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Internship report on ABC STORE

Fahimul Huq, Muhammmad

Independent University, Bangladesh

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Department of Computer Science and Engineering

Internship report on

ABC STORE

at

ABC ENTERPRISE

Submitted by:

Muhammmad Fahimul Huq

ID: 1610044

Submitted to:

Mohammad Noor Nobi,Lecturer

Department of Computer Science and Engineering

Submission Date: 13th September 2022

Semester: Summer 2022

Attestation

Muhmmad Fahimul Huq, officially attest that no work in this report has been plagiarized or duplicated from another source. Any resources consulted are referenced in the report's reference section. No assistance from a third party organization was requested during the report's completion, except from the one for which I interned for the last three months. For further information, please contact MD Jafor Saley, the internship supervisor at my firm. ABC ENTERPRISE

Sincerely,

Muhammad Fahimul Huq

_____

Signature

26th September 2022

_____

Date

Muhammad Fahimul Huq

_____

Name

Acknowledgement

To begin, I would want to express my gratitude to Allah for endowing me with the perseverance and ability to perform hard, for keeping me safe throughout this three month, and for providing me with the opportunity to complete my internship at ABC Enterprise. Additionally, I would like to thank my parents for their unconditional love and support, which have nourished, fostered and prepared me for this task. I would like to express my gratitude to Mohammad Noor Nabi, Internship supervisor & lecturer, Independent University of Bangladesh., for her invaluable guidance, patience, time and thoughtful advice regarding various aspects of my internship and the preparation of this report.

Letter of Transmittal

Date: 24/05/2020

Muhammad Fahimul Huq
Intern
ABC-Enterprise
04 Zigatola 1209 Dhaka

Dear Fahimul,

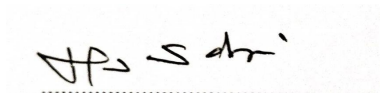
We are pleased to offer you the position of Intern at ABC Enterprise. We feel confident that You will contribute your skills and experience to the growth of our Organization.

As per our discussion, your starting date will be on 29th May 2020.Please confirm your acceptance of this offer by signing and returning a copy of this offer letter. Please feel free to contact your supervisor for any further query.

We look forward to welcoming you on our team.

Sincerely,
Abu Zafor Mohammad Saleh
Supervisor
+8801616433447
www.abccenterprisebd.com

Evaluation Committee



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Muahmmad Noor Nabi

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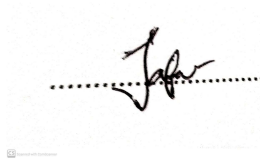
Name

Supervisor



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Signature

Jafor Saley

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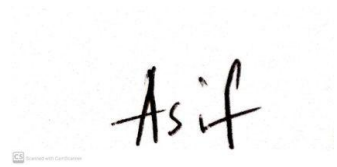
Name

Company Supervisor



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Signature

Md. Asif Bin Khaled

.....

Name

Internal Examiner

Signature

Mahady Hasan

.....

Name

Head of the Department

Abstract

ABC store is a web-based application that eliminates the need for users and clients to physically deliver parcels to courier companies. The program was created to make the procedure of sending parcels to other nations easier. The application will allow the consumer to send a pickup request for their shipment to be picked up and delivered to the warehouse of the appropriate courier provider. The shipment will then be delivered to the destination from that warehouse. The application saves all client and order information. This system can link to a database to retrieve data, which will undoubtedly assist users in sending parcels from home via delivery personnel without personally visiting the office to drop off the product. The system will also assist staff in maintaining all order and client information in the database and altering the order as desired using the application. In our current technological era, everyone desires a system that improves portability, accessibility, and user friendliness. As a result, the created application has all of the elements that make it more user pleasant and accessible. Since the application prevents the consumer from personally delivering the package to the office of ABC Enterprise, both the customers and the office personnel will be protected and the package will be delivered without any customer hassle.

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Chapter 1: Introduction

1.1 Overview background of the work

ABC Enterprise acts as a representative for well-known authentic personal product companies. They provide customers with various authentic personal products . When customers use their service, they receive the same benefits as buy international products from abroad but at a lower cost. Their service was previously wholly offline, but they switched to an online mode due to the pandemic. Due to the ongoing demand for personal products and in light of the current situation, ABC Enterprise is developing a web-based application to help with the entire e-commerce service process.

ABC store is a web-based application that the company has developed to eliminate the hassle of customers and clients physically buying authentic products from the abc warehouse. This service requires the sender to have a smartphone to send a request for a product to buy. Once the customer selects the payment option and requests to deliver in their current location, the company receives it. An employee of the company then dispatches delivery personnel to provide the package to the customer's location. The application covers the entire area of Dhaka city for parcels. There is no additional charge for picking up or delivering the product to the courier company.

1.2 Objectives

- Allow customers to request products from their location.
- Provide customers with a lower rate on all products.
- Provide the customers with an opportunity to pay the parcel fee online or cash in delivery.
- The parcel will be collected from the customer within certain day that it was requested.
- Provide customer support to answer all the queries.

1.3 Scopes

- Login Page – This page will be used by registered users to log into their account.
- Registration Page – This page will be used by new users to register their account..
- Change Password Page – This page will allow the user to change their password if they forget their old password.
- Add To Cart – Customer can add to cart and calculate the total price of the products
- Provide Address and Other information - Customer need to add their address and other information in order to proceed
- Payment Option – This page will provide a select option for payment option.
- Order Overview Page – In this page the customer can overview their order and proceed to order.
- User Profile Page – All types of users can view their profile and change their information from this page.
- View Users Page – This page will only be used by the admin to change the role of a user or remove a user or make an admin.
- View Order Page – Admin and Employee will be able to check new orders and update the order status from this page.

Chapter 2: Literature review

2.1 Relationship with undergraduate studies

The Javascript programming language was used extensively in the development of the mobile application. The front-end was built with ReactJS, while the backend was written with expressJS. The topics covered in the Object-Oriented Programming course are directly related to the application's backend. Since the Web-based Application Development course was project-based, and numerous web application projects were completed as part of it, the topics covered in that course were very helpful in this project. Apart from project development, the mockup of the application and the relevant diagrams was required, as taught in the System Analysis and Design course.

2.2 Related Works

ABC Store has similar functionalities to Daraz and Chaldal. Daraz/ Chaldal service allows customers to request packages or parcels to deliver in the customer's location.. ABC Store will function similarly, except customers will send packages/parcels to dhaka rather than all over Bangladesh. Daraz and Chaldal allow the customer to track the delivery progress. Similarly, the customer will be able to track the progress of their delivery using the ABC Store.

Chapter 3: Project Management and Financing

3.1 Work Breakdown Structure

Work breakdown structure (WBS) is a method for completing a complex, multi-step project. It is a method of dividing and conquering large projects in order to complete them more quickly and efficiently. A work breakdown structure (WBS) is intended to make a large project more manageable. Breaking it down into smaller chunks allows different team members to work on it simultaneously, resulting in higher team productivity and easier project management.

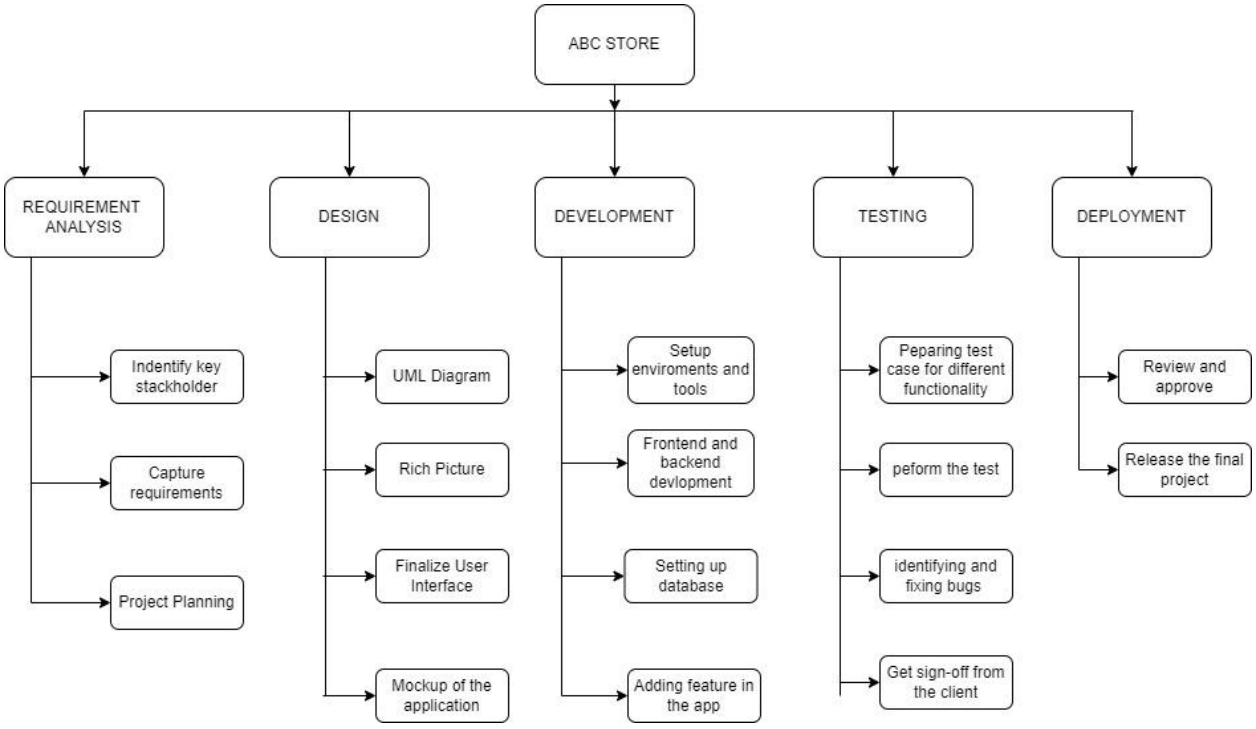


Figure 3.1- Work breakdown Structure

3.2 Process/Activity wise Time Distribution

The time allocation for the three months project is as shown in the table. Any activity can be performed simultaneously with other activity or after the earlier one is completed.

Activity	Days	% of work
Requirement Analysis	10	10
Design	10	10
Development	50	50
Testing	10	20
Deployment	7	10
Total	87	100

Table-3.1: Activity Wise Time Distribution

3.3 Gantt Chart

A Gantt chart is one of the most popular and useful methods of displaying activities (tasks or events) against time. A list of the activities is shown on the left side of the chart, and a time scale is shown along the top. Each activity is represented by a bar, with the position and length of the bar reflecting the activity's start, duration, and end dates.

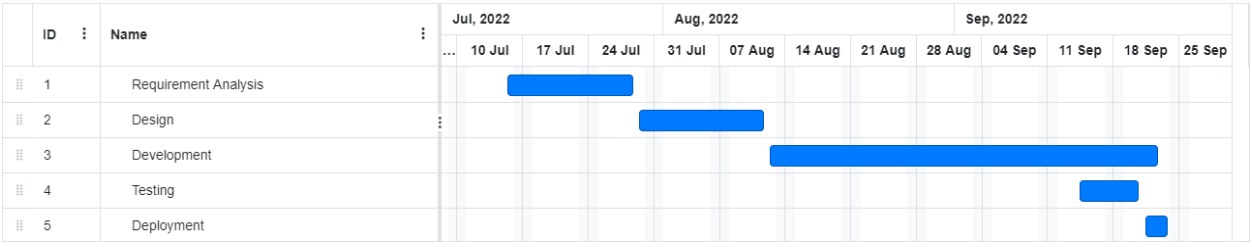


Figure 3.2 Gantt chart

3.4 Process/Resource wise Resource Allocation

Requirement analysis: In order to complete this project, I was the sole one tasked to collect the requirements. The requirements were how the client wanted the web application to look. With the requirements gathered, project planning took place with the stakeholders, and it was decided how the application would look once completed.

Design: The web application design is created during this phase to give developers an idea of how the application will look in real-time. I have been working on diagrams like Rich Picture and UML Diagrams. I made a mockup to finalize the design of the actual application before beginning the development phase. This phase entails designing the application's features and functionality using necessary diagrams and mockups.

Development: The development phase is primarily concerned with the creation of the application. Since I was alone in this project, it was required for me to submit a weekly project progress report. Every weekend, a meeting was held virtually with key stakeholders of the company to discuss progress and future project planning.

Testing: During this phase, the application was tested at the same time as it was being developed. It was required for me to debug at every stage of the development process when the application was being tested. The final step in this phase was to show the client the final application and obtain his approval before the phase's deadline.

Deployment: As the application is almost ready and the beta version is released, it will be deployed before the deadline.

3.5 Estimated Costing

The cost is an estimate based on the company's requirements for the mobile application system.

Chapter 4: Methodology

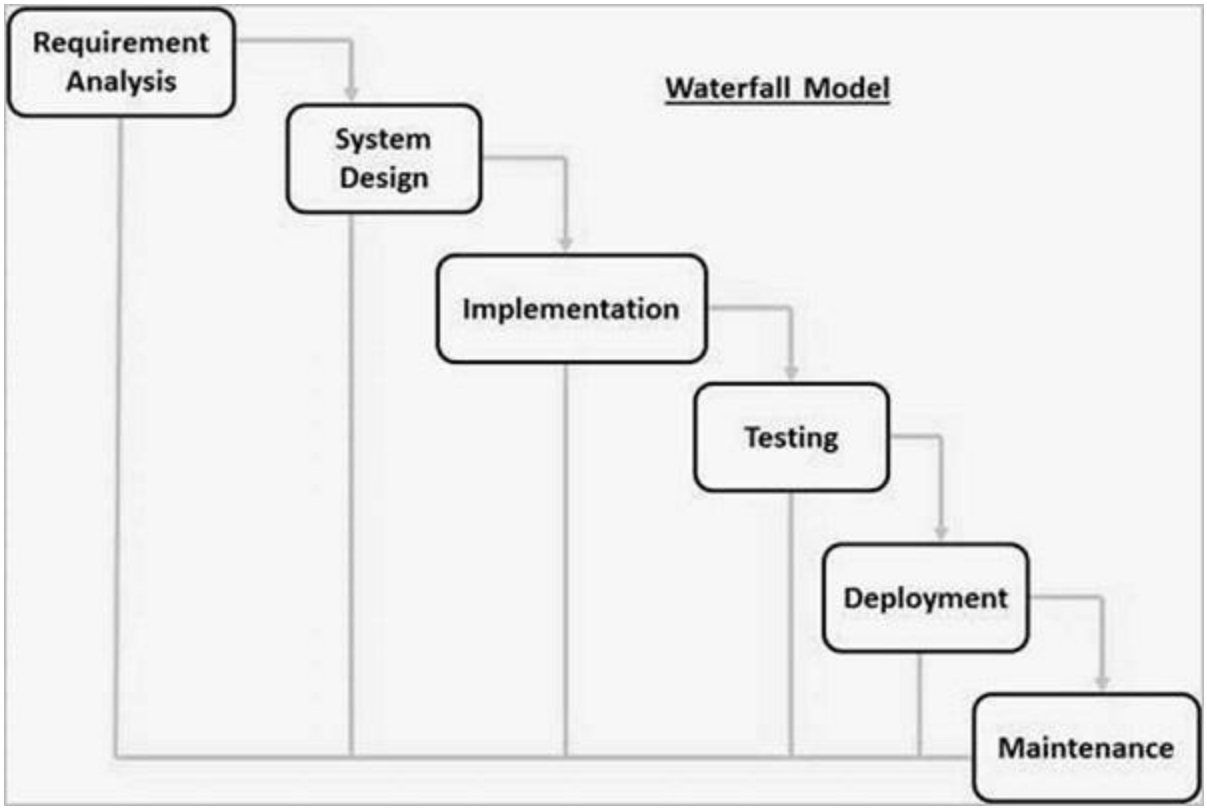
The Waterfall method is a traditional approach to project management. In it, tasks and phases are completed in a linear, sequential manner, and each stage of the project must be completed before the next begins.

The stages of Waterfall project management generally follow this sequence:

- Requirements Analysis
- Design
- Construction
- Testing
- Deployment

Progress, like an actual waterfall, flows in only one direction.

However, just like a real waterfall, this can quickly become dangerous. Because everything is planned out at the start, there is a lot of room for error if expectations do not match reality. And once it's finished, there's no going back to a previous stage.



4.1 Why this methodology for this project?

The Waterfall methodology is used for this project because the requirements are clearly defined and easy to understand. The client had defined the scope and end-goal of our project were from the start, and this did not change. I had to proceed sequentially with each phase using this methodology. Furthermore, using waterfall methodology specifies what we are building at a very detailed level, which helped me meet deadlines. Since I did not have to consult with stakeholders repeatedly to determine the product requirements, I was able to focus more on writing code and test cases.

4.2 How did we use this methodology?

As soon as I began working on the project, I conducted a requirement analysis. Then I moved on to the next phase, which was the design phase. I worked on creating a mockup of the application's user interface as well as some diagrams. Following the design phase, I moved on to project development. I worked on the Front-End and Backend coding of the application. During this development phase, I simultaneously performed the test cases of the project. The project's deployment was the final stage. The project's steps were completed linearly and sequentially, with each stage completed before the next begins.

Chapter 5: Body of the Project

5.1 Work Description

As a developer for this project, I was responsible for both the front end and back end of the application. Since the application was developed in Android studio, the front-end was created using xml and the backend was written in

Java. Due to its compatibility with Android Studio and ease of integration with the project, Firebase was utilized to store the data for the entire project. All tasks were performed within a certain time frame, and after a task or portion of the project was completed, we were required to explain our work to the project's supervisor.

5.2 System Analysis

5.2.1 Six Element Analysis

Process	Human	Non-hardware	Computing hardware	Software	Database	Communication on Network
Register	Customer,Admin,	N/A	Mobile, laptop, desktop	Web application	Mongodb	Internet
Login	Customer,admin	N/A	Mobile, laptop, desktop	Web application	Mongodb	Internet
Request order	Customer	N/A	Mobile, laptop, desktop	Web application	Mongodb	Internet
Payment Option	Customer	N/A	Mobile, laptop, desktop	Web application	Mongodb	Internet
View Order page	Admin	N/A	Mobile, laptop, desktop	Web application	Mongodb	Internet
Update profile	Customer,admin	N/A	Mobile, laptop, desktop	Web application	Mongodb	Internet
View User page	Admin	N/A	Mobile, laptop, desktop	Web application	Mongodb	Internet

5.2.2 Feasibility Analysis

A critical conclusion of the preliminary inquiry is the determination of the feasibility of the required system. A feasibility study is conducted to determine which system will best fulfill the performance requirements. A feasibility study is both required and sensible in order to determine the project's feasibility as soon as possible. It involves conducting an initial

assessment of the project and determining whether the planned system will be beneficial to the organization.

- **Technical Feasibility**

Technical feasibility considers both hardware and software needs. To carry out this technical feasibility, we must first determine if the required technology and suggested equipment have the ability to keep the data utilized in the project. This technical feasibility analysis determines if the necessary resources and technology are available for project development. Along with this, the feasibility study examines the technical skills and capabilities of the technical team, if current technology can be used, whether maintenance and upgradation of the chosen technology is simple or difficult, and so on. Our web application will be employed extensively with resources and personnel for system development.

- **Operational Feasibility**

The suggested system has an extremely friendly user interface. The user must have an adequate internet connection in order to use the program. The system will benefit the user due to its superior results and high performance. As a consequence, this idea is possible on a practical level.

- **Economic Feasibility**

Economic Feasibility is concerned with the economic impact that a new system will have on the organization if it is implemented. The financial gains must be equal to or greater than the expenses. It is necessary to estimate the cost of implementing a complete system, which includes software and hardware costs, for the type of application under consideration. By examining the total application system, we discovered that it is feasible to undertake a comprehensive system analysis at a reasonable cost. There is no need for

more labor in this situation. The suggested system has no additional costs associated with its upkeep and maintenance

5.2.4 Effect and Constraint Analysis

A constraint is a limitation on a company's ability to provide a solution with as much flexibility as possible. Constraints are basically global needs, such as restricted development resources or a decision by top management that limits the development team's ability to construct a system.

Economic, political, technological, and environmental constraints can affect project resources, schedules, target environments, and the system itself. The following are some of the limitations and their effects:

Constraint 1: Time

Effect: Initially, it appeared as though the project might be completed within a fair length of time. While the project's functionality were expanded, the time given for development was reduced due to extra work such as UI design and mockups.

Constraint 2: Budget

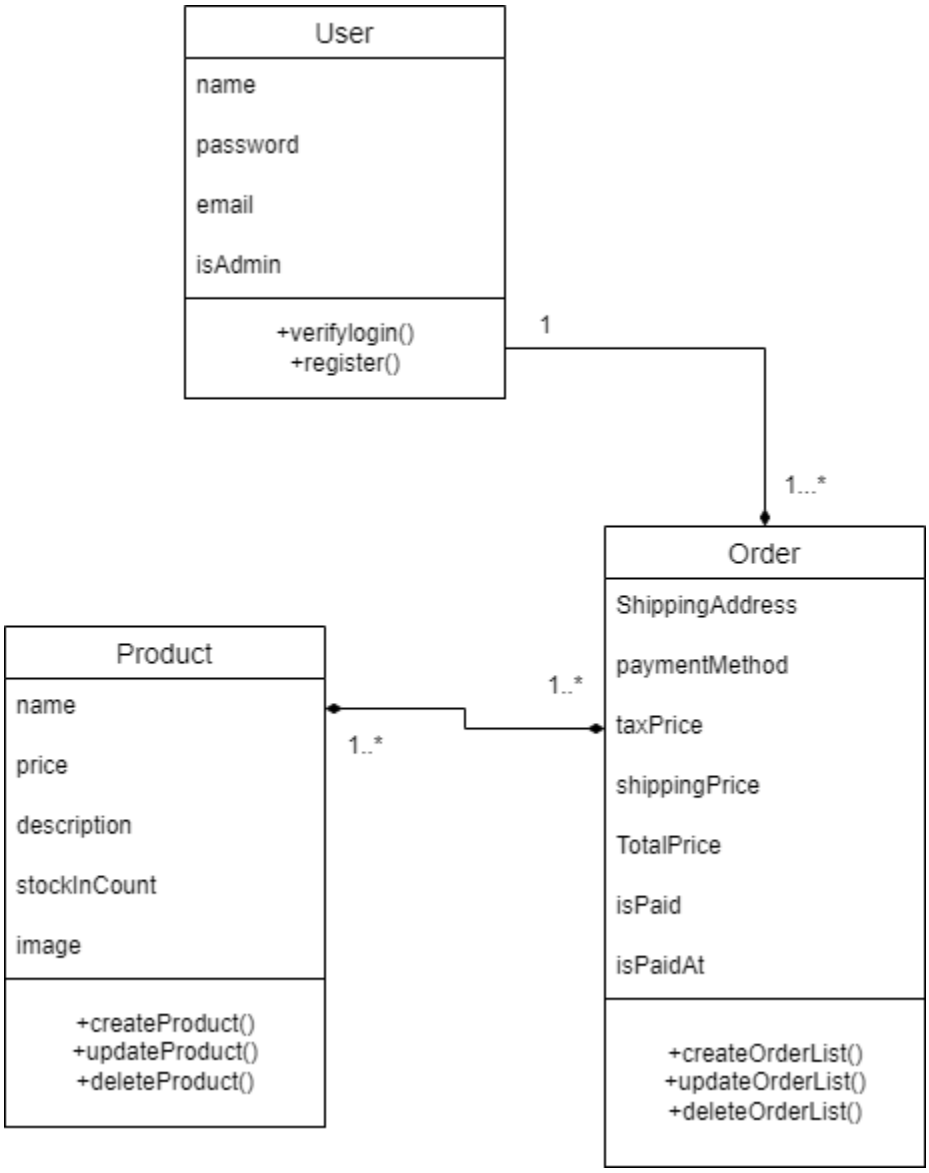
Effect: As a result of the pandemic, the company's financial situation deteriorated, necessitating resource reallocation. Some of the project's personnel were transferred to other projects, and one additional intern was planned to be allocated to the project, but the decision was reversed later.

Constraint 3: Database

Effect: At the start of the project, it was decided that the data would be kept in the MongoDB database.

5.3 System Design

Class Diagram



5.3.3 Functional and Non-Functional Requirements

Functional Requirements

1. **Register for an account**

A user can register their account with all the required information.

2. **Update customer profile**

A user can update their account with all the correct information.

3. **Verifying customer details**

After registration, the phone number is verified by the system by sending OTP to mobile number provided by the customer.

4. **Getting notifications**

After requesting pickup from the system, a customer will receive alerts whenever there is an update to the request.

5. **Change user roles**

Administrator will be able to change user roles as well as remove them from the system.

6. **Payment method**

Customers will be able to pay using online methods as well as cash on delivery.

7. **Past orders**

Customers will always have access to check the past orders.

8. **Vouchers and promotion codes**

The system will send promotional offers to the customer's email or mobile if any offers are decided by the management.

9. **Order Management**

Both the employee and the admin will be able to accept, reject and change the order status.

10. **Contact support team**

If the user is facing any difficulties or there is any complaint, then they can contact the support team.

Non-Functional Requirements:

1. **Performance**

The load time of the pages of the mobile application will be no more than 5 seconds if the users are accessing the app using bandwidth of minimum 500 Kbps or using 4G mobile data

2. **Security and Control**

User login credentials and payment related information will be secured using TLS (Transport Layer Security).

3. **Availability**

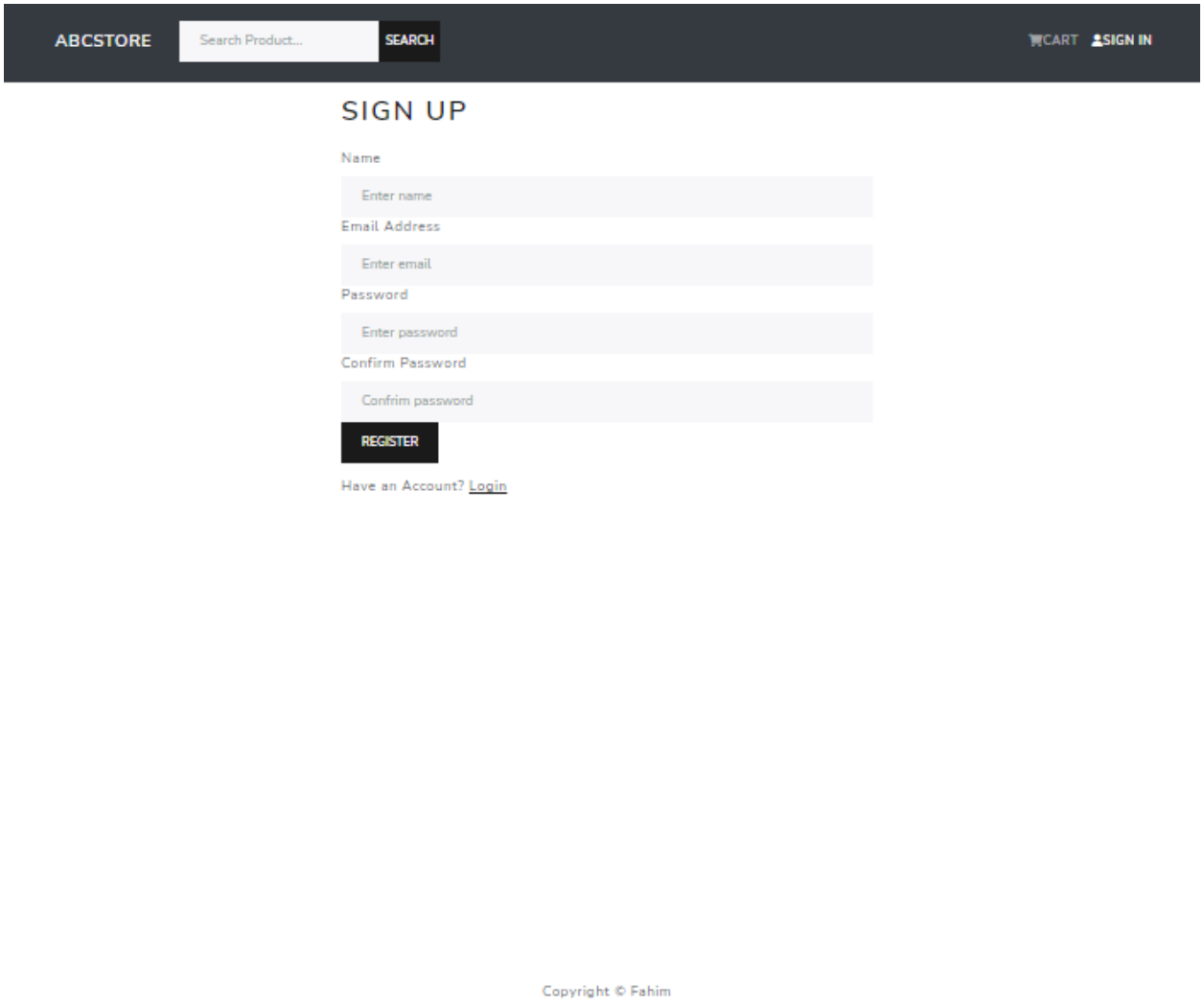
Since multiples users will access the app for various tasks, the system stays active without any major downtime. In other words, the system will be online 24/7.

4. **Reliability**

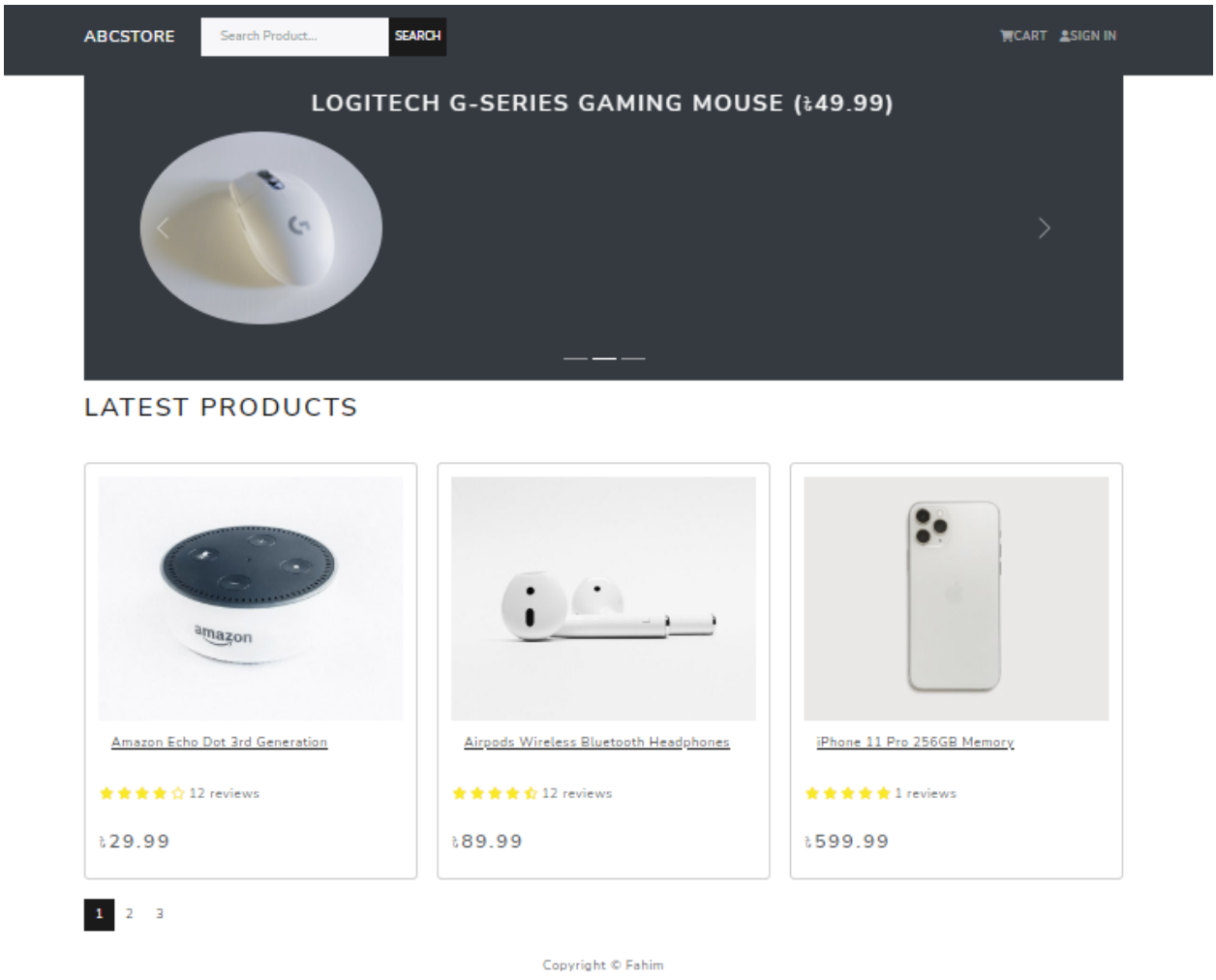
Any bugs that are detected in the system or reported by the user will be removed by the development team through update of the system.

5.4 Product Features

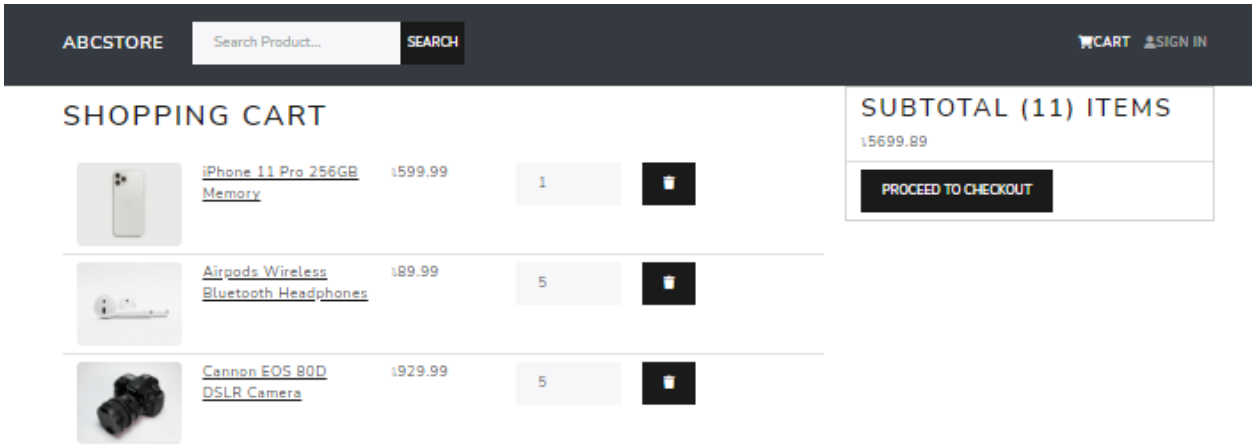
5.4.1 Register



5.4.2 Home Screen



5.4.3 Add To Cart



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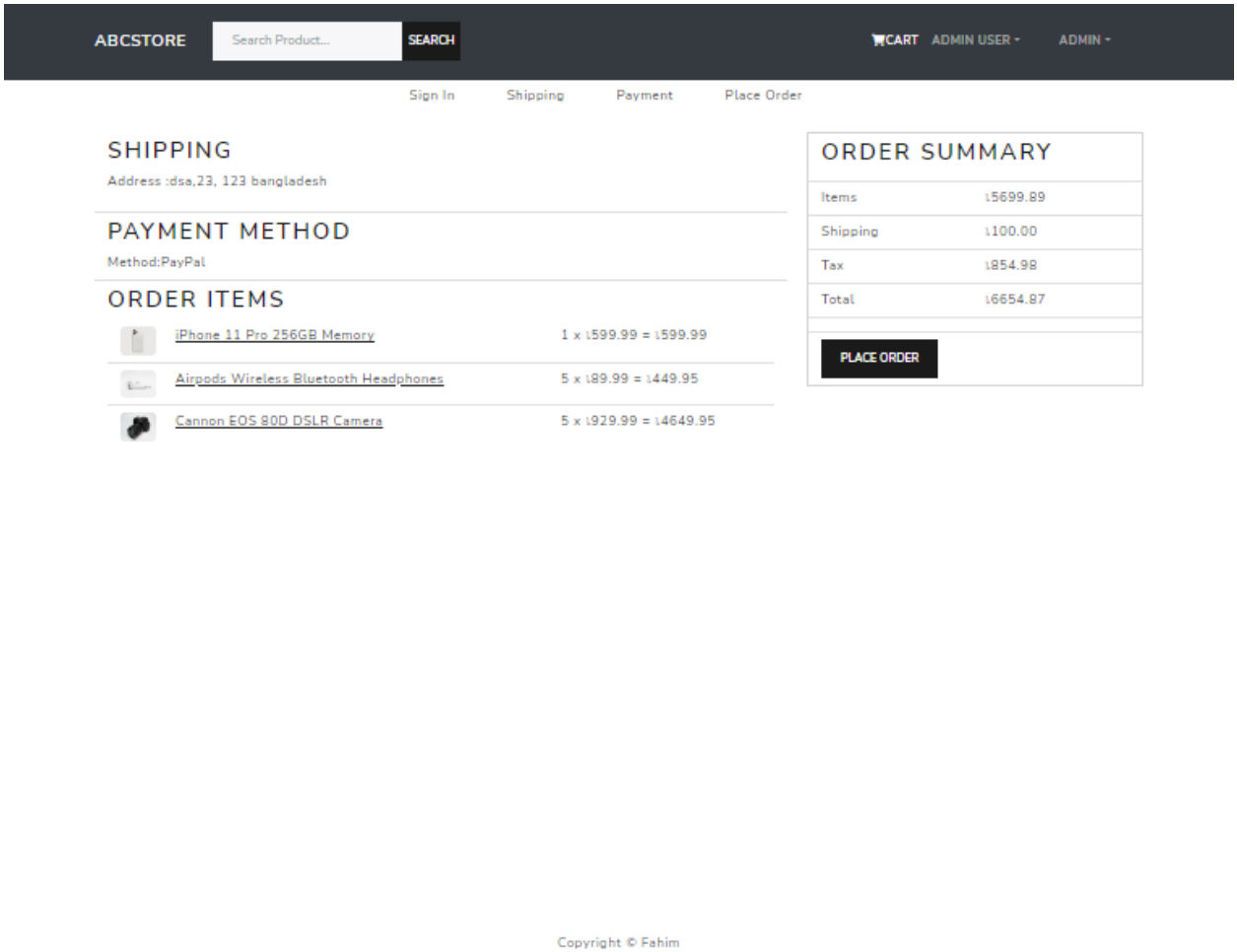
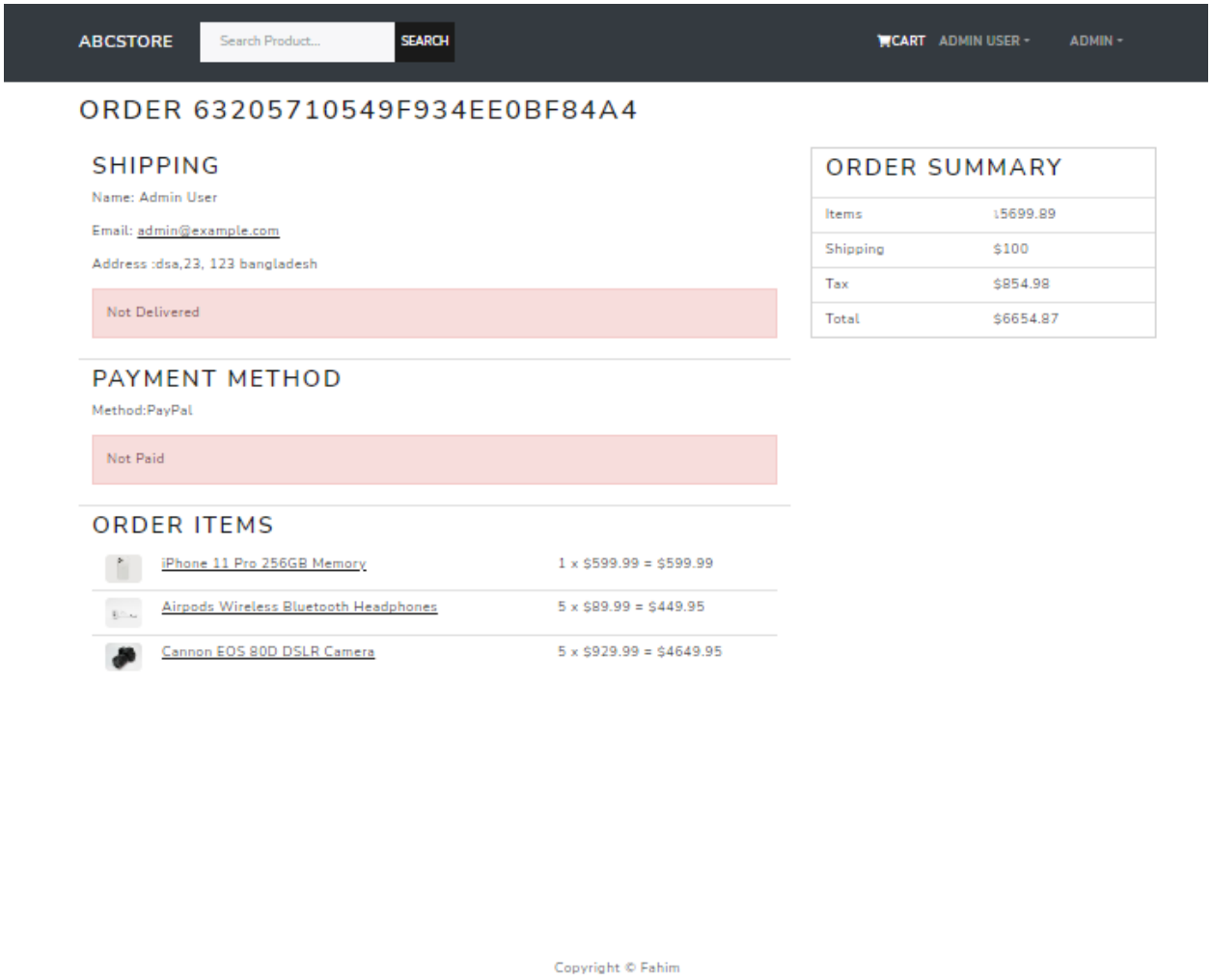
5.4.4 Order Summery



5.4.5 Placed Order



5.4.3 Architecture

Front-end

ReactJS was used to implement the front-end. React-redux is used for global state handling. Different layouts were utilized for various displays. The user interface is quite intuitive and user-friendly. When a user connects onto the system, he or she may immediately begin using the program due to the application's simplicity while still including several features. There will be frequent modifications to adapt the UI to the user experience.

Backend

The backend was written using theJavascript expressJS. Javascript is the most popular language in the modern era. Our project was developed in Javascript since there is already a vast pool of javascript libraries and tools available to make development easier. Because of the vast collection of libraries supplied by Javascript, it simplified our application development. The applications developed using Javascript are believed to be stable. That is partially due to the fact that a new version of Javascript with new features is published every day, including complex features. Since Javascript is also one of the most dependable and powerful programming languages, its compilers helped detect any form of fault in our code. Aside from that, Javascript includes excellent features such as exception handling and garbage collection.

Database

MongoDB was used for database to safely store the data without any issues. It also assisted in the execution of backend code responding to events activated by databases. Nowadays, most of the apps have the login facility and the developer aims to simplify and secure it better.

Chapter 6: Result and Analysis

6.1 Overview

As previously stated, the application, ABC Store, is a Javascript-based application with mongoDB as the database. The application is developed in visual studio code, with the front interface designed in ReactJs and the backend written in nodeJS. The project's total work was centered on the needs of our company's stakeholders. The initial phase was to gather project needs from key stakeholders, which were then organized according to the project's requirements plan. Because our application will be utilized by users all over the country, we wanted to create a project that would meet their requirements. To ensure that the final UI meets the needs of the customer, we had to design mockups and modify them multiple times. Along with the UI, we had to make sure the project had functionalities that were identical to the application of similar

companies as us. To put it another way, we wanted our software to be simple to use while having extensive features.

6.2 Testing Result

The application's development has been successfully completed. Each screen's backend functionality was written at the same time as its UI was being designed. Several new functionalities have been incorporated as a result of changes in specific requirements. I had tested the program whenever new functionalities were incorporated. I planned to finish the design and development process before moving on to testing, however owing to time constraints, I had to complete all 3 phases at the same time. Many test cases had failed, necessitating the efforts of me to correct the bugs and errors. Not only did I run into faults throughout the development and testing phases, but I also had a number of issues with storing data in our Firebase database, which were eventually resolved. Our company has released the beta version for now. Once we have completed our test scenarios, we will release our company's final product.

Chapter 7: Engineering Problem Analysis

7.1 Sustainability of the project

The term "sustainability" refers to a product's ability to be maintained and upgraded. In today's environment, any program that is released must be maintained and regularly updated for the benefit of its users.

Community Sustainability

When the project is officially launched, it will significantly impact the community because people will be relieved of the hassle of physically ordering packages from the companies. Instead, they will be able to request and receive and pay online or in person the parcels to the companies through the application developed by our company. Hence, we believe the user base will grow across the country because it will ease the process of purchasing physically. In conclusion, this project will be community sustainable.

Financial Sustainability

After the project is launched, the primary goal will be to make it easier for consumers to order parcels to the ABC Enterprise office. The parcels will then be delivered to the customers' desired destination using their own courier firms. Even though the application is free for users, the company will profit from the initiative since customers are more inclined to ship parcels from home using a web application as there is a delivery charge and no hassle. The application will be upgraded and maintained more frequently with the revenue produced.

Organizational Sustainability

After the project is completed, the application may be maintained and upgraded by the same team, or the company may grow the team by adding more members to the project in order to improve the project. The company intends to expand more functionalities and improve the application's appearance by changing the UI. The development team will resolve any faults reported by customers. As stated in previous sections of this study, the application will be maintained and updated on a regular basis to improve the experience of clients using the application so that the project is organizationally sustainable.

7.2 Social and Environmental Effects and Analysis

Socials Effects

ABC Store intends to simplify the process of customers delivering items to courier firms by automating the procedure previously performed manually by consumers. The application will save consumers time and money used to deliver the parcel. Additionally, it will enable employees to manipulate the pickup request submitted by the customer with a few clicks. To complete CRUD operations, staff will require an internet connection and a smartphone. Briefly said, ABC Store will make the procedure of sending a package abroad straightforward and stress-free for both consumers and employees.

Environmental Effects

People are finding it impossible to move from one place to another as the world faces a critical period due to the global pandemic of Covid-19. This system will play a significant part in this situation since it will allow most employees to operate from home and prevent customers from physically visiting the firm's warehouse to deliver the parcel. Only the delivery personnel are required to bring the parcel to the warehouse so that the packaging staff can pack it. As a result, a substantial amount of human contact is reduced, limiting the possibility of the virus spreading.

7.3 Addressing Ethics and Ethical Issues

With the proliferation of data collecting, hacking, and criminality in the world of smartphones, some unstated norms and ethics principles must be observed while developing and distributing an application. Developers of ABC Store believe that the

application complies with all applicable codes of conduct for application release and development, which have been taken into serious consideration. Some of them are,

Data Security: MongoDB stores data on the cloud. When compared to on-premises security, cloud services provide more robust data security; as a result, there is a low risk of data exposure to the public. MongoDB Security Rules act as a barrier between users' data and malevolent users. Complex rules have been written in the ABC Store to ensure the best security for the app's data

Data Storage: Since all our application data is stored in the MongoDB database, which is hosted in the cloud, there is essentially no risk of data loss or leakage due to system failure. If the data were retained on-premises, there would be the risk of data loss due to system failure or other disasters. However, because our application data is stored in the cloud, there is virtually little risk of data loss.

Collecting user data: The system will collect only user data relevant to the business. The user's data will be gathered only if the user gives permission to collect the data or willingly provides their data on our application.

Sharing User Data: Despite the fact that the data obtained is unlikely to cause any privacy concerns for most users, the system does not give any service, business, or third-party access to the information acquire

Chapter 8: Lessons Learned

8.1 Problems Faced During this Period

Due to the pandemic of covid-19, our workplace had to restrict the number of employees. As a result, I was forced to work from home constantly. This was an issue

for me since it resulted in a breakdown of communication with my CEO on the application's functionality and UI design. Due to the fact that my firm requested that I develop a professional application, and this was my first time developing an app for an organization, the skill set required for this process was fairly extensive. I was required to learn plenty of new skills in order to incorporate different functionalities necessary for my application, such as how react works on top of that how react-redux works.How to manage global state and its usage. Initially, I was assigned a team member to assist me with my project, but owing to financial constraints, I was obliged to develop the application alone. Throughout the app development process, I encountered numerous challenges whenever I introduced a new feature or made a modification, such as when I added a new feature, my app crashed owing to various code flaws or missing lines. Solving the bugs was a challenging effort for me, as some of the issues were extremely difficult to discover and, once located, took an unusual amount of time to resolve.

8.2 Solutions of those Problems

Even though I was required to work from home, I was expected to attend daily meetings and discuss what I created that day, which resolved the issue of communication breakdown. Despite the fact that designing a professional application was new to me, I overcame obstacles and accomplished my goals through dedication to my job and hard effort. Working alone on the project was initially challenging since all of the responsibilities that should have been carried out by a team were instead handed to me to fulfill on my own. However, as I gained knowledge and experience, I adapted to performing duties alone, and after a while, I improved at my work. To ensure that any bugs or issues I encountered were resolved, I tested my program several times whenever I added new features or modified it. While it was obviously time consuming, I was able to rectify all of the flaws or issues that I encountered, which benefited me in

the long run and saved me the time and effort required to find the bugs of a whole application from the ground up.

Chapter 9 Future Works & Conclusion

9.1 Future Works

This project, ABC Store, is still evolving, and we intend to add additional features to it. Some of the features that we have plan to add in the upcoming future are:

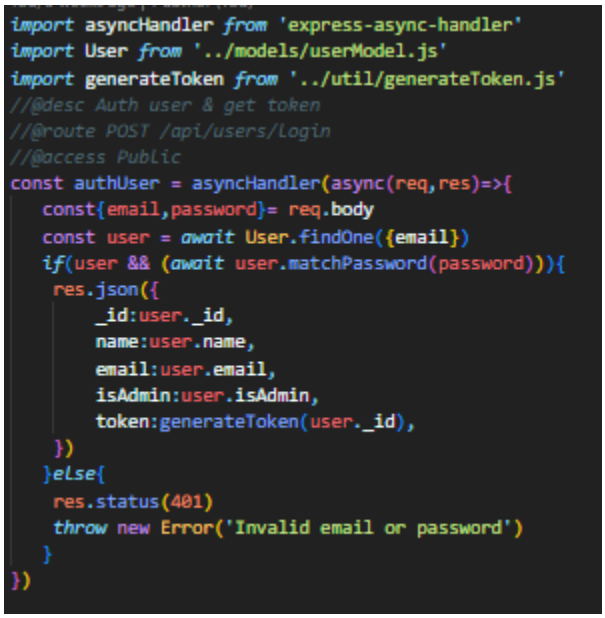
- ☐ Add Payment Method like sslcommerz which include popular payment method like bkash, credit card method
- ☐ Provide DashBoard for courier and give a google map for exact location to parcel.
- ☐ 3d mapping of the product for better inspection for the customer.
- ☐ Adding Another User ex Courier Service
- ☐ Customers can pinpoint exact locations through google maps
- ☐ Beautify the UI and provide eye-catching banners and products.

9.2 Conclusion

Working as an intern on the project ABC Store was a wonderful experience. During my internship, I learned and applied a lot about visual studio and web application development. I learned a great deal about one of the most popular programming languages, JavaScript, as well as a popular database, MongoDB. I have also gained a lot of knowledge about creating various types of web applications with MERN stack and getting to know its power. I was challenged to quickly adjust to changes and come up with rational answers. Throughout my project, I discovered how to collaborate with my supervisor to overcome obstacles. Despite the great strain of producing a professional application on my own, I did not give up and succeeded in completing my aim of developing the application in accordance with the specifications. This internship opportunity has given me the opportunity to learn more about the development environment and gain industry experience. I would like to thank everyone who has helped to make my time as an intern a memorable one.

APPENDIX(backend code Snippet)

Login User



```
import asyncHandler from 'express-async-handler'
import User from '../models/userModel.js'
import generateToken from '../util/generateToken.js'
//@desc Auth user & get token
//@route POST /api/users/Login
//@access Public
const authUser = asyncHandler(async(req,res)=>{
   const{email,password}= req.body
   const user = await User.findOne({email})
   if(user && (await user.matchPassword(password))){
    res.json({
        _id:user._id,
        name:user.name,
        email:user.email,
        isAdmin:user.isAdmin,
        token:generateToken(user._id),
    })
   }else{
    res.status(401)
    throw new Error('Invalid email or password')
   }
})
```

AN ELECTRONIC COMMERCE SITE FOR

MULTINATIONAL COMPANY

By

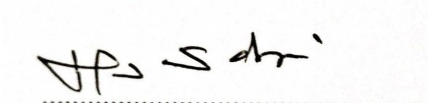
MUHAMMAD FAHIMUL HUQ

Student ID: **1610044**

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)

Name of the Supervisor

Department of Computer Science & Engineering

Independent University, Bangladesh