

ESHOPPERS – AN ONLINE PRODUCT MANAGEMENT SYSTEM

BY

MD.RASHEDUJJAMAN

ID: 181-15-11024

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

Supervised By

Dr. Md. Zahid Hasan (ZH)

Associate Professor & Coordinator MIS

Department of CSE

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

JANUARY 2023

APPROVAL

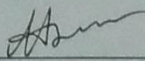
This Project titled “Eshoppers- An Online Product Management System”, submitted by **Md. Rashedujjaman ID: 181-15-11024** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on **28th January 2023**.

BOARD OF EXAMINERS

Chairman

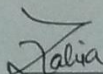
Dr. Touhid Bhuiyan
Professor and Head
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



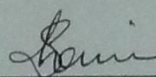
Nazmun Nessa Moon
Associate Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



Zakia Sultana
Senior Lecturer
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

External Examiner

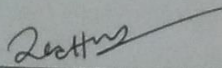


Dr. Shamim H Ripon
Professor
Department of Computer Science and Engineering
East West University

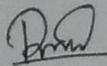
DECLARATION

I hereby declare that, this project has been done by me under the supervision of **Dr. Md. Zahid Hasan, Associate Professor & Coordinator MIS and Department of CSE** 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.

Supervised by:



Dr. Md. Zahid Hasan(ZH)
Associate Professor & Coordinator MIS
Department of CSE
Daffodil International University



Md. Rashedujjaman
ID: 181-15-11024
Department of CSE
Daffodil International University

ACKNOWLEDGEMENT

First of all, I would like to thank you, God, for all the good in my life. After the guidance of God, it has become possible to successfully complete my final year project.

I am grateful to the **Dr. Md. Zahid Hasan (ZH)**, Associate Professor & Coordinator MIS and Department of CSE Daffodil International University, Dhaka. He was an amazing help in completing this project. He was always patient and took great care of the project, providing scientific guidance and constant encouragement. He also gave me valuable advice and reading many poor-quality drafts before helping me to improve them. He was a great help in ensuring that the project was completed successfully.

Thank you to Professor Dr. Touhid Bhuiyan and Head, Department of CSE at Daffodil International University for their help in completing our project and to all the faculty members and staff at the university. Thank you, everyone in the Daffodil International University community, for taking part in our discussion while completing the coursework.

I must be grateful for the support and patience of my parents, who have been a constant source of support throughout my lives.

ABSTRACT

In this modern generation, most people are using technology to lead their lives and fulfill their daily needs. Most of us in this generation are using online shopping for clothes, groceries, and electronics. We have a successful E-commerce web application that uses MERN stack technology. This platform contains MongoDB, Express.JS, React.JS, and Node.JS modules. This application is fully functional and has different views for users and admins, as well as integrated with a payment gateway for checkout. By using our website, we can buy different types of clothing, and we can choose different styles based on customer interests. This project is going to be very easy, we can add different products and remove them also. We have put together administrative functions for the website, such as creating products, creating categories, and creating an admin dashboard. For customers, they can easily add their items to the cart. Based on the items in the cart and the customer's bill, the system will generate and print a receipt for the customer. The customer can then pay by using stripe.

TABLE OF CONTENTS

CONTENTS	PAGE
Board of examiners	ii
Declaration	iii
Acknowledgements	iv
Abstract	v
CHAPTER	
CHAPTER 1: INTRODUCTION	1-5
1.1 Introduction	1
1.2 Motivation	1
1.3 Objective	1
1.4 Scope and Limitation	2
1.5 Problem statement	5
1.6 Significance of the Project	5
CHAPTER 2: BACKGROUND	7-8
2.1 Introduction	7
2.2 Comparative Analysis	7
2.3 Related works	8
2.4 Scope of Problem	8
2.5 Challenges	8
CHAPTER 3: REQUIREMENT SPECIFICATION	9-13
3.1 Functional Requirements	9

3.2 Non-functional Requirements	10
3.3 Class Diagrams	10
3.4 Use Case Diagram	11
3.5 Activity Diagram	12
3.6 Software Requirements	12
3.7 Plugin Requirements	13
3.8 Summary	13
CHAPTER 4: FEATURES OF DESIGN	14-24
4.1 User Interface Design	14-20
4.2 Back-end Design	20-24
CHAPTER 5: IMPLEMENTATION AND TESTING	25-28
5.1 Database management using mongo DB	25
5.2 User Interface & Back-end Design implement	25-28
5.3 Testing API with Postman	28
CHAPTER 6: CONCLUSION AND FUTURE SCOPE	29-30
6.1 Learnings	29
6.2 Discussion and Conclusion	29
6.3 Future Improvement	29
REFERENCES	30

LIST OF FIGURES

FIGURES	PAGE NO
Fig 3.1: Class diagram of the application	10
Fig 3.2: Use Case diagram	11
Fig 3.3: Class diagram for the Admin.	11
Fig 3.4: Activity diagram for users purchasing products	12

Fig 4.1: Register Page	14
Fig 4.2: Login Page	15
Fig 4.3: Main Home Page	15
Fig 4.4:Product Page	16
Fig 4.5: Search Product Page	16
Fig 4.6: Price & Rating page	17
Fig 4.7: Customer Profile	17
Fig 4.8: Customer cart page	18
Fig 4.9: Payment Shopping Details	18
Fig 4.10: Customer payment confirm order page	20
Fig 4.11: Customer payment page	19
Fig 5.1: Mongodb execution page	25
Fig 5.2: Layout component home.js	25
Fig 5.3: Search Bar function	26
Fig 5.4: Need packages page	26
Fig 5.5: Cart function	27
Fig 5.6: Order details	27
Fig 5.7: Payment create controller	28
Fig 5.8: API Testing with postman	28

CHAPTER 1

Introduction

1.1 Introduction

Eshoppers is a web application that makes the trade for buyers and sellers in a few clicks. This application helps the business personnel (e.g., administrators, managers) to easily manage users and products, apply or remove sales, keep track of orders etc.

In addition, subscribers can search and buy products through secure transactions online and see their transactional histories later. The scenario seems like it could be easily solved by keeping things simple, and using fail-safe designs.

1.2 Objective

- **Manage the purchasing details:** The customer's entire shopping process is managed by the online store, including the details of each purchase. The company prints small print on what shoppers bought.
- **Manage the charge details:** In online shopping, clients can choose to pay by debit or savings cards. Websites may also provide the option to pay by online price.
- **Generate the data of clients and products:** The online shopping system keeps track of all the details about the customers and the products they bought.
- **Reduce the fee of management:** Online purchasing or digital buying can help to reduce the cost of products.

1.3 Motivation

- Launch new products and services
- Leverage brand name
- Enter world markets
- Respond to competitive pressures
- Meet clients demand
- Increase distribution
- Reduce transaction charges
- Reduce consumer assist costs
- to make suitable products in accordance to customers' economic situation

1.4 Scope and Limitation

Scope:

1. Digital information exchange: The exchange of digital facts can symbolize communication between two people. It can also be used to coordinate the flow of items and services, or to transmit electronic requests.

2. Enable- Technology: E-commerce is a growing industry that relies on cutting-edge technology. Web browsers are some of the best customer interfaces available, but other e-commerce platforms, such as automatic teller machines (ATMs), also fall in the widely wide-spread class of online shopping. If a business solely relies on human interactions to manage transactions and markets, they can make the transition to e-commerce with technology.

3. Customer satisfaction: E-commerce makes it possible for businesses to get personalized market information that helps them protect their clients' interests by ensuring quick order success and excellent customer relationship management (CRM). End-to-end e-commerce chain administration provides the ability to smoothly move demand and provide results in high client retention.

4. Accounting: E-commerce requires a lot of financial accounting and treasury management to run efficiently. This is because the ecommerce platform has its own built-in database that allows for easy planning and strategy determination.

5. Integration of suppliers: Suppliers can be connected to help manage just-in-time inventory, leading to lower inventory carrying costs and a wider availability of fabric options.

6. Support the discussion: E-commerce is a way for companies to trade goods and services between their organizations. This can include things like customer interactions, supplier relationships, and market exchanges. In this sense, e-commerce is a broad term that affects a lot of different aspects of companies, their customers, and their competitors.

Limitation:

1. Security

Ecommerce security is a big concern. People are hesitant to share their personal information on the internet, especially when there are better information encryption structures in place. Moreover, some websites do not have the ability to authenticate transactions, which makes it more difficult for ecommerce to grow.

2. Insufficient privacy

Online shopping can result in some privacy loss, but it's not as bad as some people think. I would like to purchase this item from the seller. My information such as an address is included. There are still a lot of websites that don't have the technology to protect sensitive information. There are other sites that are illegally collecting consumer information without permission. This is one reason why people get skeptical when using ecommerce platforms.

3. Tax Problem

Different countries have different income tax systems, which can make it difficult to pay your taxes. Many sellers have difficulty estimating sales taxes, which may cause them to undersell their products. The dangers of bodily stores losing commercial enterprise if online transactions are not taxed is a valid point. Ship faster, cheaper, and smarter to reduce waste and impact.

4. Fear

Despite being well-known for its online shopping capabilities, the human mind is still not very good at accurately guessing what products people will want or need. The customer is uncertain of the product's features and is not able to look at it. People generally prefer to purchase items from physical stores because they understand the importance of quality and authenticity.

5. Product Appropriateness

We don't think it's a good idea for customers to see the product they're buying online. It would be difficult for them to understand what they're buying. Sometimes, the product that's being offered on an ecommerce site doesn't match the description or specifications that are listed. If you don't have a lot of "touch and feel" in your life, it can make it difficult to connect with people.

6. Cultural Barriers

Ecommerce involves dealing with customers in a variety of different countries, so the way they do things can vary. There could be communication issues and these could also lead to problems between the buyer and seller.

7. High Cost of Labor

We have a team of experts who can help you get the most accurate and efficient ecommerce and transport processes. In order to get the desired results, organizations must spend a certain amount of money and hire the best talent possible.

8. Legal Concerns

Many legal challenges will need to be considered when running an online business, such as meeting regulatory requirements and securing your online presence. These rules can also vary depending on the country. The reasons cited against agencies switching to electronic records management make it difficult or impossible to do so.

9. Technical Restriction: Ecommerce requires innovative technology platforms to achieve top performance. Some problems with the site can be caused by factors such as a lack of proper domain, network, and software issues.

10. High Cost of Technology

Despite money not being the only factor to consider when building up a technical infrastructure for an ecommerce business, a lot of people are interested in doing so. The employees want to stay up to date on the latest technology trends so that they can stay competitive.

11. Delivery Assurance

I am confident that my product will be delivered and that the website is not a scam. Businesses want to create a relationship of trust with their clients by providing positive reviews and testimonials. They charge an extra fee to have their website added to their service. In order to succeed in ecommerce, an enterprise must have a business model that meets its challenges and implement effective strategies.

1.5 Problem Statement

There are many websites on the Internet that offer a variety of products and offers that a consumer can find and buy online, such as shoes, clothing, sunglasses, and more items. While online services can be great, they can also be expensive. So, if you're looking for a great way to save money, consider using online services. Plus, online services can provide some great features, such as being able to access paid services. We offer a variety of services that can help you book your next travel adventure. Our online account makes it easy to book your trip, and our travel ticket booking service makes it easy to find the best deals on tickets. Plus, we have a variety of other services that can help you get the most out of your next trip. In this study, we are looking for the best ways to shop online through the consumer. However, there are many reasons why a buyer is concerned about buying online because some customers are no longer inclined to engage in online buying because they are worried about the quality of the product. We found that an online presence is not very effective, and we don't have trust anymore, so we decided to do a user review and use the product search based on the review. The customer can ensure that they purchase products that are of high quality. If you're a customer who's looking for a specific product within your budget, we've put this website together to help you find the best deal. In addition, it is important to understand how the social elements influence your learning. Our study aims to understand the buying intentions of online shoppers and to explore their mindset when making online purchases.

1.6 Significance of the Project

Convenience

Why would you use an online shopping website for shopping? The most popular reason people use a computer is because it is a convenient tool. One person can shop from home for products, purchase products, and promote products at any time.

Round the clock service

E-commerce provides us with convenient and reliable services at all times. Customers don't like to have to go around a physical market to get what they want, so we've created a virtual market where you can buy anything you want online.

The online platform is a great option for busy people who want to stay connected without having to leave their job or home. Being available to your patron 24/7 can help them feel supported and confident.

Wide Platform

The e-commerce industry provides businesses with the ability to reach a large number of potential customers from all over the world. Select an e-commerce platform that can handle the limitations of your business geography.

Business promotion

E-commerce is a great way to get more traffic to your site. It's the age of digital media, and people are more interested in buying things online than ever before. Your online business is essential to its success. We want to make your business easy to use, accessible to a wide audience, and easy to run. Internationalizing your business will help make your business stand out from the rest, both domestically and abroad.

Lesser cost

If our inventory management system is automated, then we can save money and reduce our risk. If you have an ecommerce business, it's much more advantageous than running a physical store because you can save those costs.

Easy setup

There is no need to set up a physical store when starting an online business. This cost is much lower, which makes it a great option for those who are looking to start a business. Giving people the ability to buy products online is easier than running a physical store. This is because licensing and allowing online advertising can save you money and make your business more efficient.

Economy

There is no e-commerce business that doesn't require money up front, so investing in products, marketing, and methods can help increase profits. This tool can help you improve your advertising techniques, which can help increase website traffic.

Better product information

Most online ecommerce websites provide detailed information about their products and accompanying images and videos for product demonstration. This allows customers to see how their product would look and feel in person. The visualization aids in helping clients understand the product and its usability.

CHAPTER 2

Background

2.1 Introduction

Eshoppers is a website that is only accessible through the use of a computer. In today's technological age, e-commerce sites play a big role in many people's lives. Many people in western societies rely heavily on e-commerce to get their daily needs met. Bangladesh is becoming more popular to people every day. We order food, furniture, register for classes, and use other online services. We download books, music, and movies. And, so much more. E-commerce is becoming increasingly popular, and it looks like it's here to stay. That's why we have created another e-commerce site called NittyoBrittyo. It offers a variety of products and services that will be of great interest to you. The user interface of this site is more user-friendly than other sites, and it has a beautiful graphical design. Which will make the customer feel good about themselves.

2.2 Comparative Analysis

We developing our project Eshoppers using MERN Stack. Like our systems, there are many other structures reachable in the market currently. But there are so many variations between them too. First, what we have to say is, our project is a unique one with some unique features. It meets the demand of the customers smoothly. Also, we have some extra elements in thinking that we will include in our mission very soon. Our assignment is now not only unique in features, however additionally it cares the demand of the users. It is fee efficient, it will be handy to get and also, it is effortless to use. Its user interface will appeal to the clients. Being easy to use, it will supply the users an experience that they have by no means tasted. Selection will become

intimidating for inexperienced persons to choose the proper stack for their applications. MEAN Stack is the most used open-source JavaScript framework in 2018.

It allows builders working for top cell app improvement organizations to build modern internet purposes with Mongo DB, Express, Angular JS, and Node.js. MEAN Stack has emerge as popular for its speed, reliability, and scalability.

The 2d most used open-source software program stack is the MERN stack which is also recognized as Micro-Era Enterprise Node (MERN) stack. It consists of Mongo DB, Express, React, Redux, or Angular 2+

2.3 Related Work

1. We Store the products on the database and the exhibit these products on the User Interface.
2. And there we can add merchandise to cart, Empty Cart, Sign-In, User Sign-Up, User Checkout, Check Ordered Product, Log-Out and Login.
3. We work with a variety of approaches of net Development and client-server programming
4. As well as made a successful E-commerce internet site which is invulnerable and authenticated.
5. We used agile Approach in development as we make a feature and take a look at it on the factor to create a properly working End Product.

2.4 Scope of the Problem

Our Eshoppers Project has some problems. Payment problem there we have added international payment like; debit card, credit card but most of the people in our country have no credit card or debit card, even many people doesn't have any bank account so there will be problem in our project payment system. We don't have enough sellers to sell their products, so our product is not enough like others e-commerce site.

2.5 Challenges

This project has posed many challenges for us. There are often errors and bugs in the code. The code needs to be corrected. It took a lot of time and effort to get the codes into a suitable management system. In addition, all the problems we have to face:

- Images no longer render correctly
- Mobile shopping is the new future
- Unfriendly return policy
- Digital payment failures
- Surcharges
- Slow online shopping website speed
- Lack of faster checkout options
- Suspicious reviews
- Delivery methods and times
- Fairly poor Customer Service
- Correct product descriptions for increased ranking and positioning on websites

CHAPTER 3

Requirement Analysis

3.1 Functional Requirements

- Users must be capable to search for products
- Users need to be able to view product details
- On registration, users should have to verify their e-mails
- Users should be capable to add or delete products to cart
- Subscribers should be able to add feedback on products
- Subscribers be capable to view and edit their profile info
- Subscribers need to be in a position to change/reset password
- Subscribers have to be capable to view transaction histories later
- Products need to be able to be set on sale by workplace personnel (i.e., managers, administrator)Managers need to be in a position to add, replace and delete products
- Managers ought to be able to add, replace and delete brands, classes etc.
- An interactive conversation machine have to be set between managers and subscribers for user support.
- Managers should be in a position to see and change orders' modern statuses

- Admin must be in a position to lift out all the tasks a manager moreover ought to have complete power over all the users.

3.2 Non-functional Requirements

- E-mail verification
- Server-side validation
- Proper routing
- Ease-of-use
- Stock validation
- Payment validation

3.3 Class Diagrams

Application Class diagram

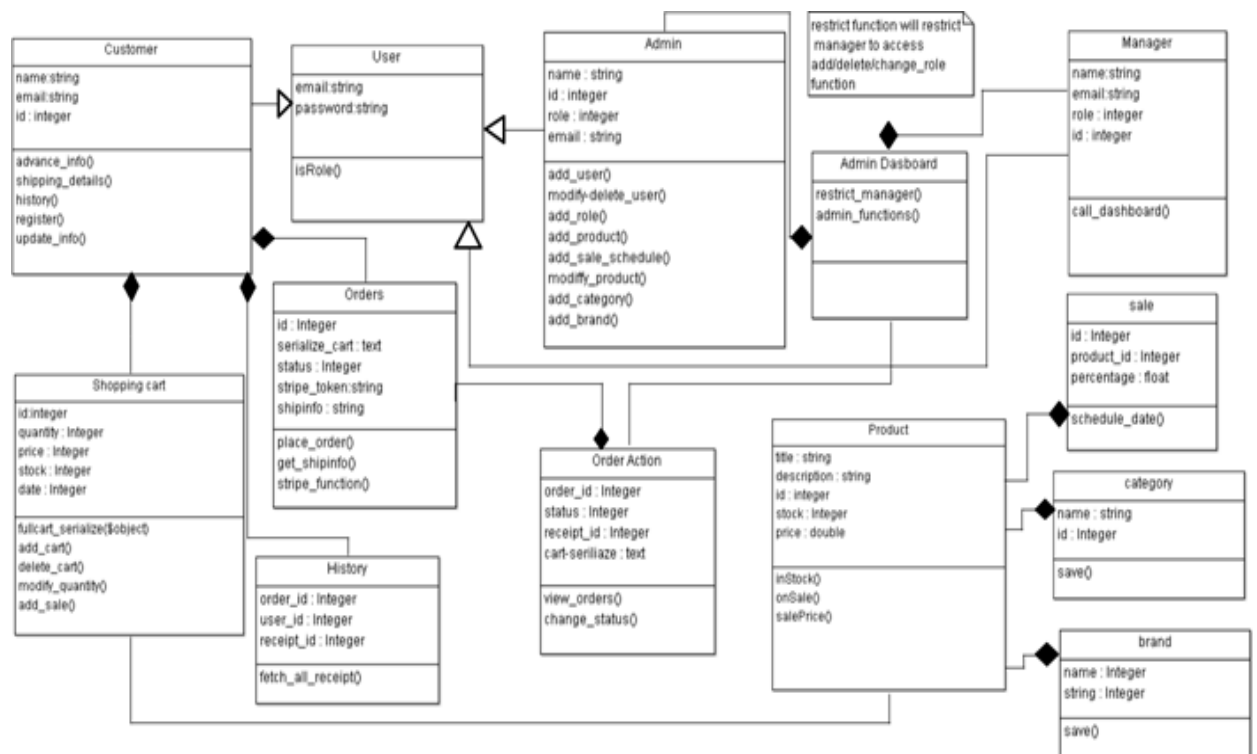


Fig 3.1: Class diagram of the application

3.4 Use Case Diagram

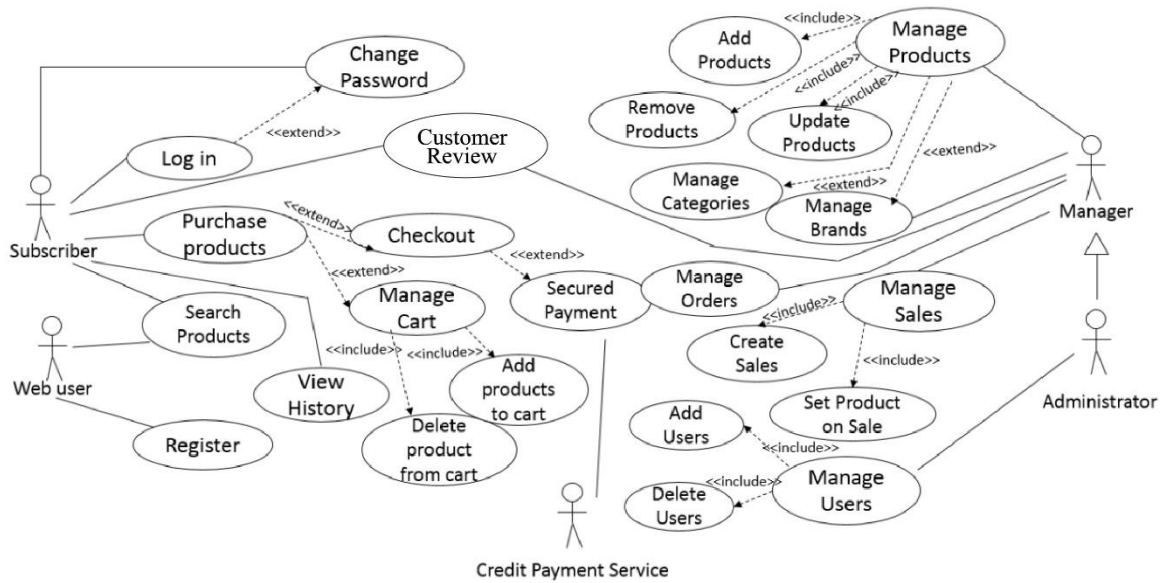


Fig. 3.2: Use Case diagram

Class Diagram for the Admin

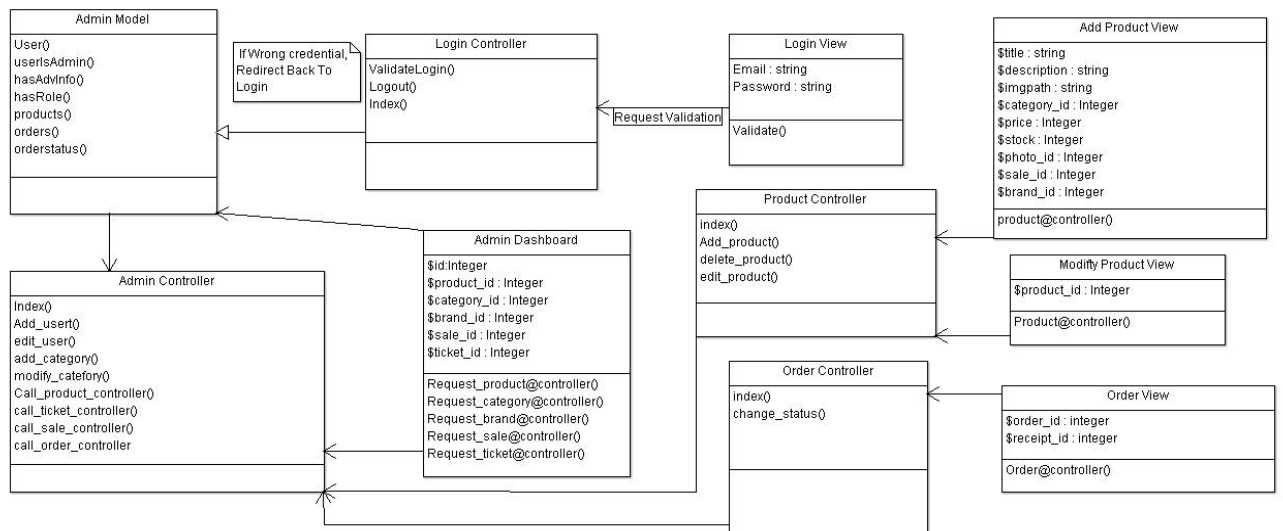


Fig. 3.3: Class diagram for the Admin.

3.5 Activity Diagram

The activity diagram below shows the process of product purchasing using the application

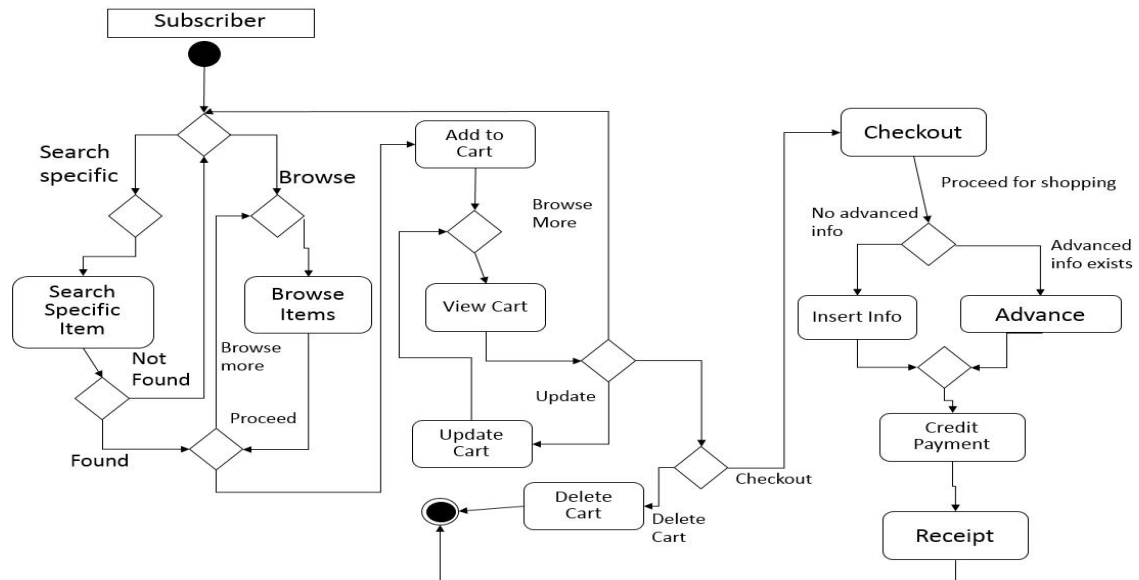


Fig. 3.4: Activity diagram for users purchasing products

3.5 Software Requirements

For establishing the system we need these following software packages:

- JavaScript: JavaScript is a scripting language that is object-oriented and cross-platform.
- NodeJS: Node.js is an open source, appliance software, and server environment.
- Express.js: Express.js is a versatile framework that is built on top of the NodeJS platform. It makes it easy to create web applications. This software has many features that can be useful for internet or cell development. Express.js provides an extensive API that makes it easy to work with HTTP requests and middleware functions.

- **Mongo DB:** MongoDB is an open-source database that is currently used by millions of people. It is also the leading NoSQL database. One of the most popular programming languages today is written in it. MongoDB is a cross-platform database that operates on the concepts of Collections and Documents, providing high performance with excessive availability and ease of expansion.
- **ReactJS:** React (also known as React.js or ReactJS) is a free and open source external JavaScript library for building consumer interfaces based entirely on UI components.
- **Redux :** Redux, nothing but an open-source JavaScript library that carries the kingdom of the application. The working of Redux is very simple to understand. There are three constructing components of the Redux as- Store, Actions, and Reducers.
- **REST_API:** A REST API is an interface that allows programs to interact with web services in a REST-style.

3.6 Plugin Requirements

Stripe: API for payment (debit/credit card authenticity) validation.

3.7 Summary

This chapter discusses the basic structural and supplemental requirements for the application using software requirement analysis, sets the plot for a better understanding of the following chapters.

CHAPTER 4

Features of Design

4.1 User Interface Design

User Registration and Verification

The web application “Eshoppers” will let “guests” browse and search through the product details and add the product they prefer to purchase to the cart, but to get right of entry to the cart and advance through the process, they have to login, if not- register on the website by verifying their e-mails.

The registration page will take users’ First Name, Last Name, a special E-Mail id, validated and choose picture password initially.

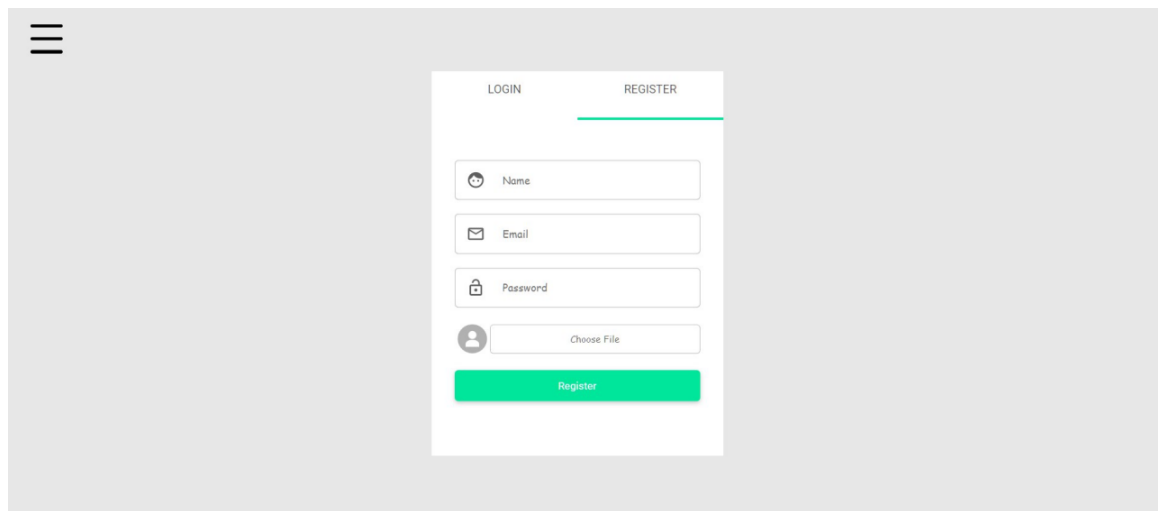


Figure 4.1 Register Page

User Login

The Login page will take users' Email and Password. And user must be login in the site for proceeding to payment. Without login users cannot payment .

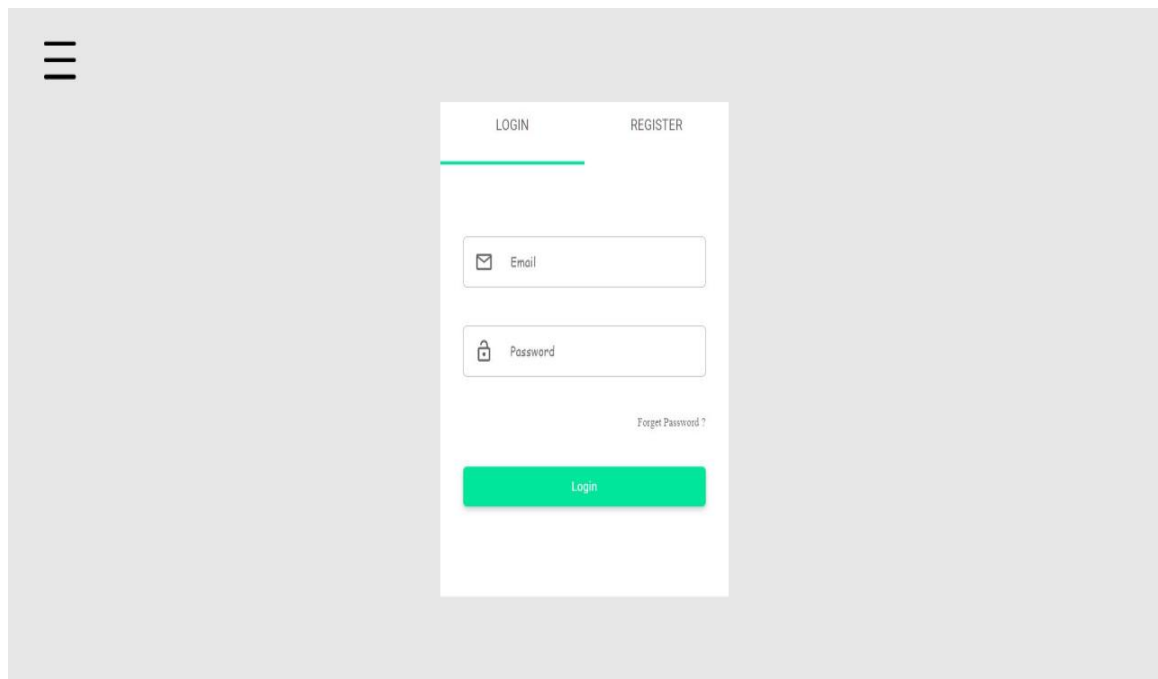


Figure 4.2 Login Page

Home page

This is the main home page of the eshoppers website. It includes the indispensable components of an online store like the function bar, the search bar, cart, user profile and a list of products. Customers who visit the store can search for the products they want to buy.

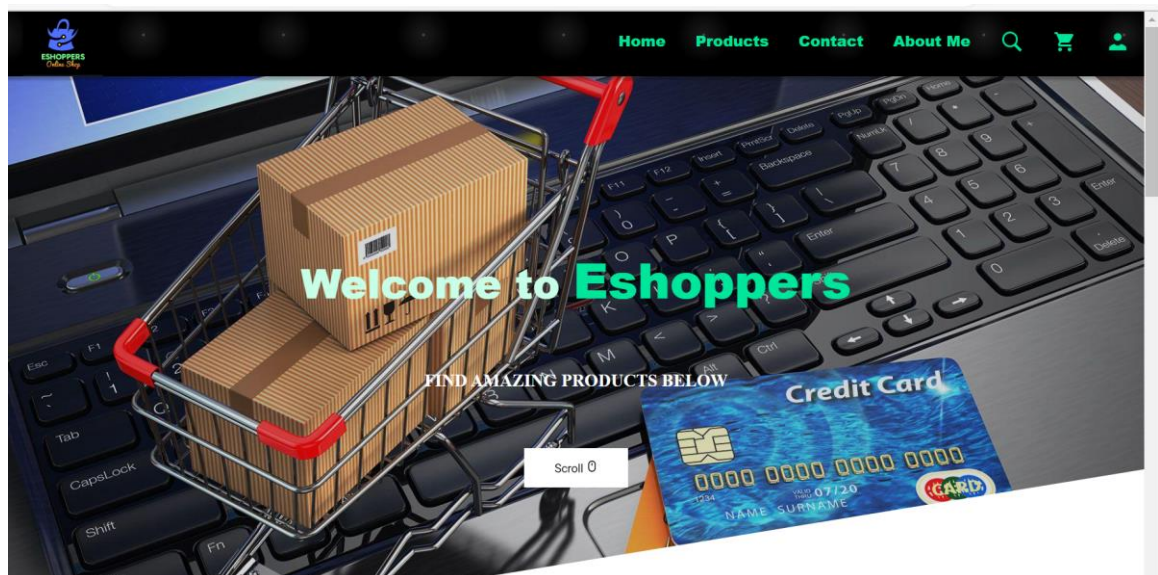


Figure 4.3 Main Home Page

Product Page

This is product page, here user can see all the products and get to choose and buy.

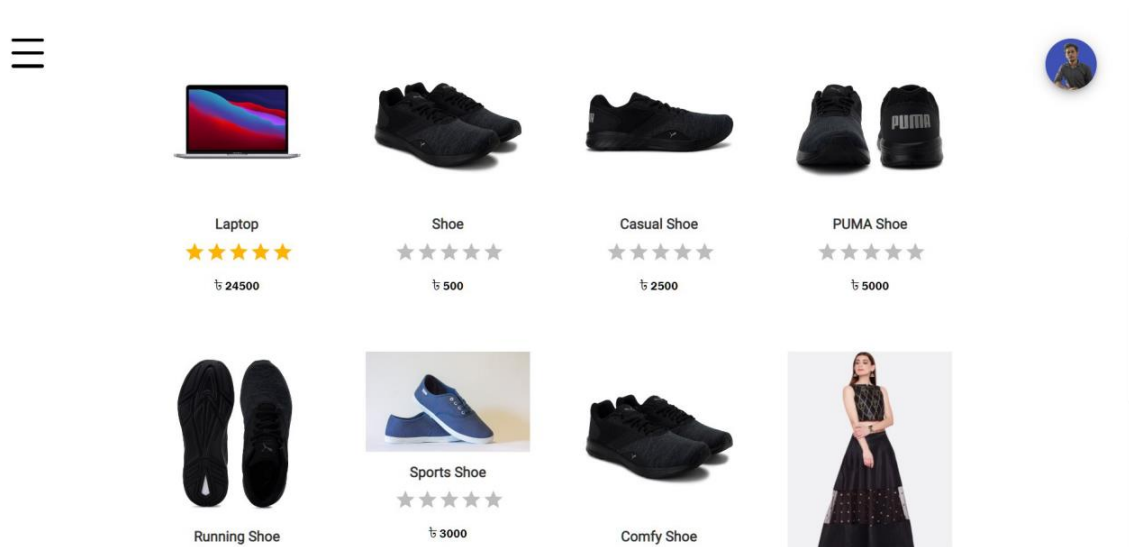


Figure 4.4 Products Page

Search Products

This is the searching page for finding product .

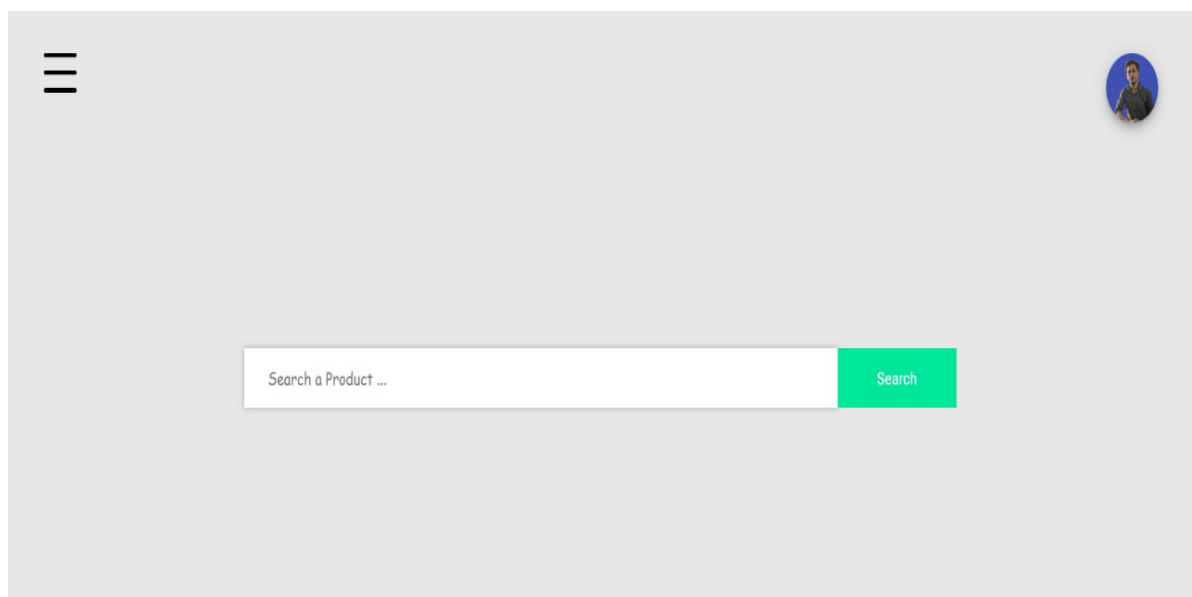


Figure 4.5 Search product Page

Amount and Rating wise Search and All Categories Show

Here user can search by price range and a unique option is rating wise search.

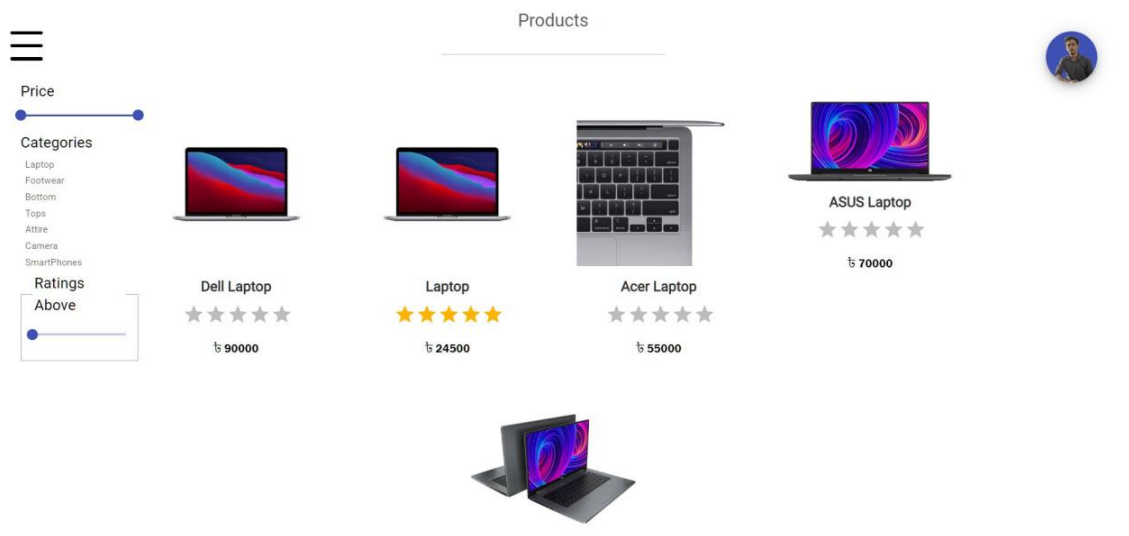


Figure 4.6 price & rating wise search page

Customer Profile

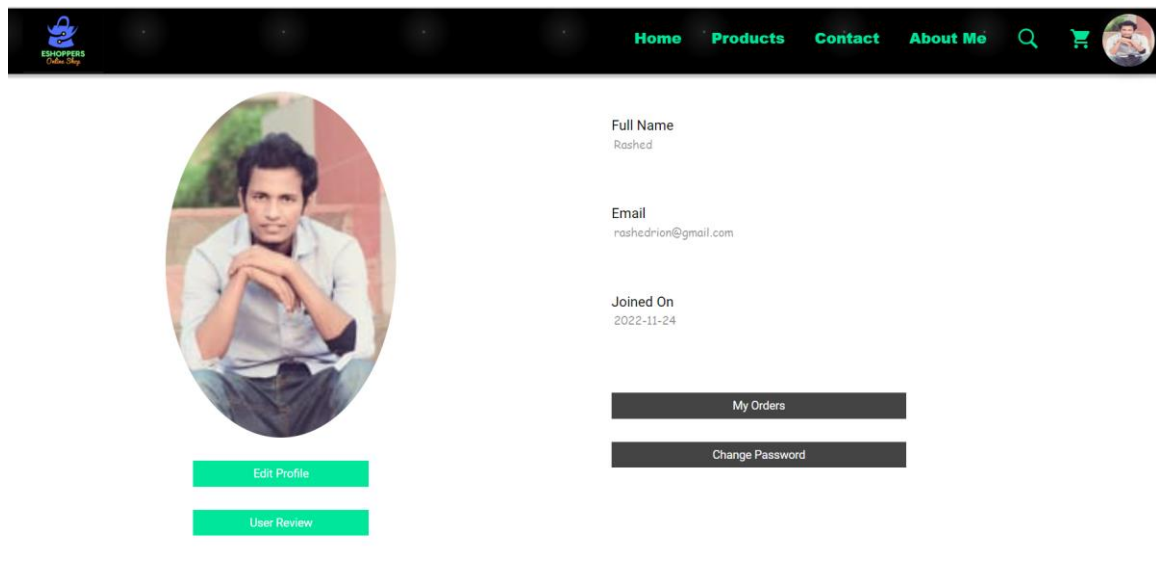


Figure 4.7 Customer profile Page

Customer Cart



Figure 4.8 Customer cart page

Customer Payment System

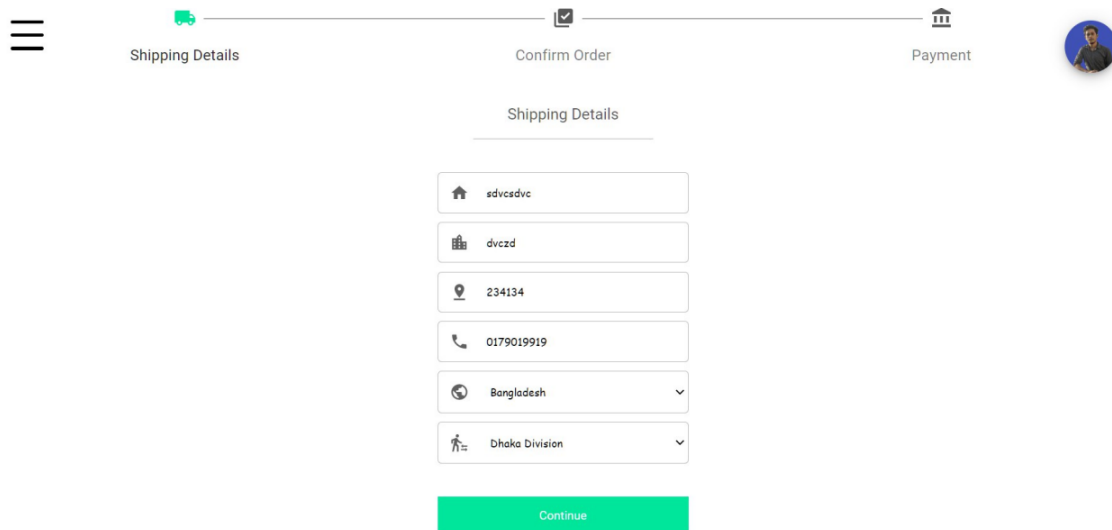


Figure 4.9 Customer payment shipping details page

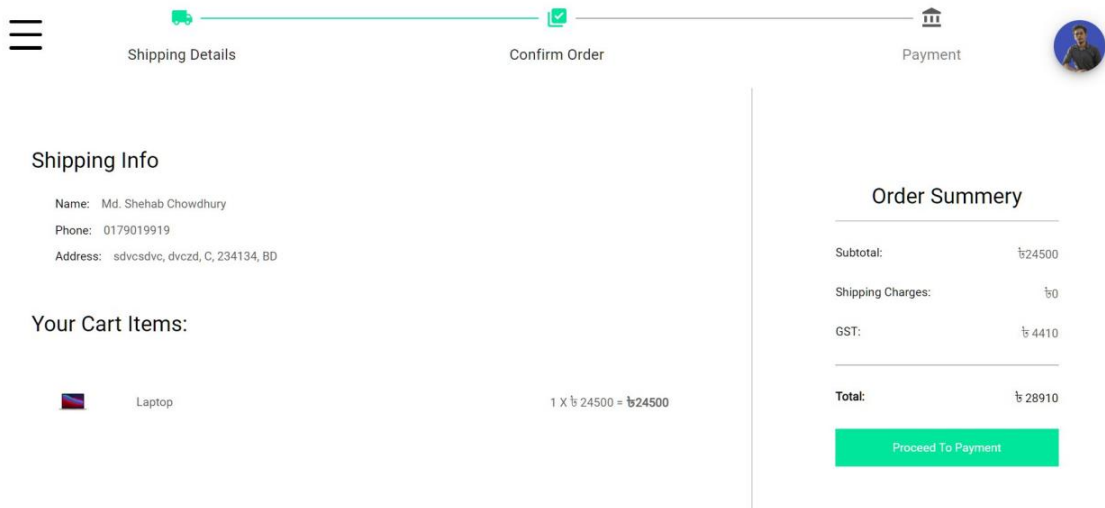


Figure 4.10 Customer payment confirm order page

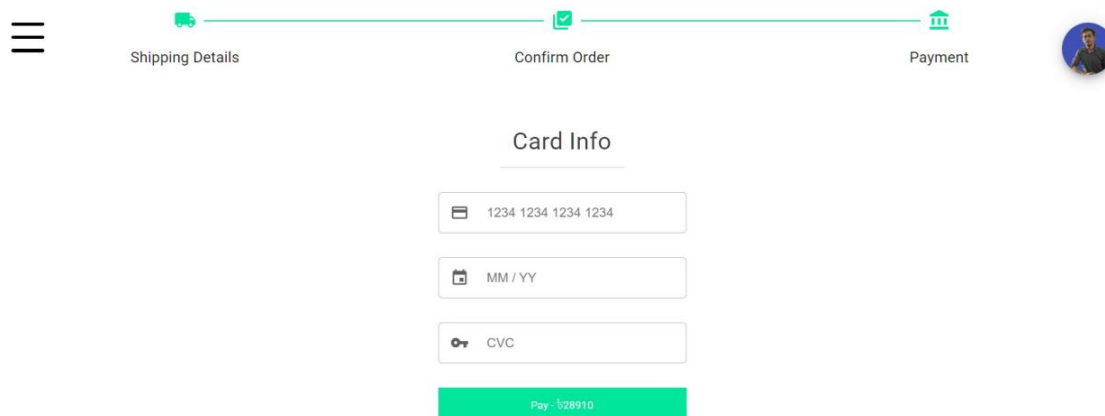


Figure 4.11 Customer payment page



Your Order has been Placed successfully

View Orders

Figure 4.12 Customer order done page

Back-end Design

Admin Dashboard



Dashboard

Dashboard

Products

Orders

Users

Reviews



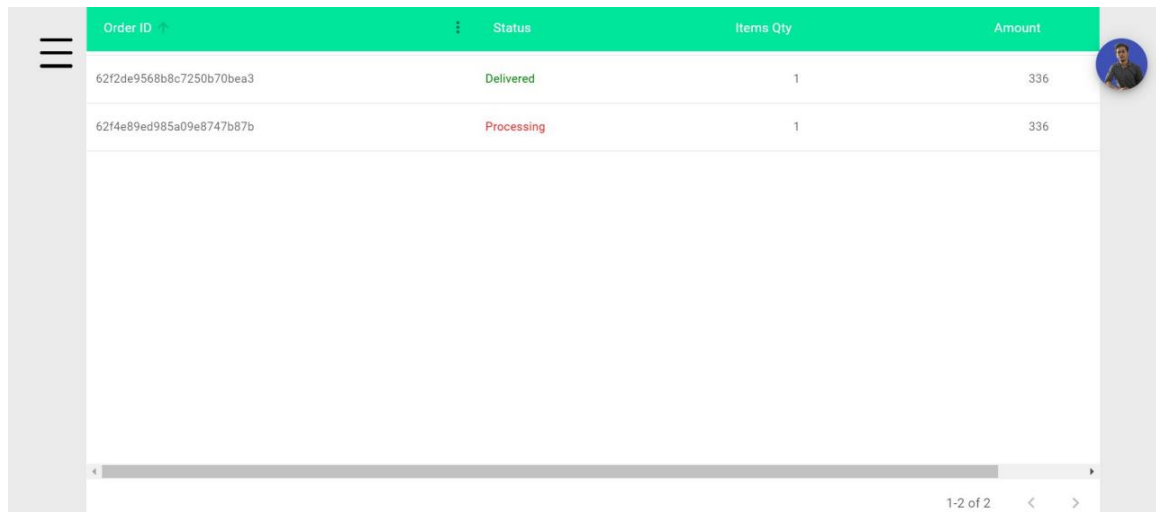
Figure 4.13 Admin dashboard page

Statistical view for stock and selling product



Figure 4.14 dashboard statistical view stock & selling page

Customers order details show

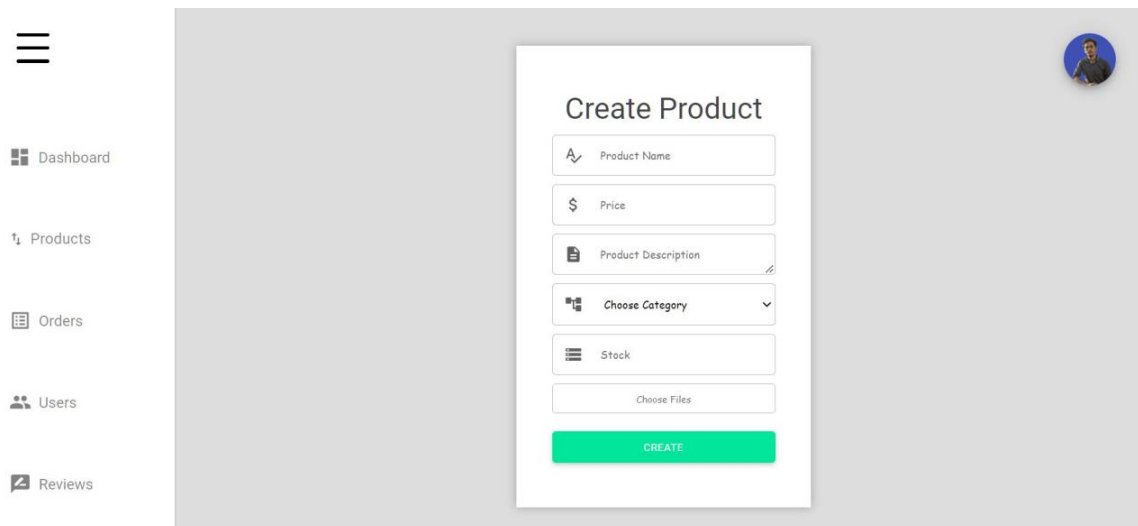


The screenshot shows a web interface for viewing customer order details. On the left is a sidebar with a hamburger menu icon. The main content area features a table with a green header and two data rows. The table columns are Order ID, Status, Items Qty, and Amount. The first row shows an order with ID 62f2de9568b8c7250b70bea3, status Delivered, 1 item, and an amount of 336. The second row shows an order with ID 62f4e89ed985a09e8747b87b, status Processing, 1 item, and an amount of 336. A user profile picture is visible in the top right corner. At the bottom right, there is a pagination indicator '1-2 of 2' with navigation arrows.

Order ID	Status	Items Qty	Amount
62f2de9568b8c7250b70bea3	Delivered	1	336
62f4e89ed985a09e8747b87b	Processing	1	336

Figure 4.15 Customer order details shown page

Create Product



The screenshot displays an admin interface for creating a new product. On the left is a sidebar with a hamburger menu and a list of navigation items: Dashboard, Products, Orders, Users, and Reviews. The main area contains a 'Create Product' form with the following fields: Product Name, Price, Product Description, Choose Category (a dropdown menu), Stock, and Choose Files. A green 'CREATE' button is positioned at the bottom of the form. A user profile picture is located in the top right corner.

Figure 4.16 Admin create product page

All product Details and edit, update product

Name	Stock	Price	Actions
ddb5d5ea product3	1	1,200	
ddb5d5ed product4	1	1,200	
ddb5d5f0 product5	1	1,200	
ddb5d5f3 product6	1	1,200	
ddb5d5f6 product7	1	1,200	
ddb5d5f9 product8	1	1,200	
dbe1ee6a sample	1	11,200	
dbe1ee77 another sample	1	110	

Figure 4.17 Admin all product modification page

All Users

User ID	Email	Name	Role	Actions
62f16f1687d0ffe9be68d46a	mdshehab000@gmail.com	Md. Shehab Chowdhury	admin	
62f7dd354256df086ca77e2f	mehedi15-11355@diu.edu.bd	Mehedi Hasan Jihad	user	

Figure 4.18 All users list page

Searching Product reviews

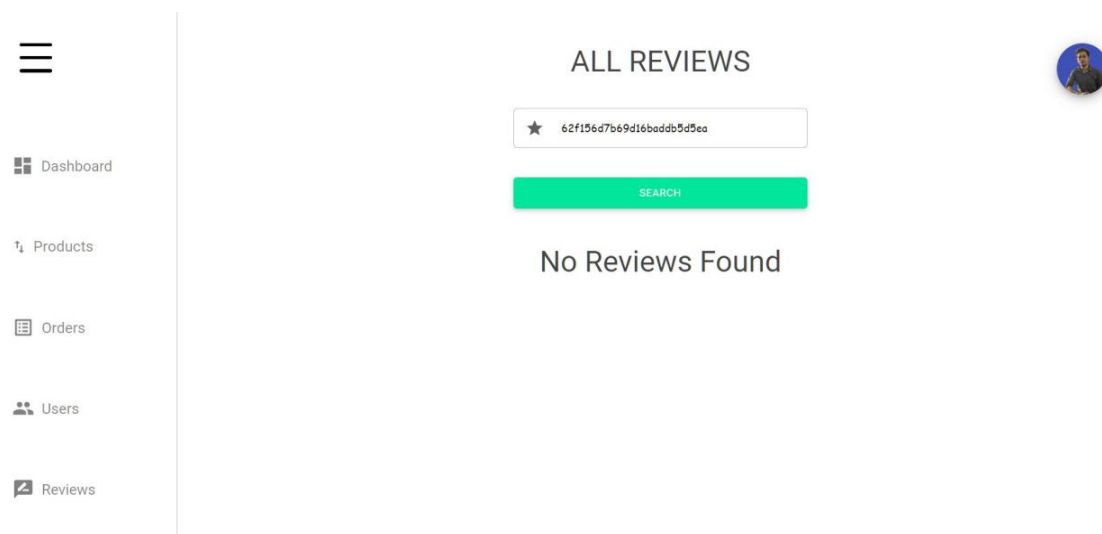


Figure 4.19 reviews page

Here user can search any product review easily. Reviews give an unbiased insight – Authentic and organic reviews from people who have bought a product from your website provide third-party valuable insight into your products and your ecommerce business. These encourage more and more customers to visit your shop and buy your products.

CHAPTER 5

Implementation and Testing

5.1 Database management using mongo DB

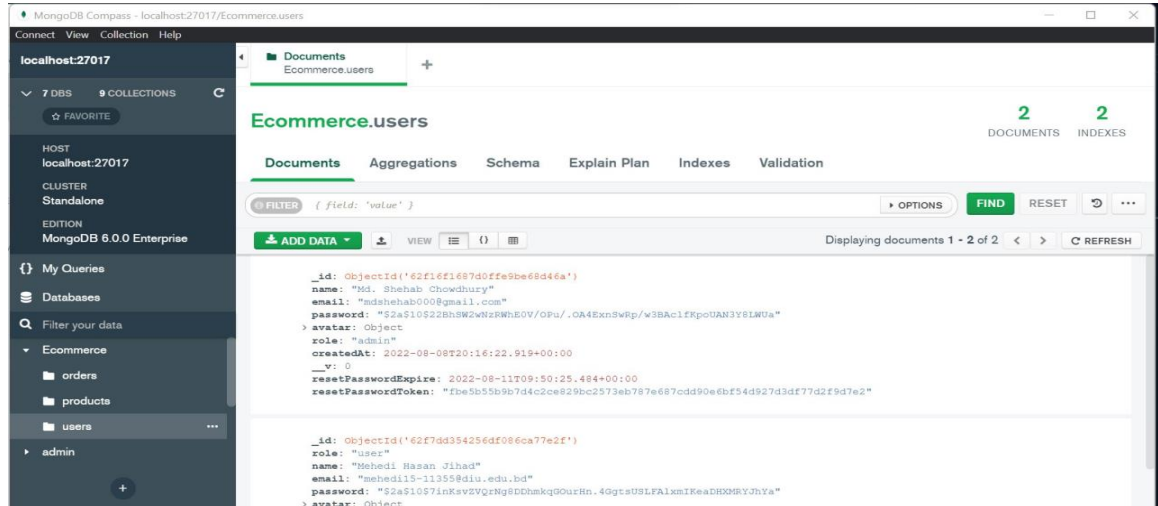


Figure 5. Mongoddb execution page

5.2 User Interface & Back-end Design implement

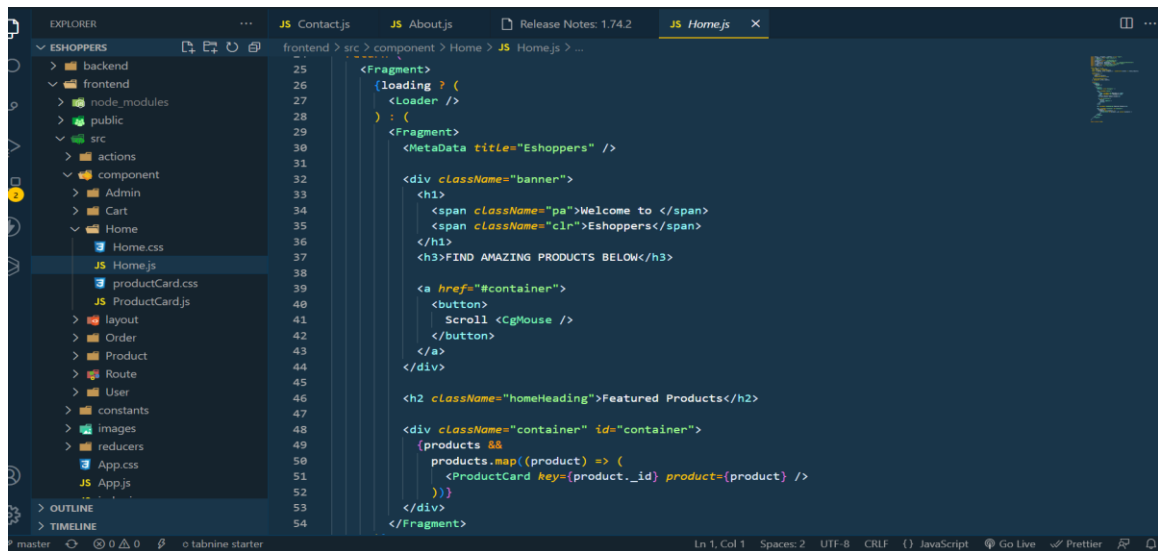


Figure 5.2 Layout component of Home.js

```

1 import React, { useState, Fragment } from "react";
2 import MetaData from "../layout/MetaData";
3 import "../Search.css";
4
5 const Search = ({ history }) => {
6   const [keyword, setKeyword] = useState("");
7
8   const searchSubmitHandler = (e) => {
9     e.preventDefault();
10    if (keyword.trim()) {
11      history.push(`/products/${keyword}`);
12    } else {
13      history.push("/products");
14    }
15  };
16
17  return (
18    <Fragment>
19      <MetaData title="Search A Product -- ECOMMERCE" />
20      <form className="searchBox" onSubmit={searchSubmitHandler}>
21        <input
22          type="text"
23          placeholder="Search a Product ..."
24          onChange={e => setKeyword(e.target.value)}
25        />
26        <input type="submit" value="Search" />
27      </form>
28    </Fragment>
29  );
30 };

```

Figure 5.3 SearchData function in Search Bar

```

10 "@stripe/react-stripe-js": "^1.4.1",
11 "@stripe/stripe-js": "^1.17.1",
12 "@testing-library/jest-dom": "^5.14.1",
13 "@testing-library/react": "^11.2.7",
14 "@testing-library/user-event": "^12.8.3",
15 "axios": "^0.21.1",
16 "chart.js": "^3.5.1",
17 "country-state-city": "^3.0.1",
18 "overlay-navbar": "^1.0.4",
19 "react": "^17.0.2",
20 "react-alert": "^7.0.3",
21 "react-alert-template-basic": "^1.0.2",
22 "react-chartjs-2": "^3.0.4",
23 "react-dom": "^17.0.2",
24 "react-helmet": "^6.1.0",
25 "react-icons": "^4.2.0",
26 "react-js-pagination": "^3.0.3",
27 "react-material-ui-carousel": "^2.3.1",
28 "react-redux": "^7.2.4",
29 "react-router-dom": "^5.2.0",
30 "react-scripts": "4.0.3",
31 "redux": "^4.1.1",
32 "redux-devtools-extension": "^2.13.9",
33 "redux-thunk": "^2.3.0",
34 "web-vitals": "^1.1.2",

```

Figure 5.4 Need packages page

```

1 import React, { Fragment } from "react";
2 import "./Cart.css";
3 import CartItemCard from "./CartItemCard";
4 import { useSelector, useDispatch } from "react-redux";
5 import { addItemToCart, removeItemsFromCart } from "../../actions/cartAction";
6 import { Typography } from "@material-ui/core";
7 import RemoveShoppingCartIcon from "@material-ui/icons/RemoveShoppingCart";
8 import { Link } from "react-router-dom";
9
10 const Cart = ({ history }) => {
11   const dispatch = useDispatch();
12   const { cartItems } = useSelector((state) => state.cart);
13
14   const increaseQuantity = (id, quantity, stock) => {
15     const newQty = quantity + 1;
16     if (stock <= quantity) {
17       return;
18     }
19     dispatch(addItemsToCart(id, newQty));
20   };
21
22   const decreaseQuantity = (id, quantity) => {
23     const newQty = quantity - 1;
24     if (1 >= quantity) {
25       return;
26     }
27     dispatch(addItemsToCart(id, newQty));
28   };
29
30   const deleteCartItems = (id) => {
31     dispatch(removeItemsFromCart(id));

```

Figure 5.4 Cart function

```

25 return (
26   <Fragment>
27     <loading ? (
28       <Loader />
29     ) : (
30       <Fragment>
31         <MetaData title="Order Details" />
32         <div className="orderDetailsPage">
33           <div className="orderDetailsContainer">
34             <Typography component="h1">
35               Order #{order && order._id}
36             </Typography>
37             <Typography>Shipping Info</Typography>
38             <div className="orderDetailsContainerBox">
39               <div>
40                 <p>Name:</p>
41                 <span>{order.user && order.user.name}</span>
42               </div>
43               <div>
44                 <p>Phone:</p>
45                 <span>
46                   {order.shippingInfo && order.shippingInfo.phoneNo}
47                 </span>
48               </div>
49               <div>
50                 <p>Address:</p>
51                 <span>
52                   {order.shippingInfo &&
53                     `${order.shippingInfo.address}, ${order.shippingInfo.city}, ${order.shippingInfo.sta
54                 </span>

```

Figure 5.4 Order details function

```
1 const catchAsyncErrors = require("../middleware/catchAsyncErrors");
2
3 const stripe = require("stripe")(process.env.STRIPE_SECRET_KEY);
4
5 exports.processPayment = catchAsyncErrors(async (req, res, next) => {
6   const myPayment = await stripe.paymentIntents.create({
7     amount: req.body.amount,
8     currency: "inr",
9     metadata: {
10      company: "Ecommerce",
11    },
12  });
13
14  res
15    .status(200)
16    .json({ success: true, client_secret: myPayment.client_secret });
17 });
18
19 exports.sendStripeApiKey = catchAsyncErrors(async (req, res, next) => {
20   res.status(200).json({ stripeApiKey: process.env.STRIPE_API_KEY });
21 });
22
```

Figure 5.4 payment create controller

5.3 Testing API with Postman

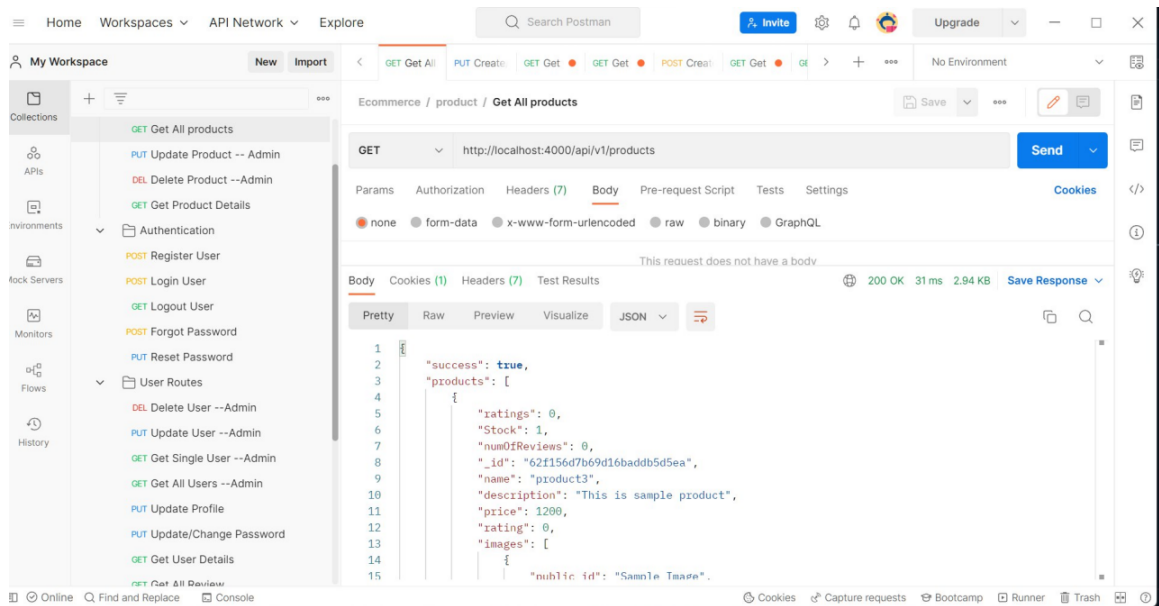


Figure 5. 3 API testing with postman

CHAPTER 6

Conclusion and Future Scope

6.1 Learnings

There are a few learnings really worth bringing up those we realized working on the project. These realizations would definitely help if saved in mind for future projects.

- Building a web application is a continuous process
- Need for new modules will always persist
- Bug-free modules are merchandise of endless re-testing
- Careful time-management is very crucial
- Regular group meeting throughout development is a must
- Maintaining right coding practices is necessary for bigger projects

6.2 Discussion and Conclusion

In the project we explored and demonstrated a few advanced, user-friendly aspects to lift out the everyday tasks. Working on this project, we came to a better understanding of how e-commerce and engineering methods can work hand in hand to bring extra development in the sector. We hope human beings fascinated in this sector would get a clear view on the workflow of these variety of businesses and take that extra step to explore the area for the reason of improvement.

6.3 Future Improvement

- A better looking UI
- Add to Sub-categorize products
- Home delivery & tracking system
- SMS verification system
- Add to Bangladeshi Payment System
- Mobile App creating

REFERENCES

- [1] Nguyen H. End-to-end E-commerce web application, a modern approach using MERN stack.
- [2] Sharma N, Kumar A, Sharma A, Verma A, Srivastava NR. E-Commerce Website Using MERN Stack.
- [3] <https://www.w3schools.com/>
- [4] De Silva CM, De Silva AS, Maduwantha KA, Dewpura DA, De Silva DI, De Zoysa RR. Efficiency of an E-commerce web application with MERN stack and modern tools. International Journal Of Engineering And Management Research. 2022;12(5):349-56.
- [5] Tran TT. The development of an e-commerce web application using MERN stack.
- [6] Gawsan R, Bandara TW, Weerasinghe WP, Kulasekara SR, De Silva DI, Dias T. E-commerce system. International Journal Of Engineering And Management Research. 2022;12(5):234-40.
- [7] [Stripe | Payment Processing Platform for the Internet](#)
- [8] Shukla SK, Dubey S, Rastogi T, Srivastava N. Application using MERN Stack.
- [9] [Stack Overflow - Where Developers Learn, Share, & Build Careers](#)
- [10] [Tutorials List - Javatpoint](#)

ORIGINALITY REPORT

27 %

SIMILARITY INDEX

23 %

INTERNET SOURCES

2 %

PUBLICATIONS

20 %

STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Daffodil International University Student Paper	9 %
2	dspace.daffodilvarsity.edu.bd:8080 Internet Source	4 %
3	360.shiprocket.in Internet Source	4 %
4	www.researchgate.net Internet Source	2 %
5	www.tekshapers.com Internet Source	2 %
6	Submitted to Metropolia Ammattikorkeakoulu Student Paper	1 %
7	Submitted to Napier University Student Paper	1 %
8	Submitted to Ahsanullah University of Science and Technology Student Paper	<1 %
9	hashnode.com Internet Source	<1 %

10	mailchimp.com Internet Source	<1%
11	Submitted to South Bank University Student Paper	<1%
12	ijmtst.com Internet Source	<1%
13	Submitted to University of Portsmouth Student Paper	<1%
14	1library.co Internet Source	<1%
15	Submitted to University of Greenwich Student Paper	<1%
16	www.scribd.com Internet Source	<1%
17	Submitted to University of Teesside Student Paper	<1%
18	Petter Gottschalk. "chapter 2 E-Business", IGI Global, 2006 Publication	<1%
19	Submitted to cdsi Student Paper	<1%
20	www.aui.ma Internet Source	<1%
21	www.digitalbrain.co.in Internet Source	<1%

Exclude quotes Off Exclude matches Off
Exclude bibliography Off