MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Project Report

on

E-Commerce Web App

Submitted By:
Abhishek Kakoriya
0901CS191005

Faculty Mentor:

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Assistant Professor, Computer Science and Engineering

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
GWALIOR - 474005 (MP) est. 1957

MAY-JUNE 2022

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A project report submitted in partial fulfilment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by:

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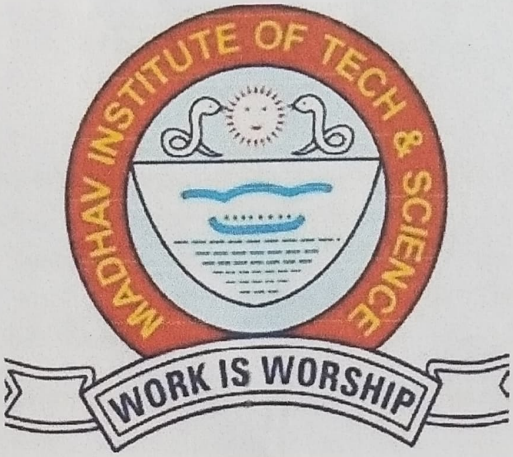

2021-2022

CERTIFICATE

This is certified that **Abhishek Kakoriya** (0901CS191005) has submitted the project report titled **E-Commerce Web App** under the mentorship of **Dr. Anjula Mehto,** inpartial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.

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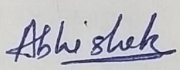
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

DECLARATION

We hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Dr. Anjula Mehto**, **Assistant Professor**, Computer Science and Engineering.

We declare that we have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



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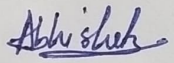
ACKNOWLEDGEMENT

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science,** for allowing me to continue my disciplinary project as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering, for allowing** me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I am sincerely thankful to my faculty mentors. I am grateful to the guidance of **Dr. Anjula Mehto**, **Assistant Professor**, Computer Science and Engineering for their continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.



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Abstract

This report discusses the result of the work done in development of "E-commerce Web App" Using Angular, Docker, Bootstrap, Postman, MySqlite and Dotnet. It is a part of the ASSET (Online Live E-Commerce Website) project going in computer science department, Madhav Institute of Technology and Science at the Development of an online E-Commerce website using Angular, Dotnet etc.This Website is on Ecommerce, also known as electronic commerce or internet commerce, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. Ecommerce is often used to refer to the sale of physical products online, but it can also describe any kind of commercial transaction that is facilitated through the internet.This E-Commerce Web App is user friendly and contains features like sorting, searching and filters for increasing decreasing the price value accordingly, it also contains a filter for different types of brand and types, all products have a detailed view page to view the product information in detail. It also makes sure no unauthorised user who didn't signed in to the shop will not be accessible to proceed to the checkout page without logging in. It consists of a checkout page which takes the address, delivery method and gives a summary about the selected products and a payment to proceed to checkout. It stores the bought product money and payment method details in Stripe.

Keywords: Angular, E-commerce, Stripe, API, Shopping website.

सार:

यह रिपोर्ट एंगुलर, डॉकर, बूटस्ट्रैप, पोस्टमैन, माइस्क्लाइट और डॉटनेट का उपयोग करके "कस्टम ई-कॉमर्स वेब ऐप" के विकास में किए गए कार्यों के परिणाम पर चर्चा करती है। यह एंगुलर, डॉटनेट आदि का उपयोग करके एक ऑनलाइन ई-कॉमर्स वेबसाइट के विकास पर कंप्यूटर विज्ञान विभाग, माधव इंस्टीट्यूट ऑफ टेक्नोलॉजी एंड साइंस में चल रहे ASSET (ऑनलाइन लाइव ई-कॉमर्स वेबसाइट) प्रोजेक्ट का एक हिस्सा है।

यह वेबसाइट ईकॉमर्स पर है, जिसे इलेक्ट्रॉनिक कॉमर्स या इंटरनेट कॉमर्स के रूप में भी जाना जाता है, इंटरनेट का उपयोग करके वस्तुओं या सेवाओं की खरीद और बिक्री और इन लेनदेन को निष्पादित करने के लिए धन और डेटा के हस्तांतरण को संदर्भित करता है। ईकॉमर्स का उपयोग अक्सर भौतिक उत्पादों की ऑनलाइन बिक्री को संदर्भित करने के लिए किया जाता है, लेकिन यह किसी भी प्रकार के वाणिज्यिक लेनदेन का वर्णन भी कर सकता है जो इंटरनेट के माध्यम से सुगम होता है।

यह ई-कॉमर्स वेब ऐप उपयोगकर्ता के अनुकूल है और इसमें मूल्य मूल्य घटाने के लिए सॉर्टिंग, खोज और फ़िल्टर जैसी सुविधाएं शामिल हैं, इसमें विभिन्न प्रकार के ब्रांड और प्रकारों के लिए फ़िल्टर भी शामिल है, सभी उत्पादों में उत्पाद देखने के लिए एक विस्तृत दृश्य पृष्ठ होता है जानकारी विस्तार से। यह यह भी सुनिश्चित करता है कि कोई भी अनधिकृत उपयोगकर्ता जिसने दुकान में साइन इन नहीं किया है, बिना लॉग इन किए चेकआउट पृष्ठ पर जाने के लिए पहुंच योग्य नहीं होगा। इसमें एक चेकआउट पृष्ठ होता है जो पता, वितरण विधि लेता है और चयनित के बारे में सारांश देता है। उत्पादों और चेकआउट के लिए आगे बढ़ने के लिए भुगतान। यह खरीदे गए उत्पाद के पैसे और भुगतान विधि के विवरण को स्ट्राइप . में संग्रहीत करता है

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CHAPTER 1: PROJECT OVERVIEW

1.1 Introduction

This report discusses the result of the work done in development of "E-commerce Web App" Using Angular, Docker, Bootstrap, Postman, MySqlite and Dotnet. It is a part of the ASSET (Online Live E-Commerce Website) project going in computer science department, Madhav Institute of Technology and Science at the Development of an online E-Commerce website using Angular, Dotnet etc.This Website is on Ecommerce, also known as electronic commerce or internet commerce, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. Ecommerce is often used to refer to the sale of physical products online, but it can also describe any kind of commercial transaction that is facilitated through the internet.This E-Commerce Web App is user friendly and contains features like sorting, searching and filters for increasing decreasing the price value accordingly, it also contains a filter for different types of brand and types, all products have a detailed view page to view the product information in detail. It also makes sure no unauthorised user who didn't signed in to the shop will not be accessible to proceed to the checkout page without logging in. It consists of a checkout page which takes the address, delivery method and gives a summary about the selected products and a payment to proceed to checkout. It stores the bought product money and payment method details in Stripe.

1.2 Objective and Scope

Through this eCommerce website buyers can shop for goods and the shop offer products and services for the customers. On this Custom eCommerce website, you'll find product listings, content, checkout page and orders placed by the customer it also contains the contact and address information of the buyer.

1.3 Project Features

These are the Tools required for creating my E-commerce Web App -

- Angular
- HTML
- CSS
- Dotnet
- SQLite
- Bootstrap
- VS Code

1.4 Requirements

The system requirements to build face detection website are given below.

Windows-Based Requirements

Computers running Microsoft Windows must meet the following minimum Hardware and Software requirements.

- Microsoft Windows 7/8/10/11 (32- or 64- bit)
- 3 GB RAM minimum, 8 GB RAM recommended:
- 2 GB of available disk space minimum,
- 1280 * 800 minimum screen resolution

3.1 Software requirements

- Web-browser: - chrome, Mozilla Firefox, Microsoft-edge and others.

3.2 Hardware Requirements

- Laptop / Computer
- Mobile Device

CHAPTER 2: PRELIMINARY DESIGN

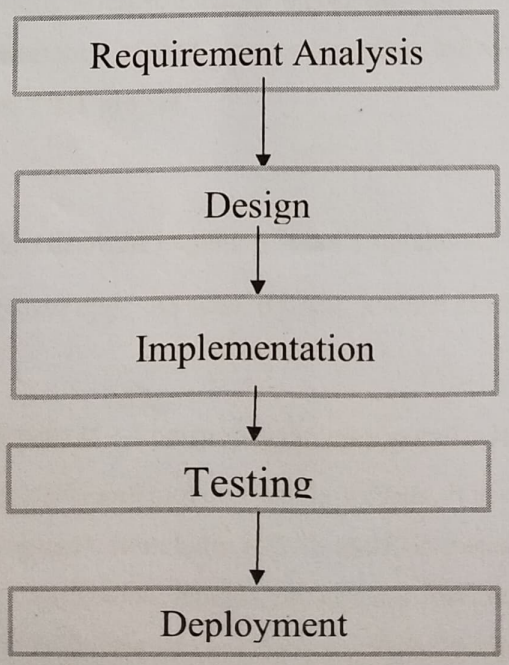
2.1 Software Development Life Cycle Model

My project is based on Waterfall Model -

Waterfall Model

Waterfall model is the very first model that is used in SDLC. It is also known as the linear sequential model. In this model, the outcome of one phase is the input for the next phase. Development of the next phase starts only when the previous phase is complete.

- First, Requirement gathering and analysis is done. Once the requirement is freeze then only the System Design can start. Herein, the SRS document created is the output for the Requirement phase and it acts as an input for the System Design.
- In System Design Software architecture and Design, documents which act as an input for the next phase are created i.e. Implementation and coding.
- In the Implementation phase, coding is done and the software developed is the input for the next phase i.e. testing.
- In the testing phase, the developed code is tested thoroughly to detect the defects in the software. Defects are logged into the defect tracking tool and are retested once fixed. Bug logging, Retest, Regression testing goes on until the time the software is in go-live state.
- In the Deployment phase, the developed code is moved into production after the sign off is given by the customer.



2.2 Tools & Technologies

1. **Angular** - Angular is an open-source, JavaScript, framework written in TypeScript. Google maintains it, and its primary purpose is to develop single-page applications. As a framework, Angular has clear advantages while also providing a standard structure for developers to work with. It enables users to create large applications in a maintainable manner.

2. **HTML** - HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. A markup language is used to define the text document within tag which defines the structure of web pages. This language is used to annotate (make notes for the computer) text so that a machine can understand it and manipulate text accordingly. Most markup languages (e.g. HTML) are human-readable. The language uses tags to define what manipulation has to be done on the text.

3. **CSS** - Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, Colours, and fonts.

4. **Dotnet** - The .NET Framework (pronounced as " dot net") is a proprietary software framework developed by Microsoft that runs primarily on Microsoft Windows. It was the predominant implementation of the Common Language Infrastructure (CLI) until being superseded by the cross-platform .NET project.

5. **SQLite** - SQLite is a database engine. It is not a standalone app; rather, it is a library that software developers embed in their apps. As such, it belongs to the family of embedded databases.

6. **Bootstrap framework** - Bootstrap is the most popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website. It is a front-end framework used for easier and faster web development. It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many others. It can also use JavaScript plug-ins. It facilitates you to create responsive designs.

2.3 What is API & how does it work?

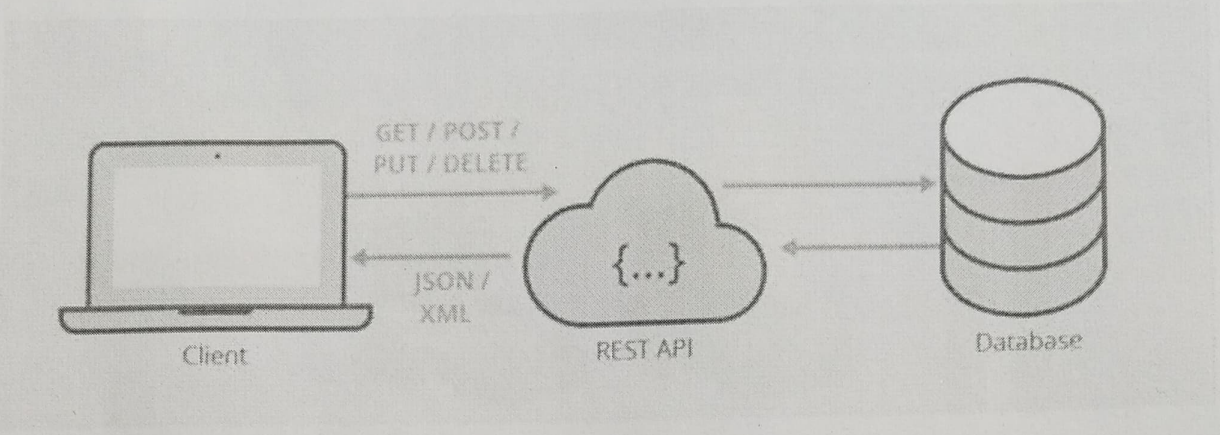


Fig 2.3.1 How Api Works 1

API is an acronym for Application Programming Interface that software uses to access data, server software or other applications and have been around for quite some time.

APIs communicate through a set of rules that define how computers, applications or machines can talk to each other. The API acts as a middleman between any two machines that want to connect with each other for a specified task.

2.3.1 API

The core technology of online mapping is a process called geocoding, in which the street address of a location is converted into specific geographic coordinates (longitude and latitude). Once a location is geocoded, it can be pinned to a precise location on an online map.

CHAPTER 3: FINAL ANALYSIS AND DESIGN

Fig 3 Shop Page 1

Shop Page –

Shop Page will show all the products in the shop and the customer can see the price and details of the product.

- It has features like sorting by alphabetical, by low price and high price.
- It also shows all types of brands to pick from, and the types.

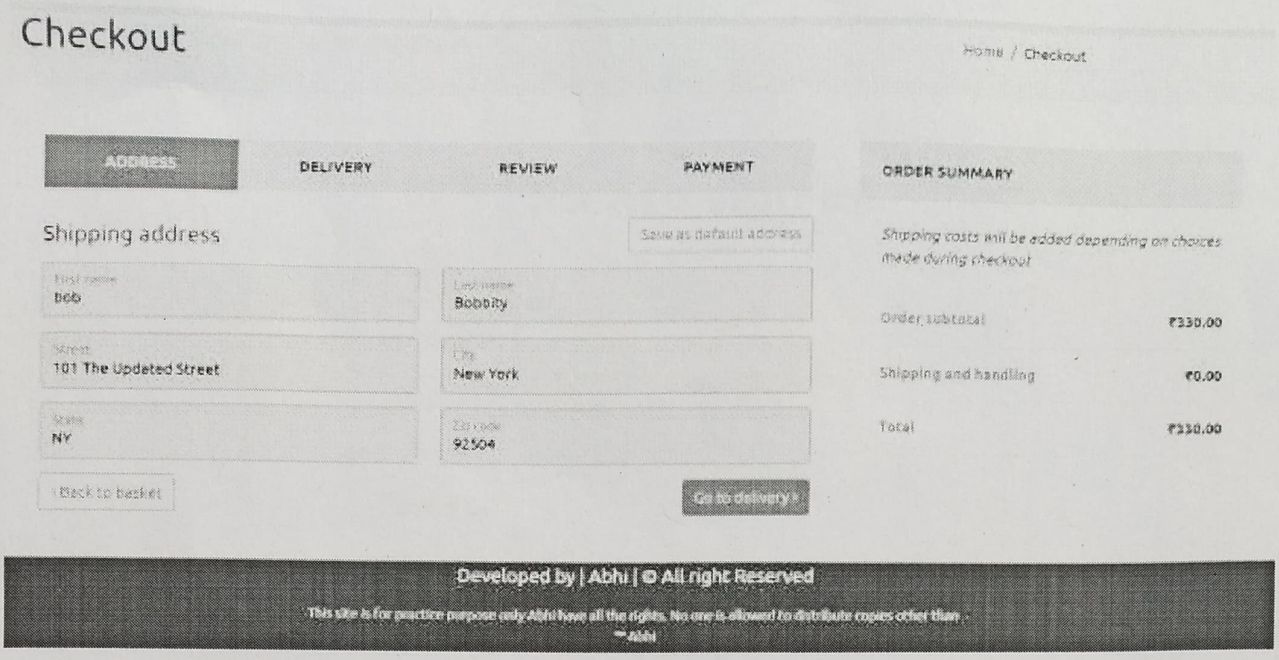


Fig 3.1.2 Checkout Page 1

Checkout Page – The Customer can checkout the order he wants to buy at this page. This page consists of the customer address details, the delivery methods available, the review of the order and the payment page

3.1 Testing the sign in page –

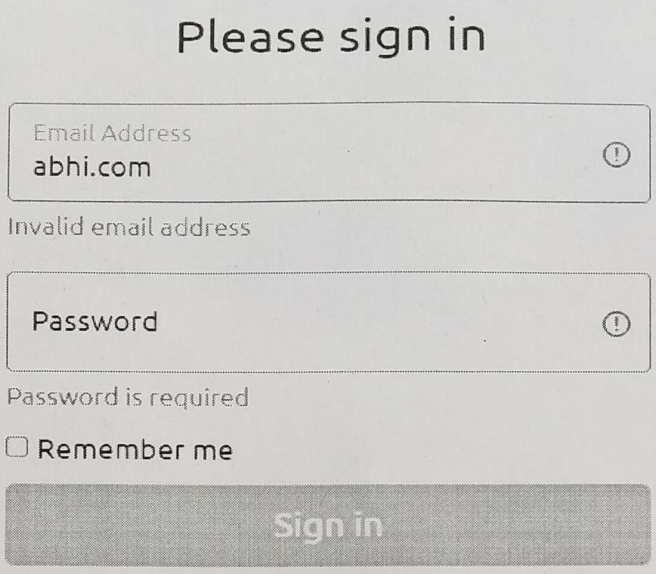


Fig 3.1.3 Sign in 1

Testing my sign in page, If the user enters the invalid email address it shows an error "Invalid Email Address". And disables the Sign in option for the user.

If all the required fields are filled properly the page will look like –

Fig 3.1.4 Sign in 1

3.2 Testing if the Payment is Successful

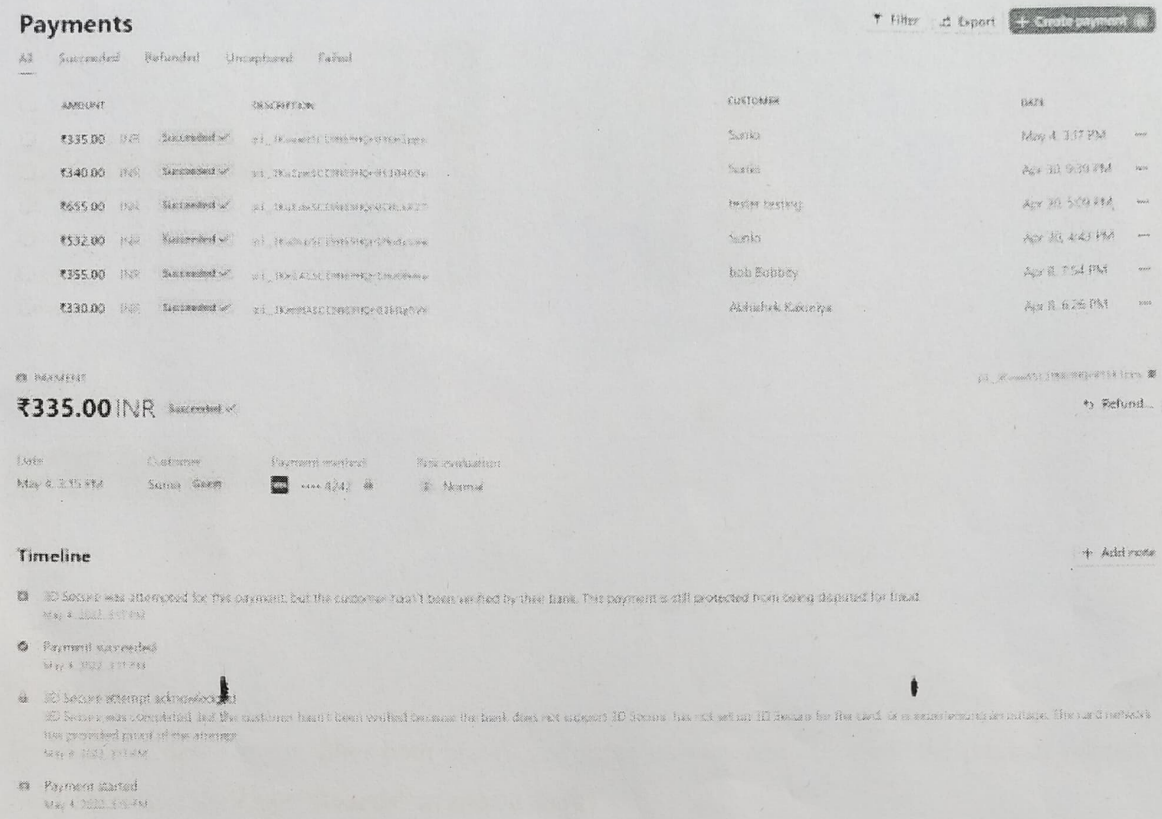


Fig 3.1.5 Payments 1

If the user pays for the product using a payment method the money will be directly sent to the admin via Stripe as you can see above.

3.3 Testing Brands & Types Functionality –

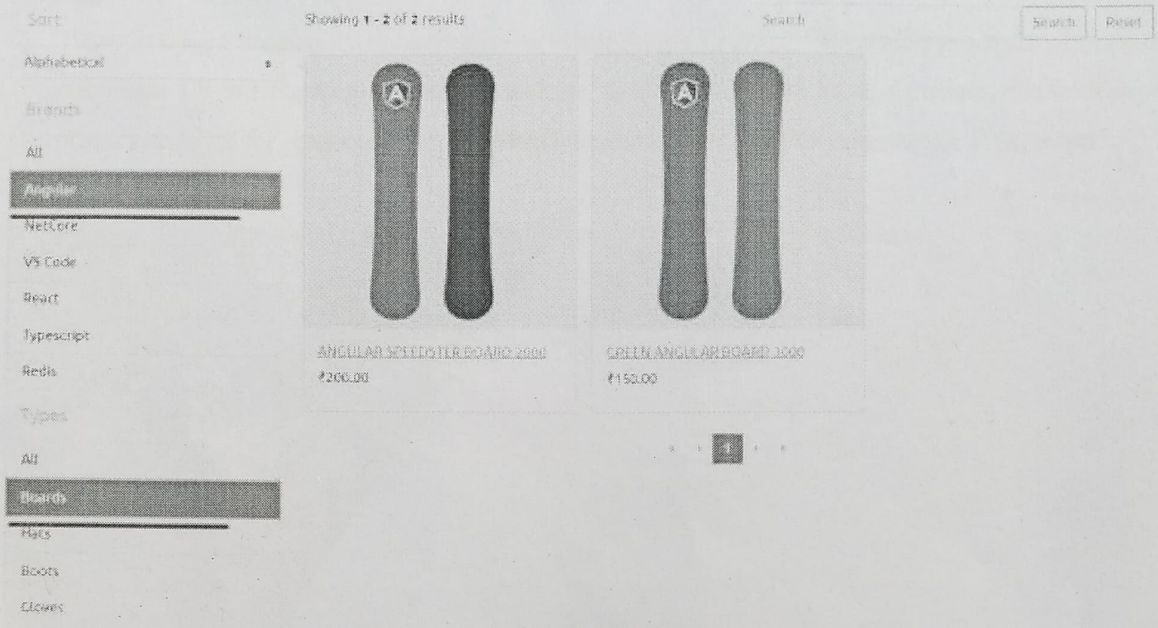


Fig 3.1.6 Orders 1

This sorting function can filter both brands and types at once and can show the product related to Brand "**Angular**" and the Type "**Boards**" as shown above.

Testing The Order Summary Details -

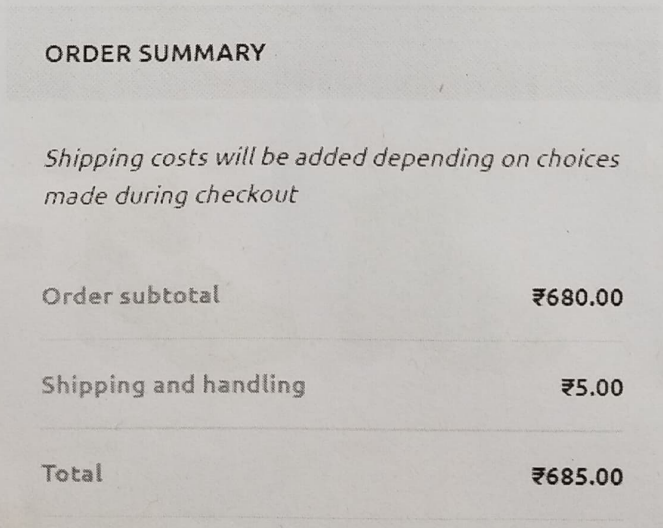


Fig 3.1.7 Orders 1

The adding of the shipping and handling to the total amount is working perfectly as we can see above.

4. Result

Through this eCommerce website buyers can shop for goods and the shop offer products and services for the customers. On this Custom eCommerce website, you'll find product listings, content, checkout page and orders placed by the customer it also contains the contact and address information of the buyer.

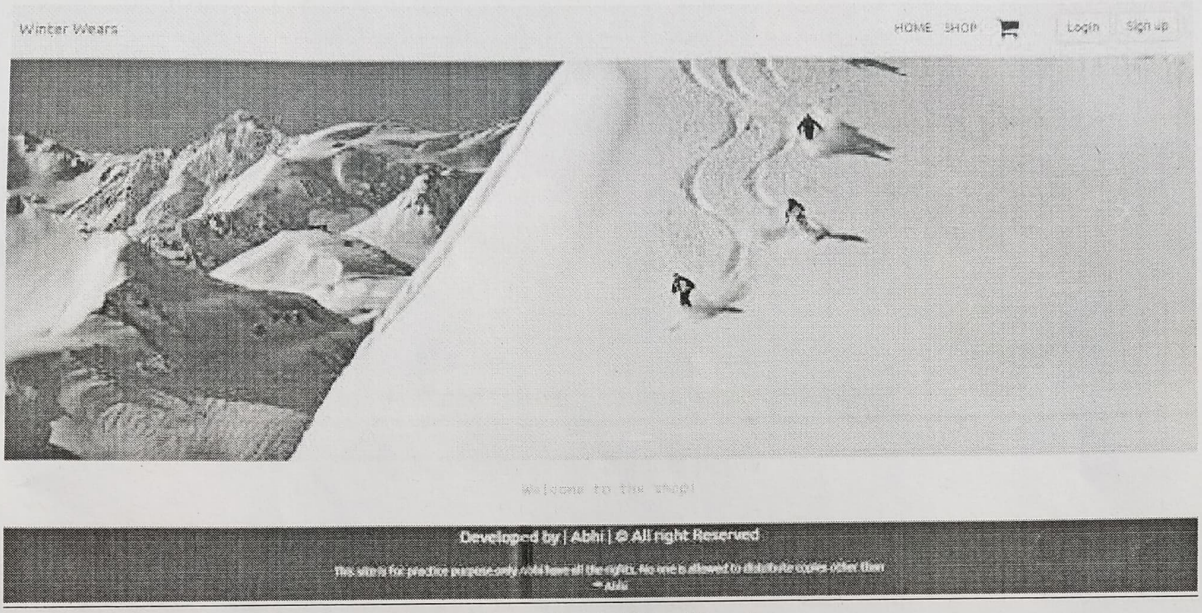


Fig 4.1.1 Home Page 1

The Main shop page where the user can look through different types of products and can see their detailed information and can perform all types of sorting and searching methods to find what they need to buy.

Fig 4.1.2 Shop Page 1

4.1 Application

E-commerce applications is a somewhat confusing terminology since it may lead to two different interpretations: one that refers to the use of e-commerce as a marketing medium; retail and wholesale; auctioning; e-banking; booking, and so on.

E-commerce applications is a slightly confusing phrase since it leads to two different perceptions: one where it refers to the use of e-commerce as a medium of marketing; retail and wholesale; auctioning; e-banking; booking, and so on.

4.2 Problems Faced

While developing the project we faced various problems some of them are:

- Faced issue in applying Ngx-spinner for loading pages.
- Faced problem in connecting the app with stripe for payment validation.
- Connection Time out while API call is a big issue.

CHAPTER 5: CONCLUSION

5.1 Conclusion

Through this eCommerce website buyers can shop for goods and the shop offer products and services for the customers. On this Custom eCommerce website, you'll find product listings, content, checkout page and orders placed by the customer it also contains the contact and address information of the buyer.

This site is secure and provide full authentication and validation for users for accessing information, it provides products in a convenient way so that user can easily go through the website and can perform actions like adding products, removing products and placing the order.

5.2 Reference

Testing | Stripe Documentation

Introduction · Bootstrap v5.1 (getbootstrap.com)

Bootswatch: Free themes for Bootstrap