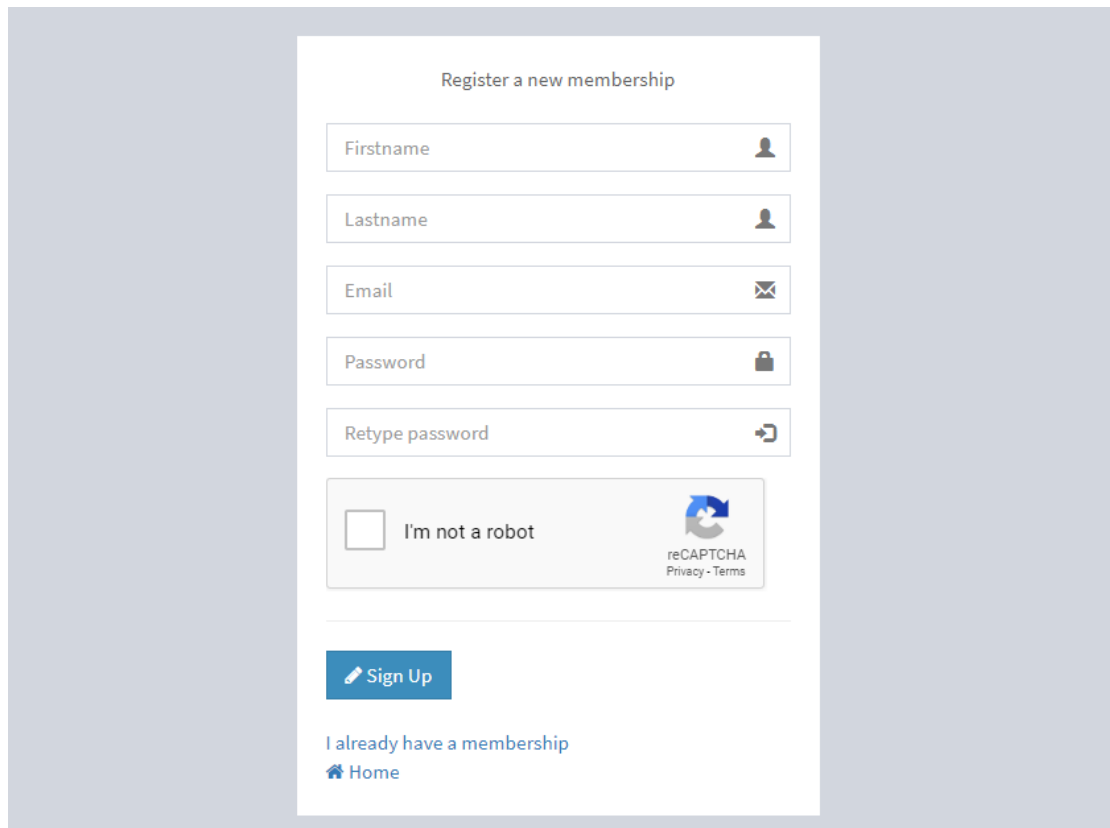
− 1 + [Add to Cart](#)

Fig 3.2: Product Detail

### Fig 3.2: Product Detail

In the product detail page, product name, price, and description are given. Also, a cart has given to shop or choose a number of products. In product detail, customers can see product title and which category the product belongs to. Also, a full description of a product and a review of the products are given.

## User Registration Form



The image shows a user registration form with the following fields and elements:

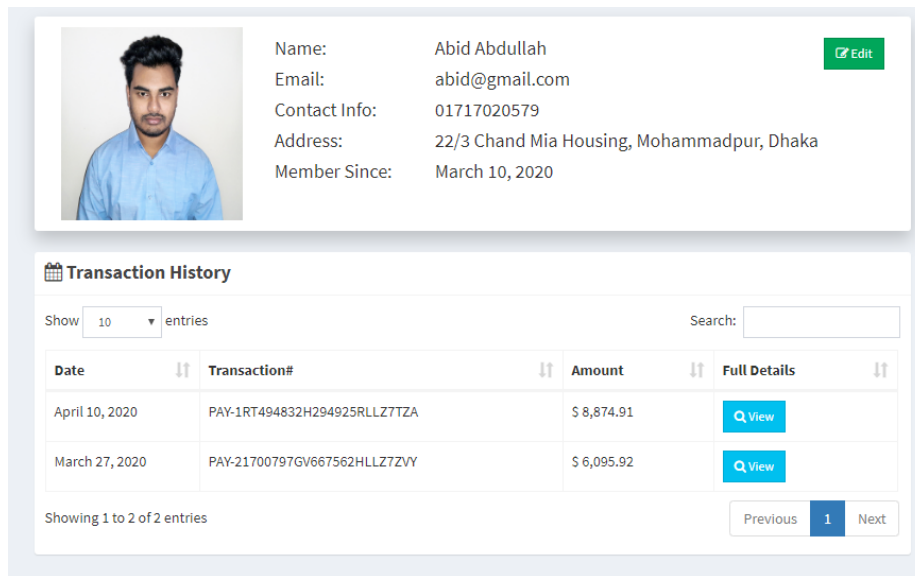
- Title: Register a new membership
- Fields: Firstname, Lastname, Email, Password, Retype password
- Validation: reCAPTCHA 'I'm not a robot' checkbox
- Buttons: Sign Up, I already have a membership, Home

Fig 3.3 User Registration Form

### Fig 3.3 User Registration Form

For sign up on the website, there is a registration form. Users have to give his name, email, and password for registering on the system. For validation and verification, there are some necessary steps to follow which will show up when a user will type something during registration. For example, the same email address cannot be used twice. Password had to be consisted of lowercase and uppercase letter, symbol, and numeric number. Name cannot be used as a password and different validation. For verifying bot registration, we have used captcha verification.

## User Profile



The screenshot shows a user profile interface. On the left is a profile picture of a man in a blue shirt. To the right, personal details are listed: Name: Abid Abdullah, Email: abid@gmail.com, Contact Info: 01717020579, Address: 22/3 Chand Mia Housing, Mohammadpur, Dhaka, and Member Since: March 10, 2020. An 'Edit' button is located next to the name. Below this is a 'Transaction History' section with a search bar and a dropdown menu set to '10 entries'. A table displays two transactions with columns for Date, Transaction#, Amount, and Full Details. The first transaction is dated April 10, 2020, with a transaction ID of PAY-1RT494832H294925RLLZ7TZA and an amount of \$ 8,874.91. The second transaction is dated March 27, 2020, with a transaction ID of PAY-21700797GV667562HLLZ7ZVY and an amount of \$ 6,095.92. Each transaction has a 'View' button. At the bottom, it shows 'Showing 1 to 2 of 2 entries' and navigation buttons for 'Previous', '1', and 'Next'.

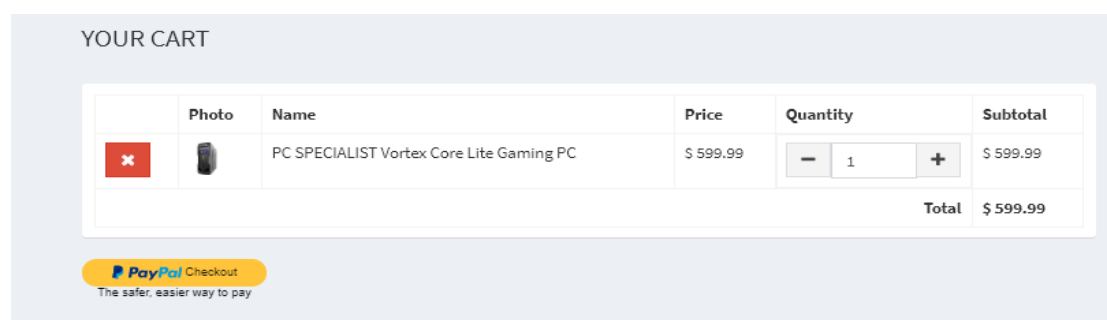
Date	Transaction#	Amount	Full Details
April 10, 2020	PAY-1RT494832H294925RLLZ7TZA	\$ 8,874.91	<a href="#">View</a>
March 27, 2020	PAY-21700797GV667562HLLZ7ZVY	\$ 6,095.92	<a href="#">View</a>

Fig 3.4: User Profile

### Fig 3.4: User Profile

After successfully registering on the system, user will get a panel where he can update his profile and track his order and previous transaction history. In user profile user can see his personal details like name, email, contact info, and address. User can see his previous transaction history and products he bought. User can track his pending buying and when they will be delivered to him.

## Shopping Cart



The screenshot shows a shopping cart titled 'YOUR CART'. It contains one item: 'PC SPECIALIST Vortex Core Lite Gaming PC' with a price of \$ 599.99 and a quantity of 1. The subtotal is \$ 599.99. Below the cart, there is a 'PayPal Checkout' button with the text 'The safer, easier way to pay'.


Photo	Name	Price	Quantity	Subtotal
	PC SPECIALIST Vortex Core Lite Gaming PC	\$ 599.99	1	\$ 599.99
<b>Total</b>				<b>\$ 599.99</b>

Fig 3.5: Cart

### Fig 3.5: Cart

After shopping different products all products will go to cart. In cart user can remove products and give payment. The payment option will automatically lead them to payment gateway. User can add or remove products in cart menu. Increase or decrease products quantity. Cart will automatically sum up total bill with discount and VATs.

### Admin Panel

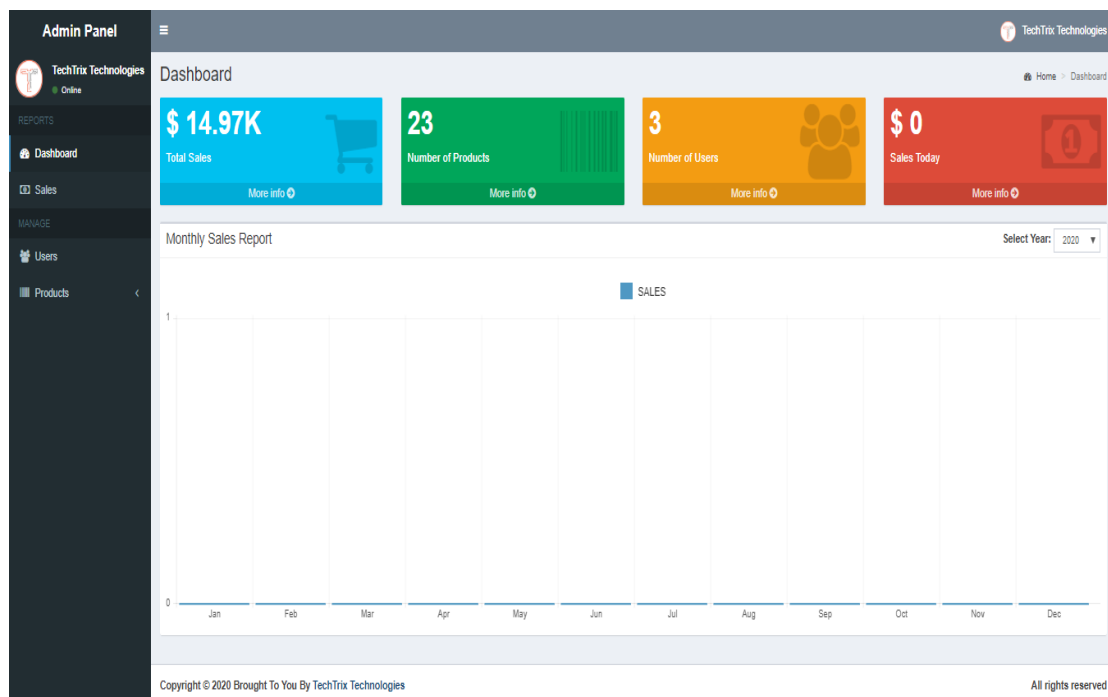


Fig 3.6 Admin Panel

### Fig 3.6 Admin Panel

Admin Panel fully controllable by admin. Admin can add new products and add new category. Admin can edit products also delete them. Admin have full access to cancel order, remove user. Admin can see sales growth and daily sales through graph.



## Data Insert Update Delete

The screenshot displays an Admin Panel interface for TechTriX Technologies. The main content area is titled "Product List" and features a table of products. The table has columns for Name, Photo, Description, Price, Views Today, and Tools. Each row represents a product with its respective details and actions (Edit and Delete). The interface also includes a sidebar with navigation options like Dashboard, Sales, Users, and Products, and a top navigation bar with Home, Products, and Product List links.

Name	Photo	Description	Price	Views Today	Tools
ACER Aspire GX-781 Gaming PC			\$ 749.99	0	<a href="#">Edit</a> <a href="#">Delete</a>
AMAZON Fire 7 Tablet with Alexa (2017) - 8 GB, Black			\$ 49.99	0	<a href="#">Edit</a> <a href="#">Delete</a>
AMAZON Fire HD 8 Tablet with Alexa (2017) - 16 GB, Black			\$ 79.99	0	<a href="#">Edit</a> <a href="#">Delete</a>
AMAZON Fire HD 8 Tablet with Alexa (2017) - 32 GB, Black			\$ 99.99	0	<a href="#">Edit</a> <a href="#">Delete</a>
APPLE 10.5" iPad Pro - 64 GB, Space Grey (2017)			\$ 619.00	0	<a href="#">Edit</a> <a href="#">Delete</a>
APPLE 9.7" iPad - 32 GB, Gold			\$ 339.00	0	<a href="#">Edit</a> <a href="#">Delete</a>
APPLE 9.7" iPad - 32 GB, Space Grey			\$ 339.00	0	<a href="#">Edit</a> <a href="#">Delete</a>
ASUS Transformer Mini T102HA 10.1" 2 in 1 - Silver			\$ 549.99	0	<a href="#">Edit</a> <a href="#">Delete</a>
DELL Inspiron 15 5000 15			\$ 449.99	0	<a href="#">Edit</a> <a href="#">Delete</a>
DELL Inspiron 15 5000 15.6			\$ 599.00	0	<a href="#">Edit</a> <a href="#">Delete</a>

Fig 3.7: Data Insert Update Delete

### Fig 3.7: Data Insert Update Delete

In the above figure we can see admin panel where admin can insert, update, and delete data from admin panel. In this panel admin add different category using category name also add different brand name. For adding different products admin use brand name, product name, product description and price of the product.

## Database

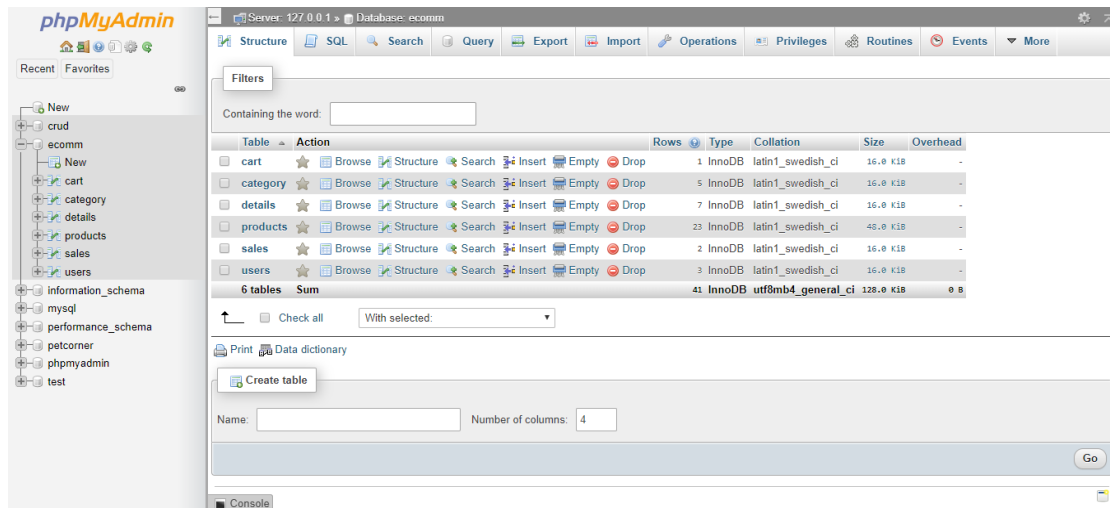


Fig 3.8: Database

### Fig 3.8: Database

In the above figure we can see MySQL database which is connected to the website using PHP. This database stores all the data like users and admins data, products data etc. This is the main database for the project, using this database admin can update, delete, insert and create new products, category etc.

### **3.4 Challenges**

Nothing is simple in a web programmer's life. There are challenges in every step of programming. During the internship time I have faced many challenges and difficulties. First thing is that I have never worked in an organization and I have less knowledge of how the system works so in the first couple of days I have some issue to adjust but gradually everything's resolves and I became a part of the organization. As a developer I have to learn a lot of techniques and understand every problem to solve them. I found myself in a difficult position to balanced everything. As days passed work pressure increased day by day. I have to learn advanced development which I have a little bit of knowledge as a fresher so I spend all my energy to become better by every second. For learning advanced topics, I needed additional training courses so I started learning them. Being a web developer learning web language and their uses is compulsory. Having knowledge of PHP, JavaScript, Bootstrap, and different frameworks gives extra capability in the job market.

### **Problems**

Doing raw coding in HTML and CSS is very difficult. Most of the time CSS mismatch with HTML which is very frustrating. In the development part I faced serious problems in the database section where I cannot connect it to the application. PHP seasons also give me a hard time. To add authentication in user panel I faced serious problems. Also optimizing the application and add security features is very difficult as a new web developer.

### **Solution**

Having a good teacher is a dream that came true for every student. In my case it came true. I got a very good trainer, who helped me to face my problems taught me short cut techniques to improve my coding skills. Learning the Bootstrap framework help me save my time without worrying about HTML and CSS raw coding. In the development part my teacher taught me how to sort data and how to handle them. He showed me how to easily access data and how to manipulate code and reuse them.

## **Chapter 4**

### **Competencies and Smart Plan**

#### **4.1 Competencies Earned**

During the internship I have gathered many skills which I will apply in my personal life and professional life.

##### **HTML**

Tim Berners-Lee a physicist at CERN research institute in Switzerland invented HTML. While he discovered the idea for an Internet-based hypertext system. He published the first version of HTML in 1991. The full name of HTML is Hypertext markup Language. Here Hypertext is the way to move around the internet, clicking special link named Hyperlink we can switch different webpage into HTML document. There are special tags which are called Markup using those we can manipulate HTML webpage adding tables, colors, audio, video and so on. It gained popularity in a very short time that's why it is constantly undergoing revision and evaluation to fulfill requirements and demand of the developer. W3C is the organization who maintained and design the language constantly. The latest Version of HTML is HTML5.[7]

##### **CSS**

CSS short form for cascading style sheet developed by Håkon Wium Lie in 1994, and today it helps developers to manipulate the layout of webpages and change the appearance of webpages. A single CSS file can be linked to different web pages and change their color, height, text, and so on. CSS3 is the new version of CSS, it has new properties and selectors which helps to enhance the flexibility of the webpage and give different layout visualization. W3C standardized CSS in 1996, till then they are developing and upgrading it so that it keeps up with every requirement.[8]

Some of the key feature of CSS are,

- Font manipulation, using CSS we can change everything on a font like give shadow, change color, change size, add different style and so on.
- For manipulating layout of webpage, we can use alignment, we can separate every part of a webpage and add different style using alignment components.

- We can create different animation, transition, add different button, create forms and many things.

## **Bootstrap**

Designing website in raw HTML and CSS is very time consuming also there's always one or two problems pop up during coding. All these problems have solution, which is using a framework. Bootstrap is widely used frontend development framework developed by the team at Twitter. This framework is built with HTML, CSS and JavaScript. Using Bootstrap one can speed up his development. Bootstrap have predefined CSS class, grid layout, navs, input field, forms and so on. Bootstrap makes development faster as we already get predefined class so we don't have to code everything. The main purpose of Bootstrap is to build responsive mobile friendly websites without any hassle.

Some key feature of Bootstrap given below

- Easy to use, anyone having knowledge of HTML and CSS can understand Bootstrap and also there is a huge documentation for Bootstrap to do code quickly.
- Main attraction of Bootstrap is that it can be customized as developer want it to be.
- Pre-defined components like navbar, card, input group, badge, button etc. are the real deal of Bootstrap framework. This pre styles components saves a lot of time of a developer.
- Pre styled 12 columns responsive grid helps to build a responsive site without worrying margin and padding for the webpage.
- Utilities like clear-fix, border, position, sizing, colors and others give help to build an imaginative website. [9]

## **JavaScript**

JavaScript is a high-level programming language that can update and change HTML and CSS data also it can calculate, manipulate, and validate website data.

JavaScript can do all the complex work in a webpage some of them are dynamically update the page content, animate images, control media, and so on. Some common uses for JavaScript in web developments are,

- Client-side Validation
- Dynamic content viewing
- Dynamic Navs
- Displaying pop up window and give alert.
- Using JavaScript DOM to dynamically update content change layout and structure.[10]

## **PHP**

PHP stands for Hypertext Preprocessor created by Rasmus Lerdorf in 1994. PHP is a scripting language design to works with server-side applications to connect with the database. It is a simple, fast, and open source so anyone can use it and develop their application. PHP can be embedded directly into HTML code for web development.

PHP is platform-independent so it can run on any OS. PHP is compatible with every server like apache, IIS, Nginx, and so on. It can interact with database servers. PHP can encrypt data also can accept and set variable cookies. Using PHP one can restrict access on different levels on the webpage. Performing system functions like read, update, delete, insert, and create data.[10]

Some benefits of PHP are,

- Having a big PHP developer community give a developer easy access on solution. Finding different solution for problems is a great start for a PHP developer.
- Graphics design, image processing is the extra functionality of PHP language and having a vast amount of library support and extensions are the best thing about it.
- Having an integrated security layer gives immunity to PHP application.
- PHP coding is very simple and less time consuming.
- PHP applications are fast and strong also stable and secure.[11]

## **MySQL**

MySQL is Oracle based open source Relational Database Management System (RDBMS) that use Structures Query Language (SQL). RDBMS is an application that can create and manage database system. Database is something where we can store text, number, image or any kind of data. So how MySQL works, basically we have to create a MySQL database for storing data and manipulating them. Client can make request for viewing those data by typing specific SQL command, then the server will respond with the request and send the desired data. Most of this work done by Graphical User Interface (GUI). The simpler and lighter the GUI is, the faster the database work.

Some key feature of MySQL is,

- Open source so it's free.
- Flexible and simple anyone can use it with proper knowledge.
- High performance with industry standard.
- MySQL system is secure.[13]

## **Apache server**

Apache HTTP Server also known as Apache server is an open source cross platform web server software released in 1995. As it is a free and open source platform all the development done by numerous developers under the Apache Software Foundation.

An Apache server have many functionalities some of them are,

- It has multiple request processing mode.
- It simultaneously can handle more than 10,000 connection.
- HTTP/2 and IPv6 support.
- Users and session tracking system.
- Bandwidth throttling and IP based geolocation tracking.
- Real Time status and XML support.[14]

## 4.2 Smart Plan

Every organization wants to achieve great success and that is why employee plays a vital role in an organization. Organizations do not prefer an employee who cannot do their job on their own. A skilled employee is welcomed everywhere, the organization takes every step to teach an employee how to do work efficiently with many training seasons. During the internship, I understand how to work smartly and effectively.

- Understand customer requirement first and what he want.
- Creating layout for the project and choose language carefully because we do not want any unnecessary coding and time-consuming techniques.
- Making a responsive product needs to work with Bootstrap framework where I can easily Manipulate HTML, CSS and JavaScript and create an eye-catching and stable frontend side.
- For the Backend development we choose to work with PHP and MYSQL for database.
- Carefully manipulate data and assemble all the code.
- Testing project in various device to see what need to be changed and what bugs to fix.

## 4.3 Reflection

Doing an internship give me insight how an organization run and working under a supervision teach me how chain of command works. During internship at TechTrix Technologies I learned how to develop personal skills like communicating, attention to detail, punctuality, public speaking and team works. On the technical part I learned responsive designing using Bootstrap HTML, CSS and JavaScript and for developing backend I learned PHP and MySQL.

In the long run all the learning and experiences is going to reflect my skills and my capabilities. It is undeniable that TechTrix Technologies helped me to become a good developer as well as a good human being.



## **Chapter 5**

### **Conclusion and Future Plan**

#### **5.1 Discussion and Conclusion**

Being a part of a company like TechTrix Technologies helped me to conquer my fear of working in an unknown environment. They always helped me in my need. Working as an intern I archived many qualities and experiences which will definitely help me in my near future as a web developer in some reputed company. I was able to pick many short cut techniques for coding easily and time effectively. This internship showed me different architecture of web design and development, also learn many new technologies like Progressive Web application (PWA), Single Page applications (SPA) and so on. Working with framework helped me to learn easily and effectively.

In the end I can bring conclusion to my report that doing this internship is a huge achievement for my carrier and I am looking forward to work as a web developer.

#### **5.2 Scope for Further Career**

Finding a job as a web developer is very challenging in these times. Talking about our country's job market there are less vacancy than actual job seeker, so it is very difficult for newly passed student to get a job with promising salary. Although there is a chance to get good salary and a better position job if one has certain skills and passion for web development.

There are many opportunities and scope for a web developer like,

- Full Stack Web Developer.
- Software Engineer.
- Framework Expert.
- Cross Platform Developer.
- Web Security Analyst
- Web Penetration Tester.
- A full time Freelancer.

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## **Appendices**

### **Appendix A: Internship Reflection**

A true performance of an intern reflects when he thinks what he achieved during his training period. Reflecting back and thinking about the experiences is the best way to learn from them.

My internship under TechTrix Technologies has a growing experience on me. I have learned both technical and relational experiences. During internship first time I realized that everything is connected to each other, whether it is programming or real life. Loops are no in just programming, but they are also in our mind. Working under a professional environment teach me that life is not that easy you have to work hard to achieve your dreams no matter who said what you have to believe in yourself otherwise you will fall out of time.

My experiences as an intern is going to help me in near future to achieve more in my life.

### **Appendix B: Company Detail**

#### **Introduction**

TechTrix Technologies works with a motto named “Ahead To develop The Future” and yes, they are working to develop a better market place for software companies in Bangladesh. TechTrix Technologies is one of the fastest growing software company in Bangladesh. Their main concern is to build Mobile and Web Application. They have professional developer and passionate designer to build amazing products. Although the company is new but they manage to create huge demand for their products. They have blend business knowledge along with expertise in different technologies. They are building different products with affordable price with industry standard quality. They are highly customer centric and it is shown on their products and customer satisfaction. They adapt to fulfill all the requirements given by the customer to them. They have necessary art of techniques to ensure sustainability in the growing market. Their highly trained professional developer has wider knowledge on different technology and tools.

## **Service**

TechTrix Technologies offers wide range of services like

- Mobile Application Design & Development
- Web Design and Development
- UI/UX Design
- SEO Service
- Tailor Made Application
- ERPs
- POSs
- CRMs
- E-commerce Solutions
- Training Program
- Internship Program for Undergrad Students

## **Mission**

- TechTrix Technology understands the needs of their client so they use technology to create modern business easy and profitable.
- TechTrix Technology combines technical expertise with great customer satisfaction to value for money.
- TechTrix Technologies values creativity and new ideas shared by every employee to achieve a common goal.
- For each project they create a new team to work for gathering new skills and experience to deliver a standard product to the client.

## **Products**

- DIU Question Bank – Android Application
- Shortcut Technique – Android Application
- Countries of the world – Android Application
- Inspirational Quotes – Android Application
- Lunartemp.com – Website

## **Head Office**

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