

A
Project Report
On
EasyShop – The Shopping Hub
Submitted by
HARSHAL KAILAS WAGH
Roll No.: 23467
MCA–I
SEM–I
Under the guidance of
Prof. Amruta Deshmukh
For the Academic Year 2023-24



Sinhgad Technical Education Society's

Sinhgad Institute of Management

Vadgaon Bk Pune 411041

**(Affiliated to SPPU Pune & Approved by AICTE New
Delhi)**



SINHGAD TECHNICAL EDUCATION SOCIETY'S
SINHGAD INSTITUTE OF MANAGEMENT

Affiliated to Savitribai Phule Pune University, Approved by AICTE, New Delhi

Prof.M.N. Navale
M.E (ELECT) MIE, MBA
FOUNDER PRESIDENT

Dr.(Mrs.) Sunanda M.Navale
B.A. MPM.Ph.D
FOUNDER SECRETARY

Dr.Chandrani Singh
MCA.ME, (Com,Sci).Ph.D
DIRECTOR - MCA

Date :

CERTIFICATE

This is to certify that **Mr.Harshal kailas Wagh** has successfully completed his project work entitled “**EasyShop-The Shopping hub**” in partial fulfillment of MCA – I SEM –I Mini Project for the year 2023-2024. He has worked under our guidance and direction.

Prof. Amruta Deshmukh ,Dr.Chandrani Singh
Project Guide Director, SIOM-MCA

Examiner 1

Examiner 2

Date:

Place: Pune

Celebrating 25 Years

OF ACADEMIC EXCELLENCE

DECLARATION

I certify that the work contained in this report is original and has been done by me under the guidance of my supervisor(s).

- The work has not been submitted to any other Institute for any degree or diploma.
- I have followed the guidelines provided by the Institute in preparing the report.
- I have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
- Whenever I have used materials (data, theoretical analysis, figures, and text) from other sources, I have given due credit to them by citing them in the text of the report and giving their details in the references.

Name and Signature of Project Team Members:

Sr. No.	Seat No.	Name of students	Signature of students
1		Harshal Kailas Wagh	

ACKNOWLEDGEMENT

It is very difficult task to acknowledge all those who have been of tremendous help in this project. I would like to thank my respected guide **Prof. Amruta Deshmukh** for providing me necessary facilities to complete my project and also for their guidance and encouragement in completing my project successfully without which it wouldn't be possible. I wish to convey my special thanks and immeasurable feelings of gratitude towards **Dr. Chandrani Singh, Director SIOM-MCA**. I wish to convey my special thanks to all teaching and non-teaching staff members of **Sinhgad Institute of Management, Pune** for their support.

Thank You

Yours Sincerely,

Harshal Kailas Wagh

INDEX

Sr. No.	Chapter	Page No.
1	CHAPTER 1: INTRODUCTION	
1.1	Abstract	
1.2	Existing System and Need for System	
1.3	Scope of System	
1.4	Operating Environment Hardware and Software	
1.5	Brief Description of Technology used	
2	CHAPTER 2: PROPOSED SYSTEM	
2.1	Feasibility Study	
2.2	Objectives of the proposed system	
2.3	Users of the system	
3	CHAPTER 3: ANALYSIS AND DESIGN	
3.1	Entity Relationship Diagram (ERD)	
3.2	Class Diagram	
3.3	Use Case Diagrams	
3.4	Activity Diagram	
3.5	Sequence Diagram	
3.6	Component Diagram	
3.7	Module and Hierarchy Diagram	
3.8	Table Design	
3.9	Data Dictionary	
3.10	Sample Input and Output Screens (Screens must have valid data. All reports must have at least 5 valid records.)	
4	CHAPTER 4: CODING Sample code	
5	CHAPTER 5: LIMITATIONS OF SYSTEM	
6	CHAPTER 6: PROPOSED ENHANCEMENTS	
7	CHAPTER 7: CONCLUSION	
8	CHAPTER 8: BIBLIOGRAPHY	

Chapter 1: Introduction

Abstract:

In the contemporary digital landscape, online shopping has become an indispensable facet of modern consumer behaviour, offering unparalleled convenience and accessibility. As consumers increasingly rely on e-commerce platforms for their diverse needs, the project "EasyShop - The Shopping Hub" emerges as a solution designed to deliver a user-friendly and feature-rich online shopping experience. This project endeavors to streamline the complexities associated with traditional online retail, providing both sellers and buyers with a platform that prioritizes efficiency, transparency, and an enhanced overall shopping journey. Through a modular and comprehensive approach, "EasyShop" aims to redefine the digital shopping landscape, catering to the evolving expectations and demands of the dynamic online marketplace.

Existing System and Need for System:

Existing system:

1. Physical Shopping:

- Consumers traditionally rely on physically visiting brick-and-mortar stores to make purchases.
- Limited to the products available in local stores, restricting choices.

2. Time-Consuming Process:

- The process of physically traveling to stores, browsing through products, and waiting in lines for payments is time-consuming.

3. Limited Product Information:

- In physical stores, consumers have restricted access to detailed information about products, relying mainly on packaging and in-store displays.

4. Geographical Constraints:

- Individuals in remote or rural areas face limitations in access to a diverse range of products due to the lack of nearby physical stores.

5. Impersonal Shopping Experience:

- Traditional online platforms may offer convenience but often lack a personalized touch, with generic interfaces that may not cater to individual preferences.

6. Quality and Authenticity Concerns:

- Consumers may experience uncertainties regarding the authenticity and quality of products, particularly when purchasing from lesser-known vendors or unfamiliar online platforms.

7. Limited Vendor Visibility:

- Small or local vendors struggle to gain visibility and reach a wider audience due to the dominance of larger e-commerce platforms.

8. Complex Payment Processes:

- Traditional payment methods, such as cash transactions or card payments, may be less efficient and secure compared to modern online payment systems.

9. Lack of Dynamic Product Management:

- Traditional systems may lack dynamic tools for sellers to efficiently manage their product listings, leading to delays in updates and changes.

10. Limited Variety:

- Consumers may be constrained by the limited variety of products available in physical stores, especially in niche or specialized categories.

11. Dependency on Business Hours:

- Physical stores are subject to specific business hours, limiting the times when consumers can make purchases.

12. Inefficient Product Comparison:

- Consumers may find it challenging to compare products efficiently in physical stores, leading to potentially suboptimal purchasing decisions.

Need for System:

The challenges posed by the existing system necessitated the development of a modern and efficient event hall booking system, leading to the conception of the "EasyShop – The Shopping Hub" project:

1. Demand for an Integrated Solution:

- Growing demand for a unified and efficient online shopping solution for both sellers and customers.

2. Seamless and Personalized Experience:

- Consumers seek a seamless and personalized shopping experience not always provided by existing systems.

3. Transparency in Product Sourcing:

- Lack of transparency in product sourcing in existing systems, leading to uncertainties about product origin and quality.

4. Convenience in Product Reference and Purchase:

- Users face challenges in referencing products and making informed purchases; the system provides a centralized and user-friendly platform.

5. Local Business Improvement:

- "EasyShop" aims to contribute to the improvement of local businesses by providing a platform for effective product showcasing and sales.

6. Enhancement of Customer Satisfaction:

- The system focuses on enhancing customer satisfaction by offering a curated selection of quality products.

7. Efficiency in Product Management:

- Addresses the lack of dynamic tools for sellers to efficiently manage product listings, providing modules for adding, editing, and categorizing products.

8. Flexibility for Business Expansion:

- Provides a flexible platform that allows for business expansion, adaptation, and the incorporation of new features as the business evolves.

Scope of the System:

"EasyShop - The Shopping Hub" aims to redefine the online shopping experience by providing a user-friendly platform with a diverse product range. The system's scope extends to supporting local businesses, serving as a valuable tool for sellers in specific markets. Emphasizing quality and customer satisfaction, it incorporates plans for future business expansion. With an intuitive user interface and efficient modules for product categorization and shopping cart management, it ensures a seamless experience for both sellers and customers. The secure payment integration feature adds reliability to transactions. The system's adaptability, outlined by detailed technological requirements and

architectural flexibility, positions it as a holistic e-commerce solution geared towards meeting evolving user needs and market dynamics.

Operating Environment Hardware and Software:

Server-side Requirements:

1. Hardware Requirements:

- Processor: Dual-core or higher
- RAM: 4GB or higher
- HDD: 4GB of available storage space

2. Software Requirements:

- Operating System: Windows, Linux
- Database: MySQL
- Front End: Swing, Bootstrap, JavaScript, HTML, CSS
- Back End: Java, Spring Boot

Client-side Requirements:

1. Hardware Requirements:

- Processor: Intel Core i3 or equivalent
- RAM: 4GB or higher
- HDD: 10 GB of available storage space

2. Software Requirements:

- Operating System: Windows 7 or later, or Linux
- Browser: Chrome, Edge for web-based interfaces

Brief Description of Technology used:

1. Front-End Technologies:

- **Bootstrap:** Utilized for responsive and mobile-friendly web design, Bootstrap enhances the system's visual consistency across different devices and screen sizes.
- **JavaScript, HTML, and CSS:** These fundamental web technologies are harnessed for client-side scripting, structuring content, and styling, contributing to a dynamic and engaging user interface.

2. Back-End Technologies:

1. Node.js:

- Purpose: Server-side JavaScript runtime.
- Role: Used for server-side scripting and handling asynchronous operations, enhancing the responsiveness and scalability of the web application.

2. Express:

- Purpose: Web application framework for Node.js.
- Role: Simplifies the process of building robust and scalable web applications using Node.js.

3. Database Management:

- **MySQL:** Employed as the relational database management system (RDBMS), MySQL efficiently stores and retrieves data, ensuring data integrity and reliability for the system.

. MongoDB:

- Purpose: NoSQL database.
- Role: Stores data in a flexible, JSON-like format, suitable for handling large volumes of data and supporting dynamic, schema-less data models.

4. Web Development:

- **JavaScript (Node.js):** Used for server-side scripting and handling asynchronous operations, Node.js enhances the responsiveness and scalability of the web application.

5. Client-Side Interaction:

- **Browser Compatibility (Chrome, Edge):** The system is optimized for compatibility with popular web browsers, ensuring a consistent and reliable experience for users.

CHAPTER 2: PROPOSED SYSTEM

Feasibility Study:

1. Technical Feasibility:

- **Hardware:** The hardware requirements, including dual-core processors, 4GB RAM, and sufficient storage, are within the capabilities of modern systems.
- **Software:** The use of widely adopted technologies such as Java, Spring Boot, and MySQL ensures technical feasibility. The compatibility with popular operating systems and browsers enhances accessibility.

2. Operational Feasibility:

- **User-Friendly Interface:** The intuitive user interface, facilitated by Swing, Bootstrap, and other front-end technologies, ensures operational ease for both sellers and customers.
- **Efficient Modules:** The inclusion of modules for product management, shopping cart, and payment integration streamlines operations, making the system operationally feasible.

3. Economic Feasibility:

- **Development Costs:** The project utilizes open-source technologies, reducing initial development costs. The simplicity of the system contributes to low maintenance expenses.
- **Business Expansion:** With plans for business expansion, the system is economically viable, offering scalability without significant additional costs.

4. Functional Feasibility:

- **User Requirements:** The system meets user requirements by providing essential functionalities such as profile management, product cataloging, and secure payment processing.
- **Local Business Enhancement:** The inclusion of features supporting local businesses enhances the system's functional feasibility, catering to specific market needs.

5. Timeline Feasibility:

- **Development Time:** The use of established frameworks like Spring Boot expedites development, contributing to timeline feasibility.
- **Flexibility for Future Updates:** The system's architectural flexibility allows for future updates and additions without causing significant disruptions, ensuring ongoing feasibility.

6. Scalability Feasibility:

- **Business Expansion Plans:** The project's focus on future business plans and its use of scalable technologies make it feasible for accommodating increased user loads and additional features.
- **Adaptability:** The modular architecture and choice of technologies contribute to the system's adaptability to changing user needs and market dynamics.

Objectives of proposed system:

a. Objectives and Goals:

- To provide the availability of the product.
- To Simplify the online shopping process for both customers and sellers.
- To manage customers, registration, booking, payment.
- To build the future plan for business expansion.
- To improve customer satisfaction with online shopping.

Users of the system:

1. Sellers:

- Register, manage profiles, and handle product listings.
- Process orders, generate bills, and accept payments.

2. Buyers/Customers:

- Register, manage profiles, and browse products.
- Add items to the cart, proceed to checkout, and make secure purchases.

3. Admin/Platform Administrator:

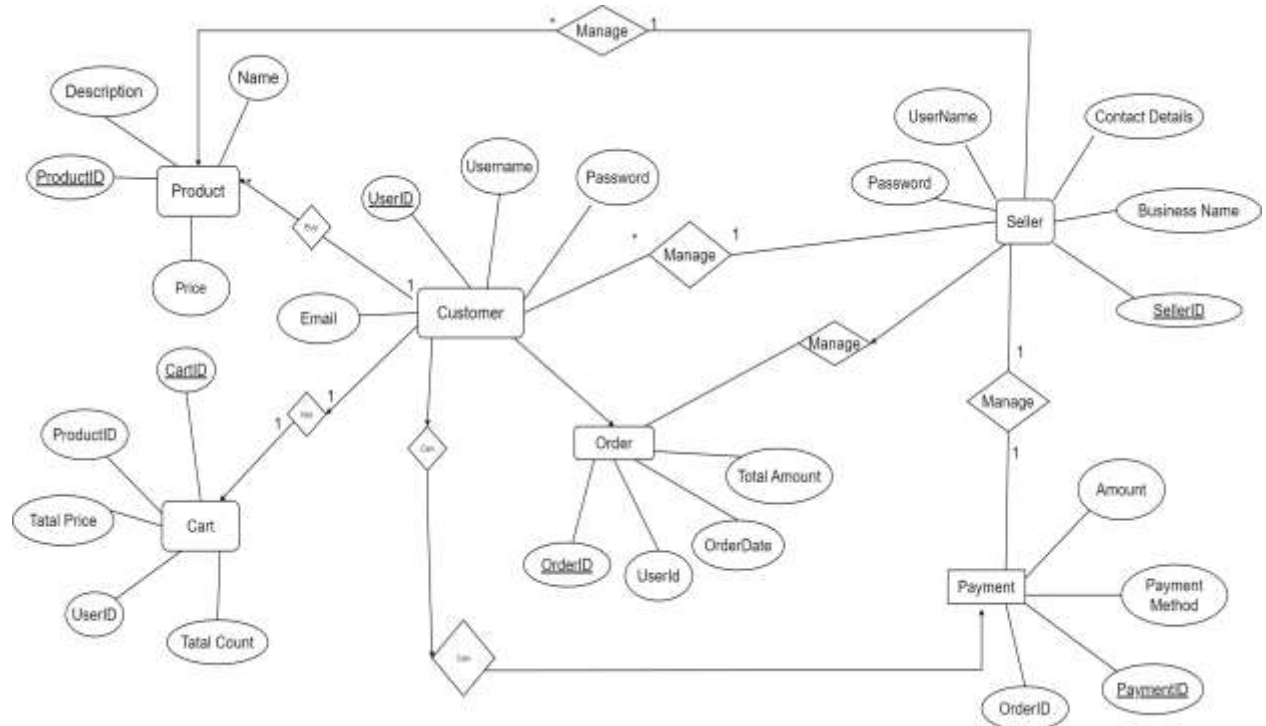
- Manage user and seller profiles, configure system settings.
- Monitor transactions, generate reports, and ensure platform security.

4. System Developers and IT Team:

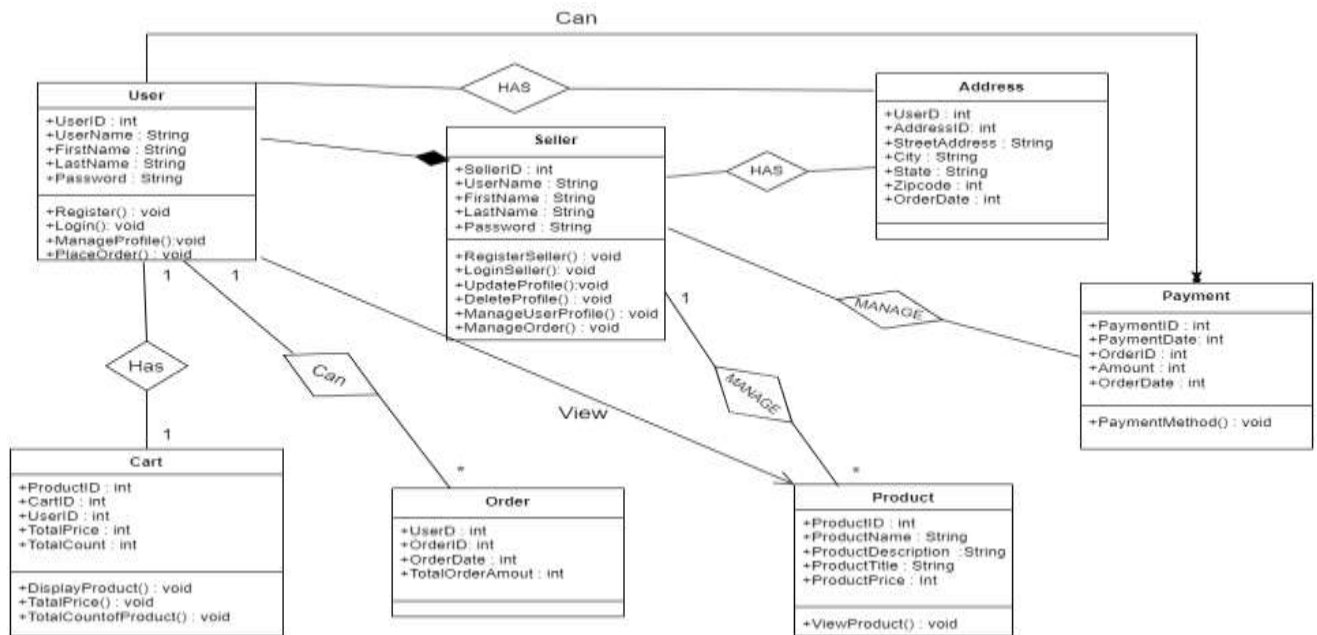
- Maintain and update the system, address technical issues.
- Ensure the security of user data and transactions.

CHAPTER 3: ANALYSIS AND DESIGN

Entity Relationship Diagram (ERD)

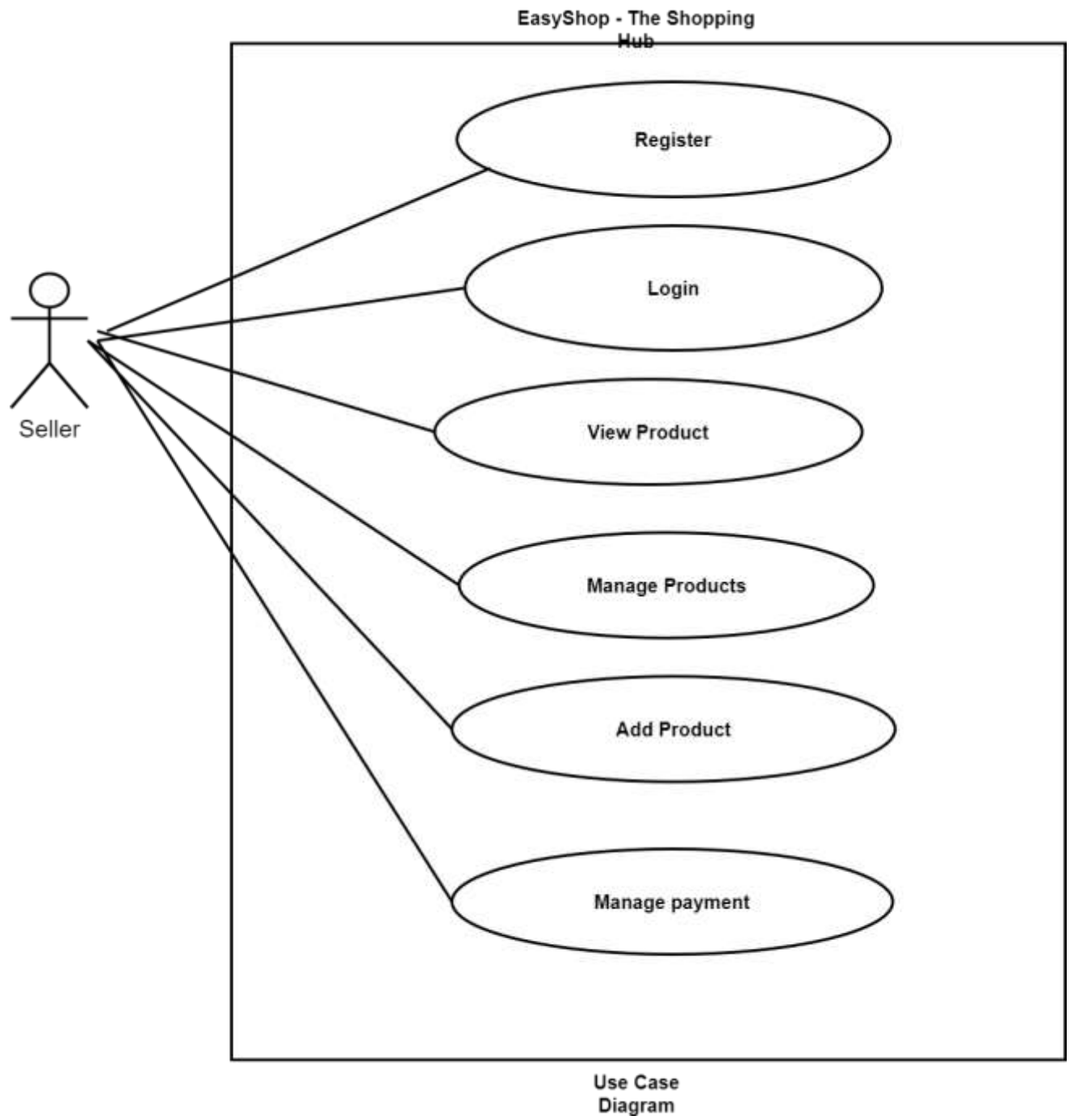


Class Diagram



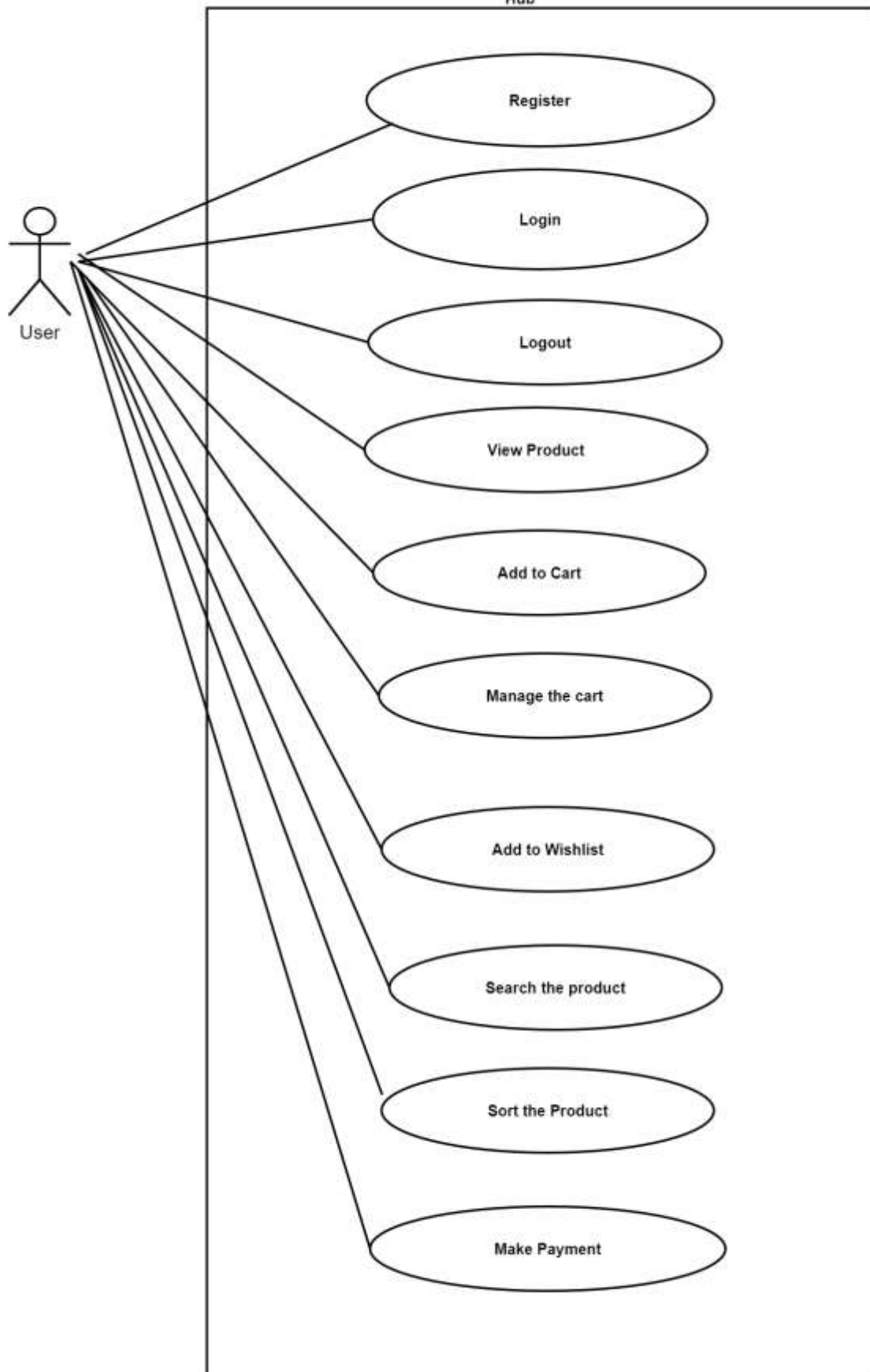
Use Case Diagrams

Seller :



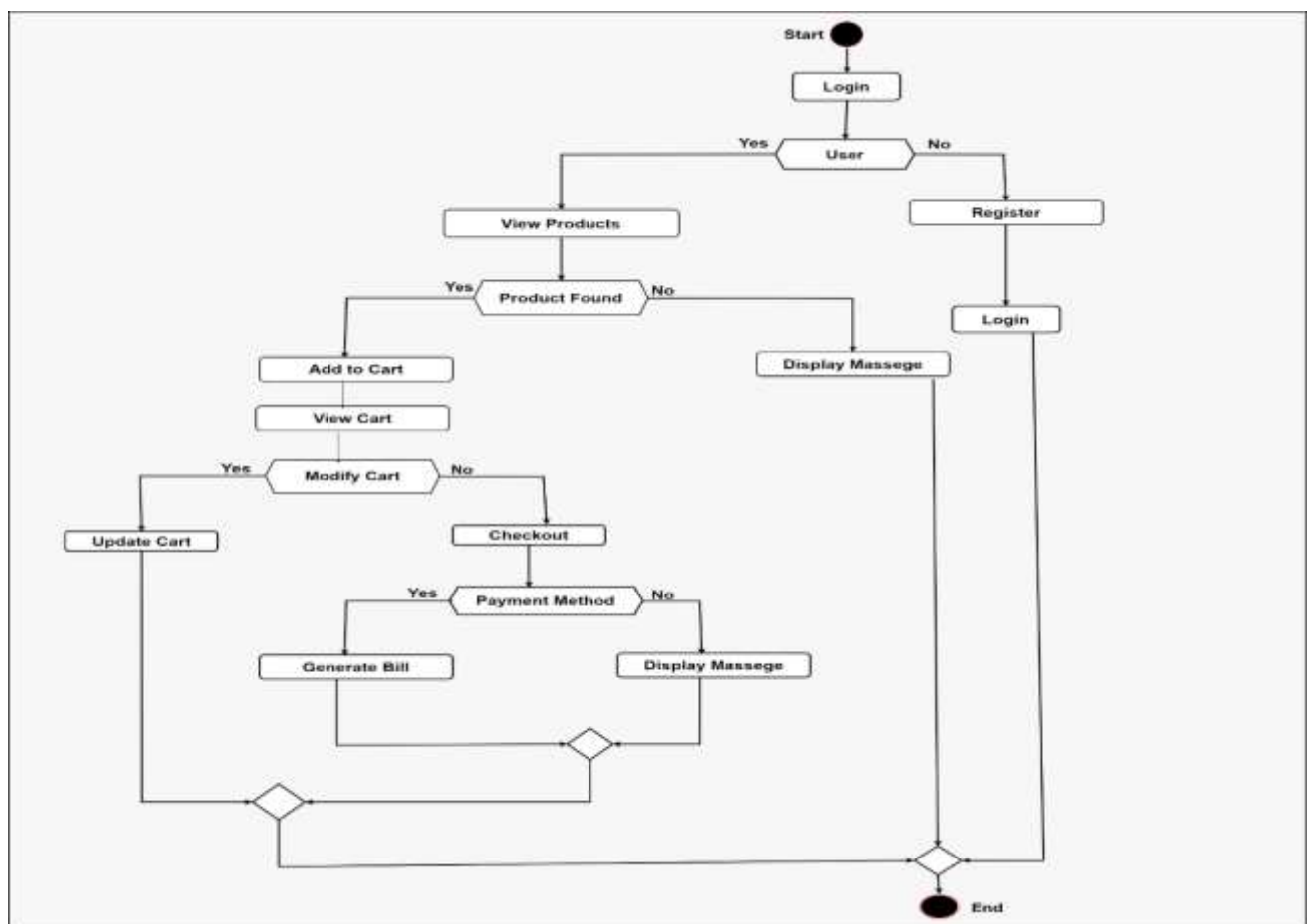
User :

EasyShop - The Shopping Hub



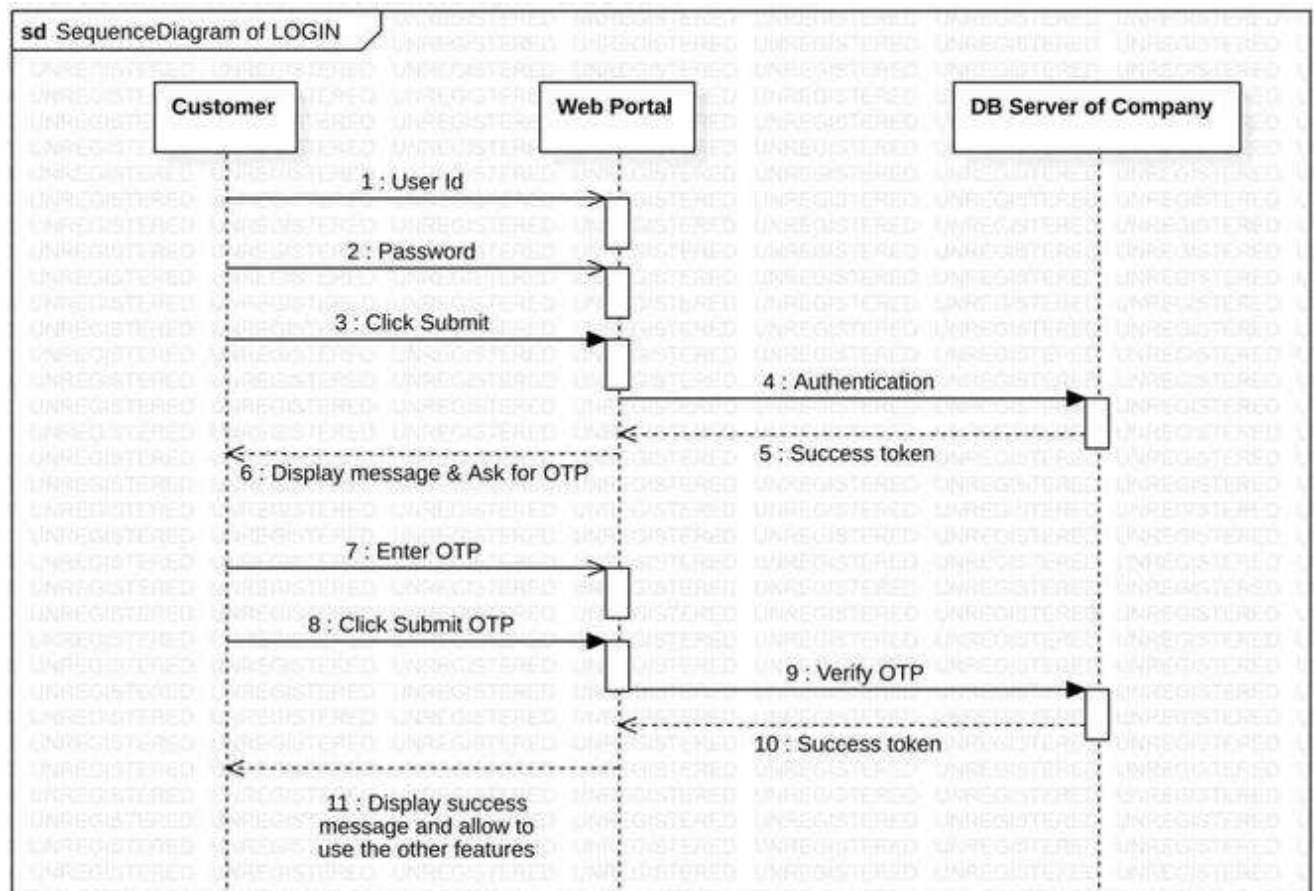
Use Case Diagram

Activity Diagram •

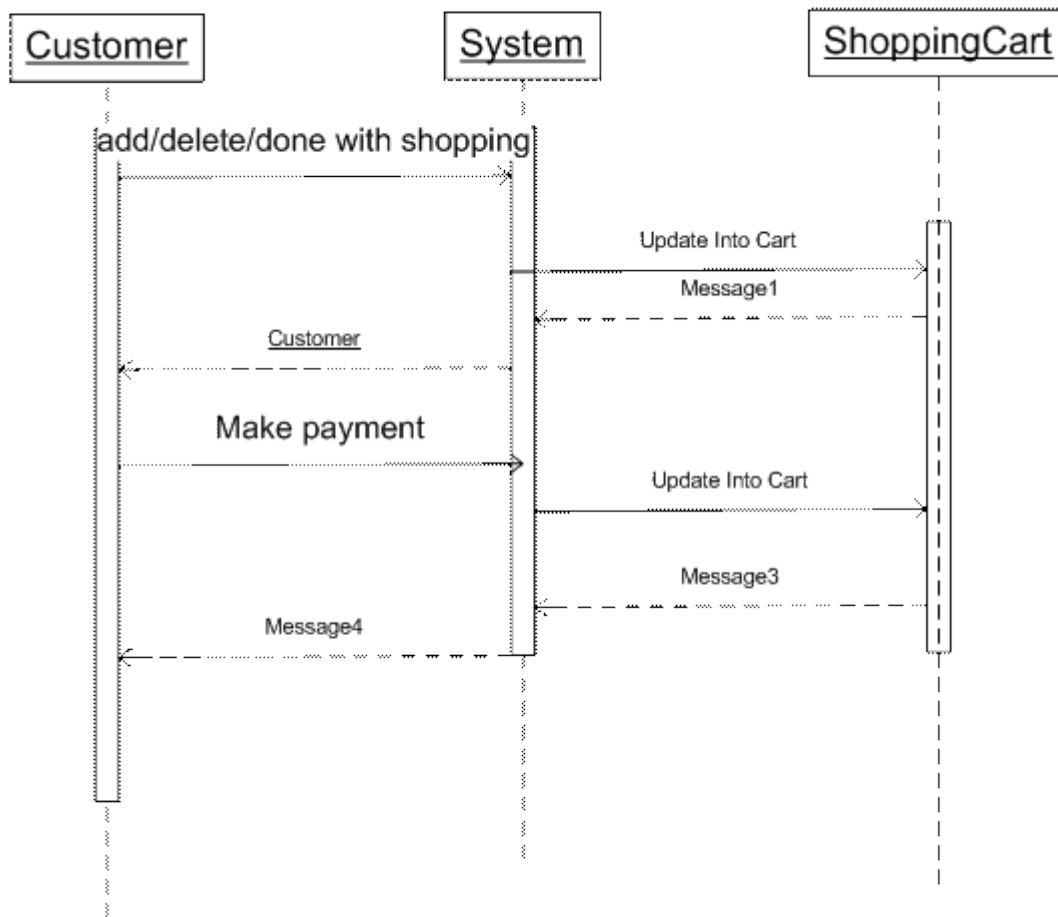


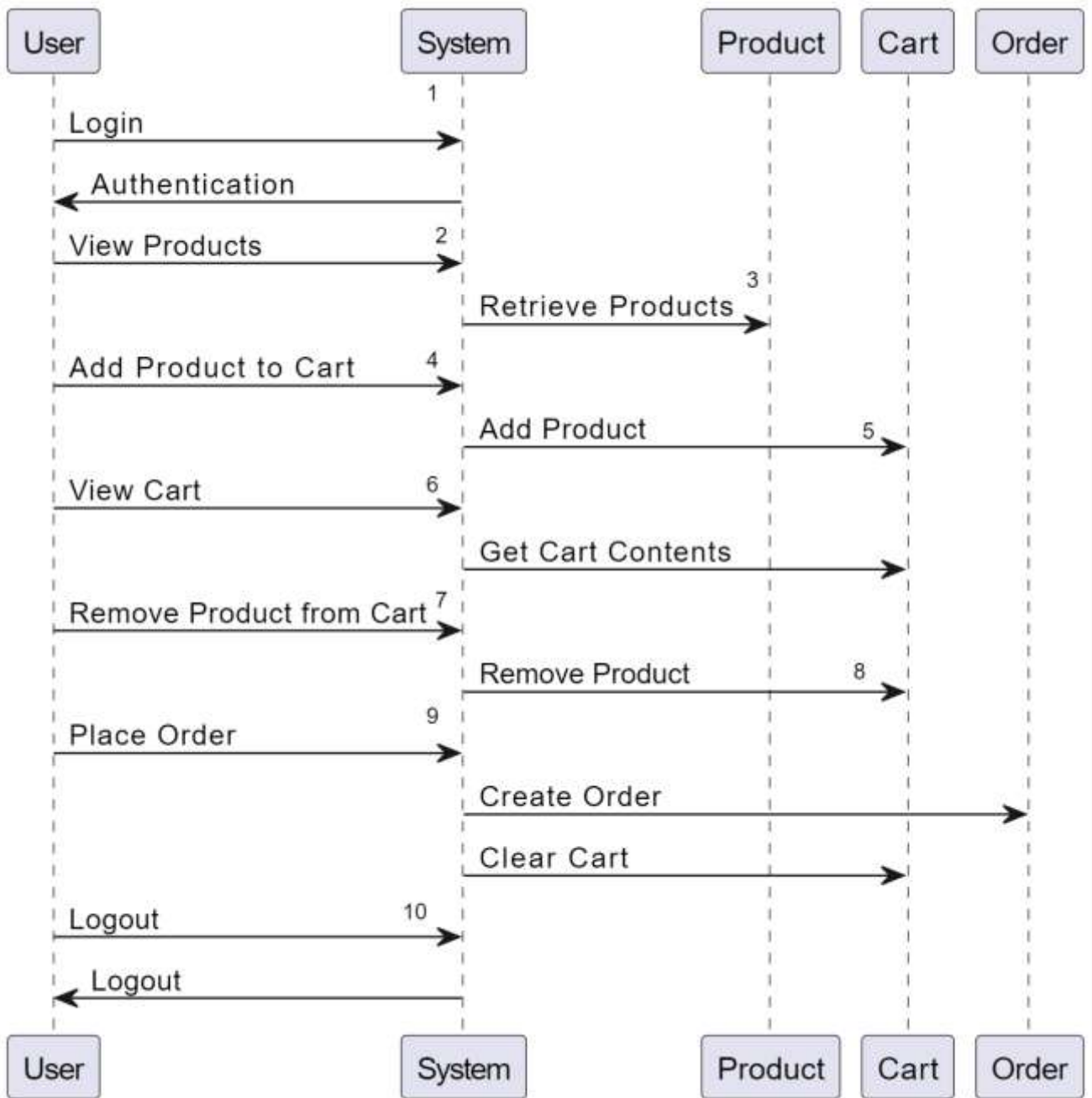
Sequence Diagram

Login :



Customer order Sequence :





Component Diagram :

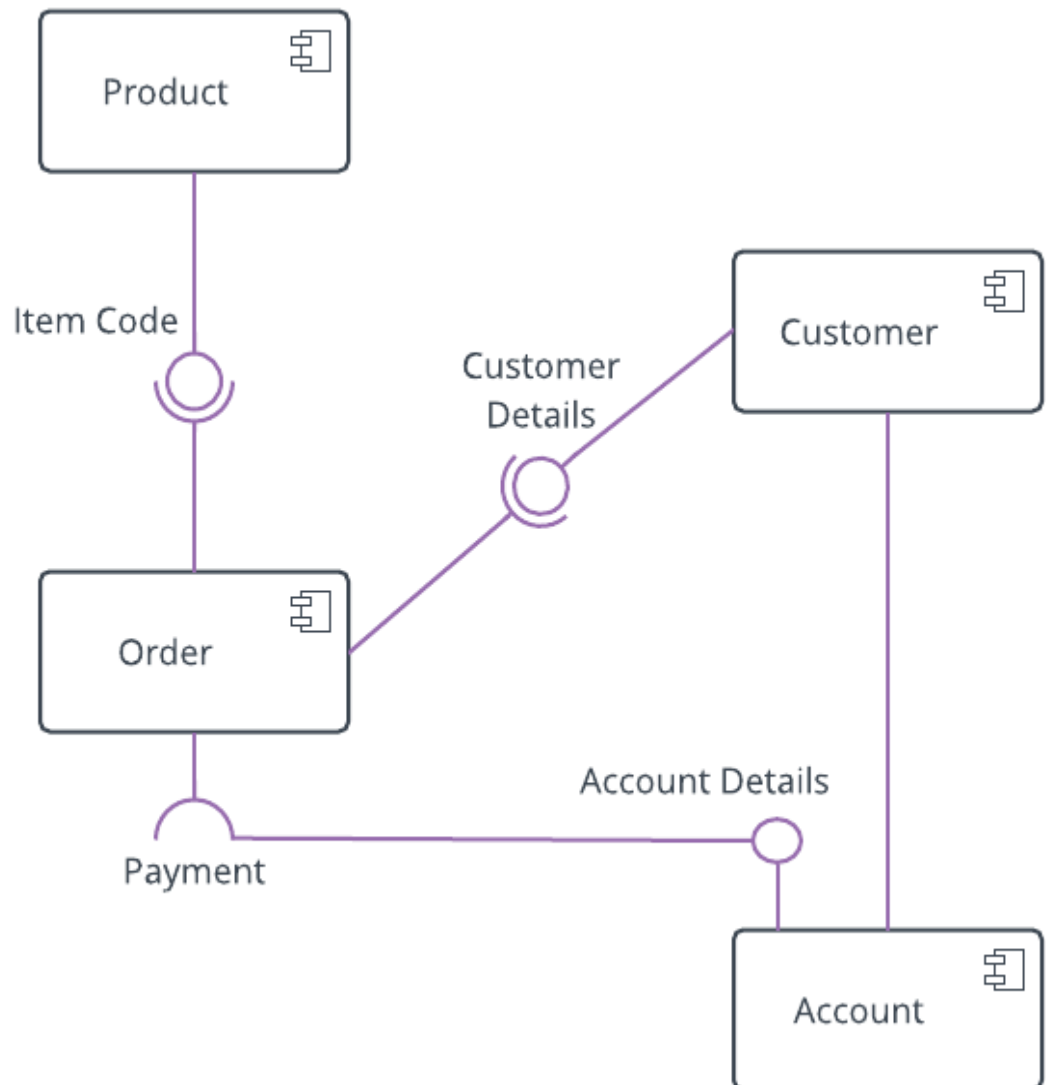


Table Design :

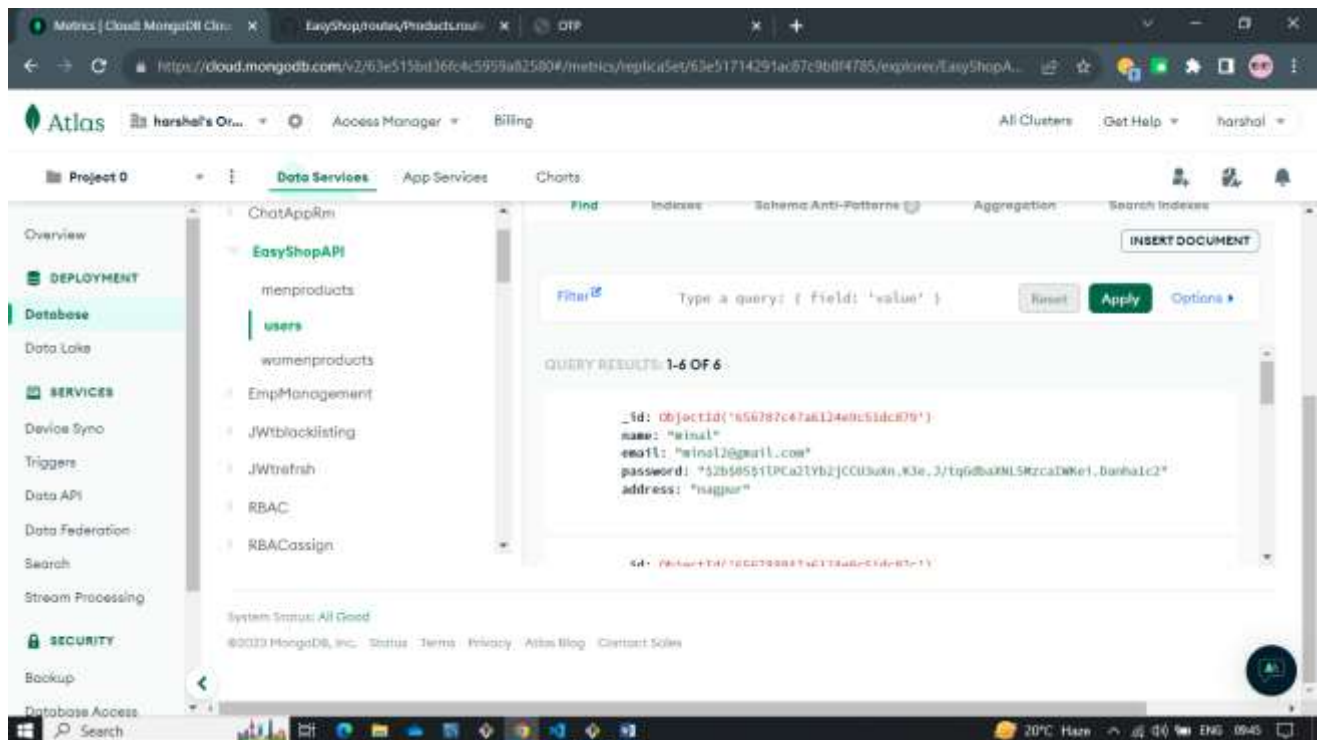
Mongo Db collection :

- Database name : **EasyShopAPI**

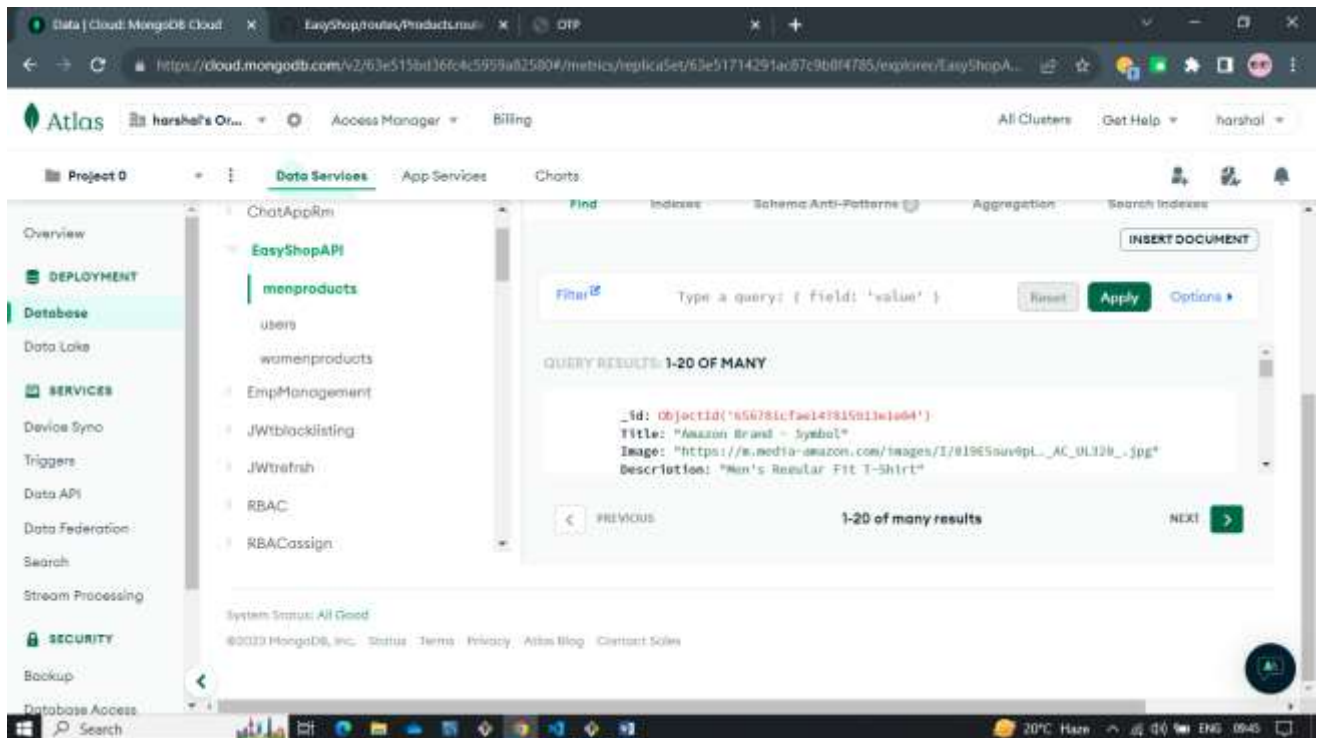
Collections :

- menproducts
- **users**
- womenproducts

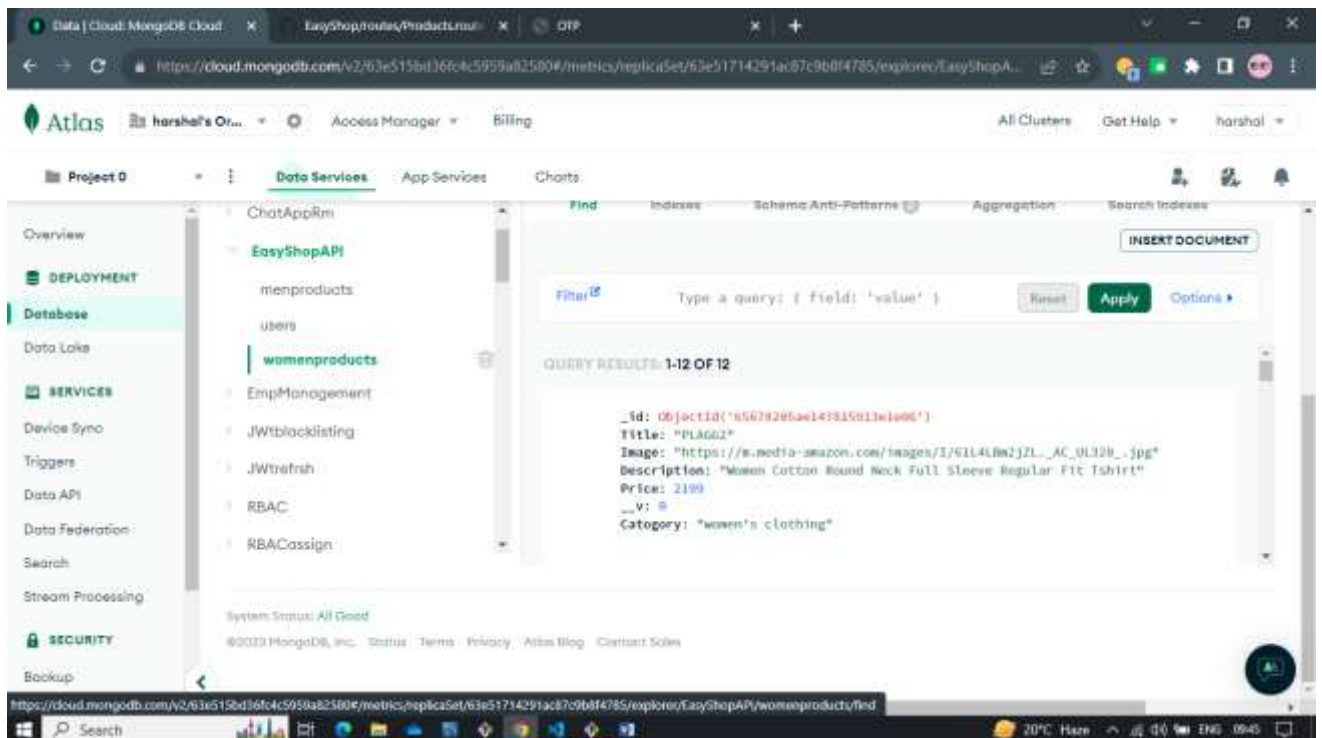
Use Collection :



Men collection :

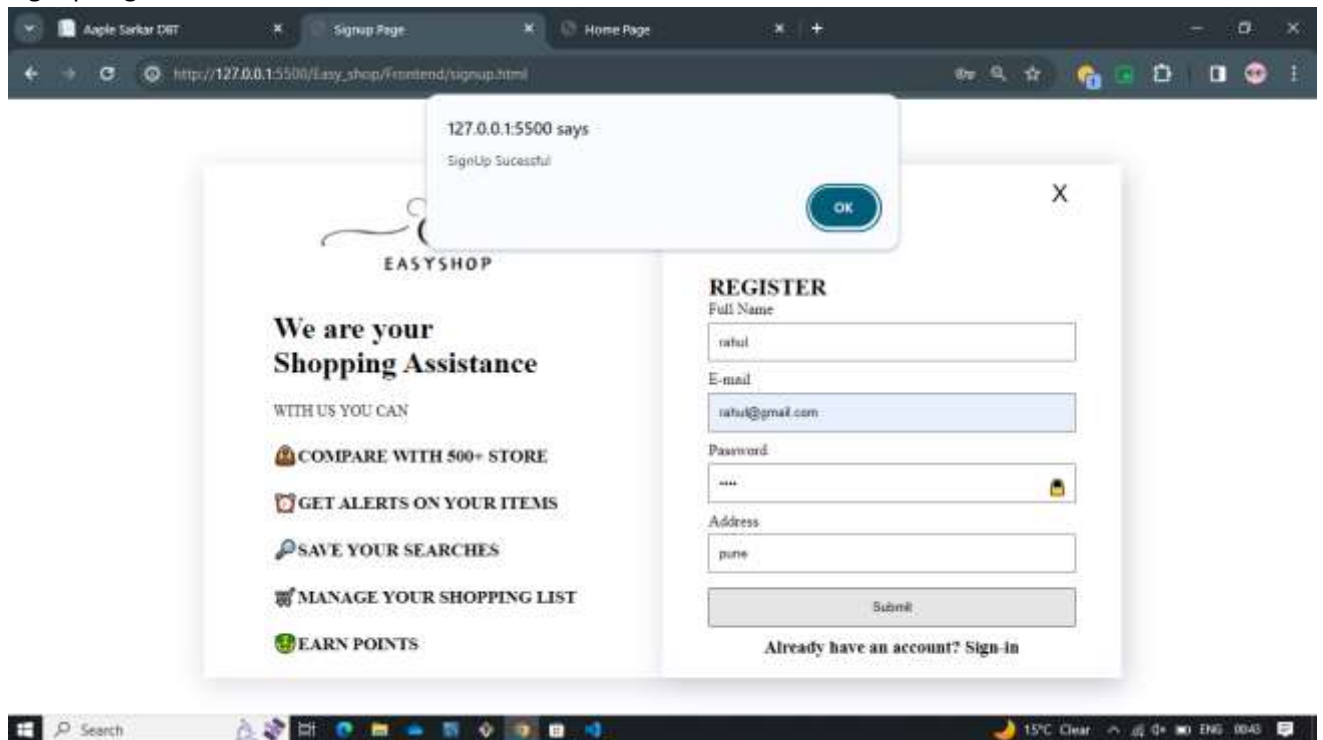


Women Collection :

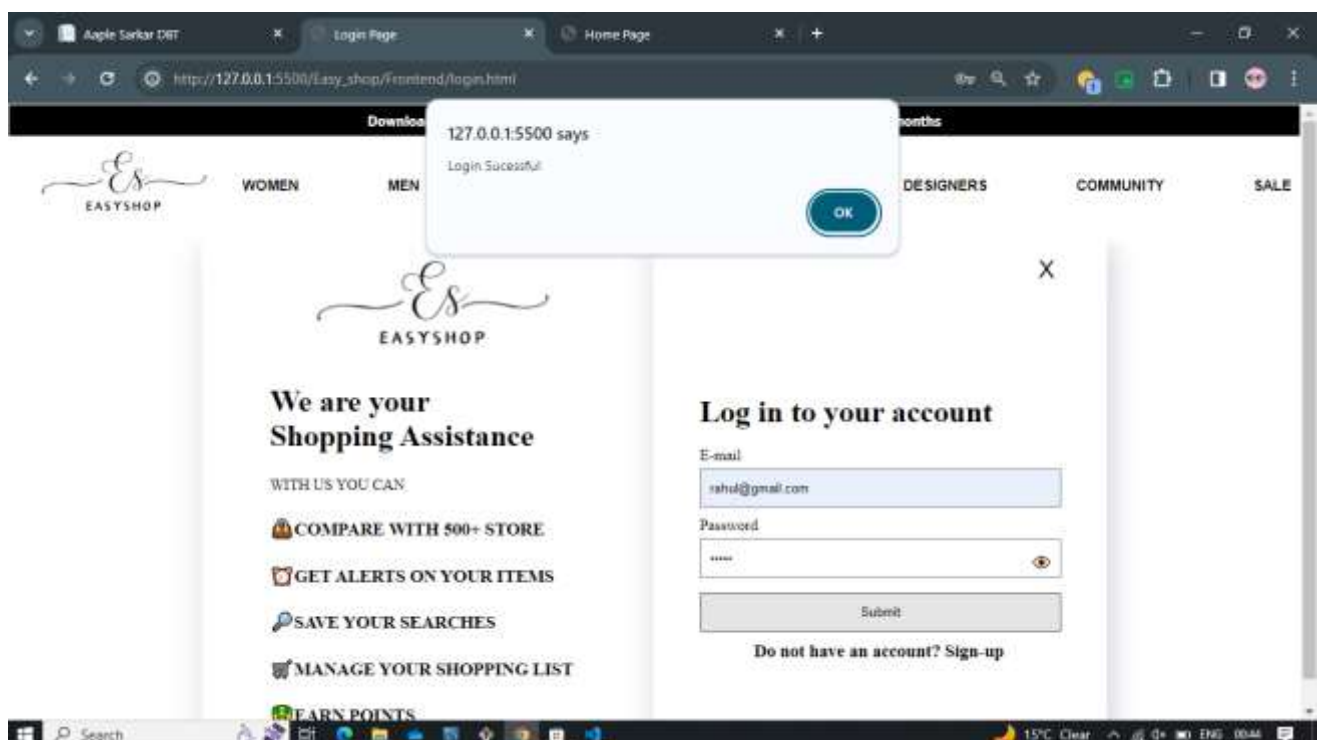


Sample Input and Output Screens :

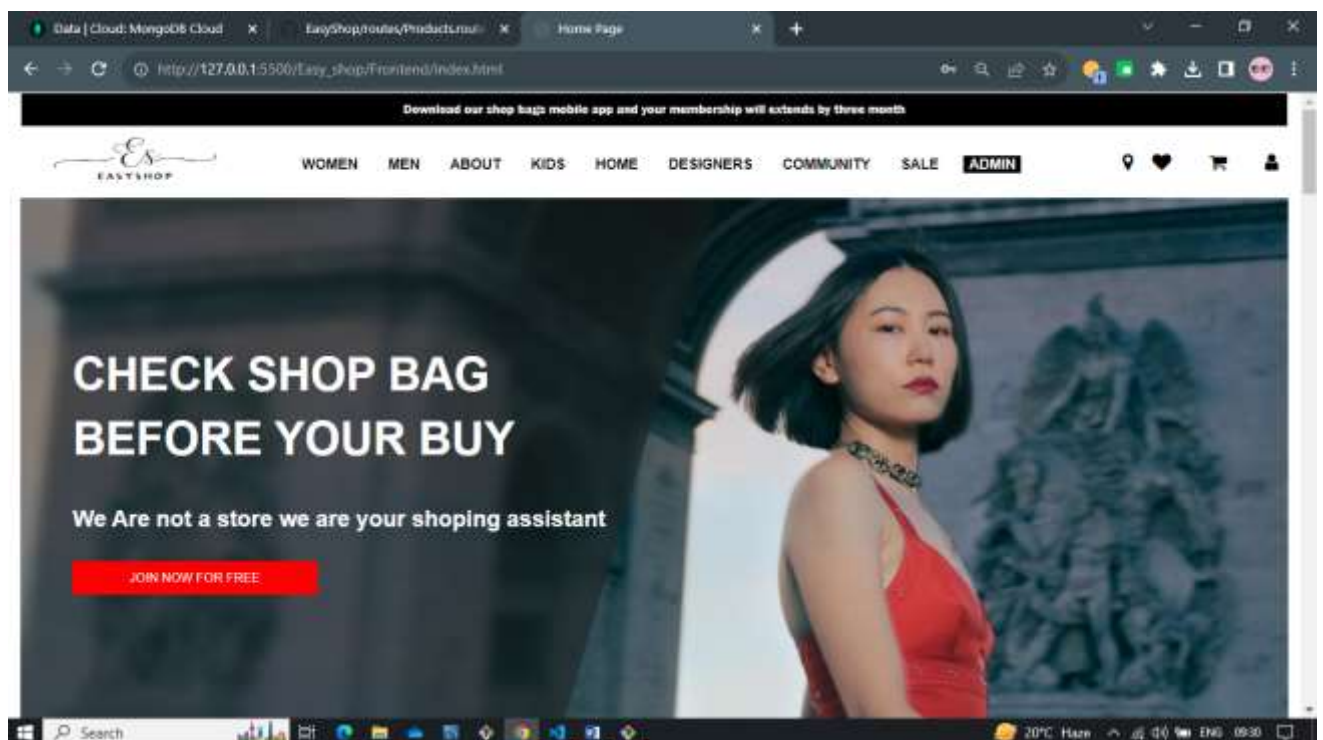
Signup Page :



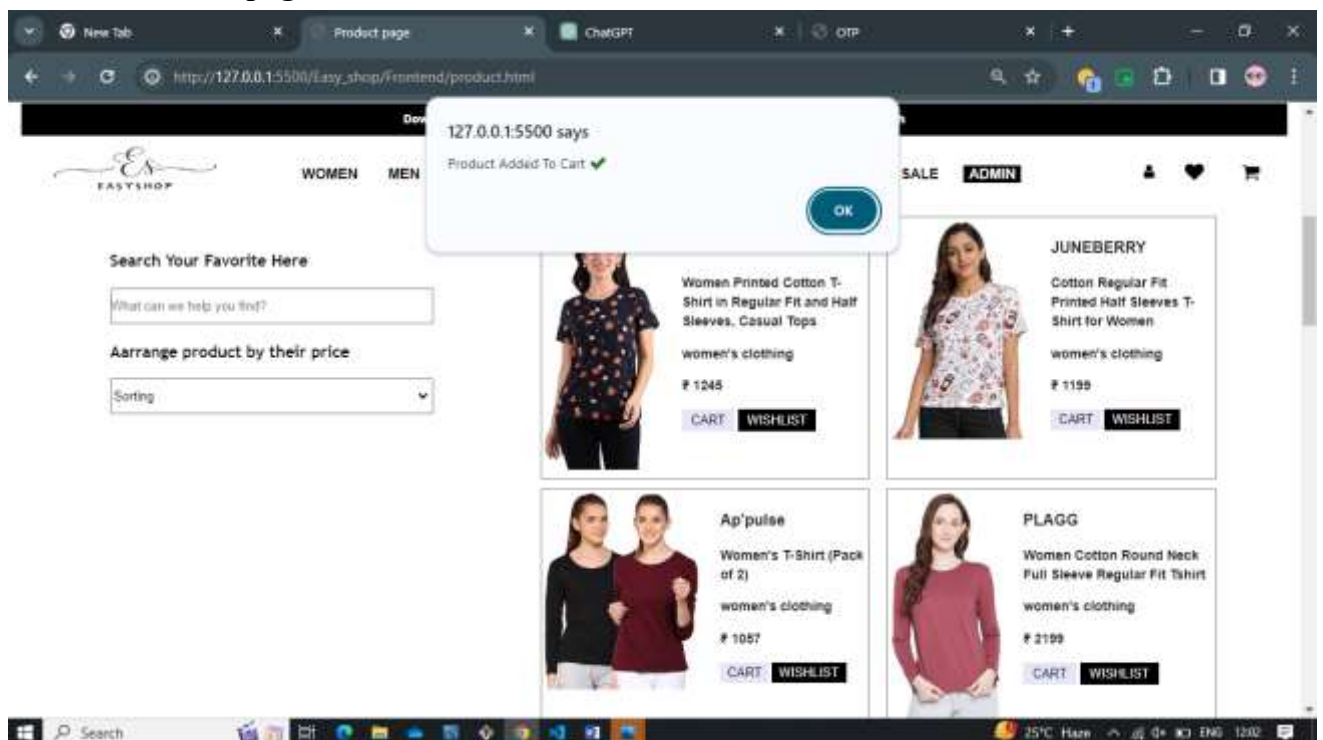
Login Page:



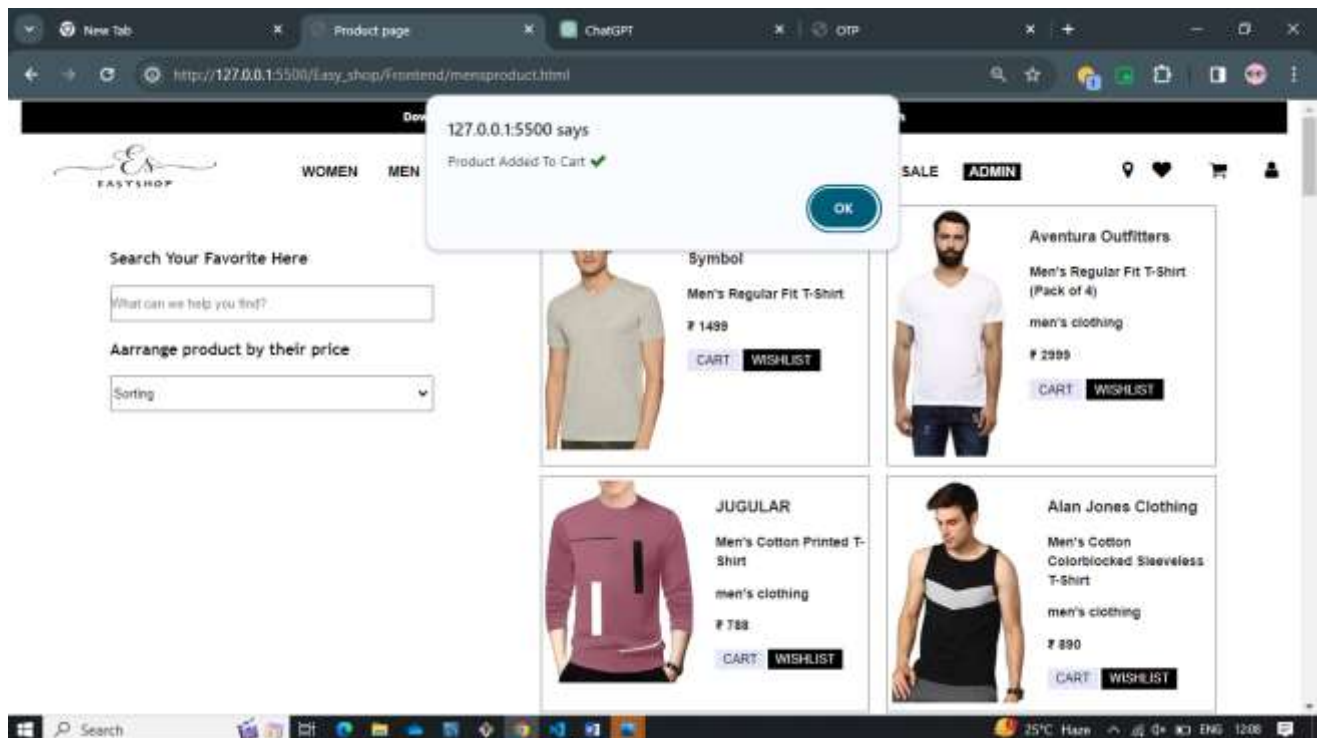
Index.Page :



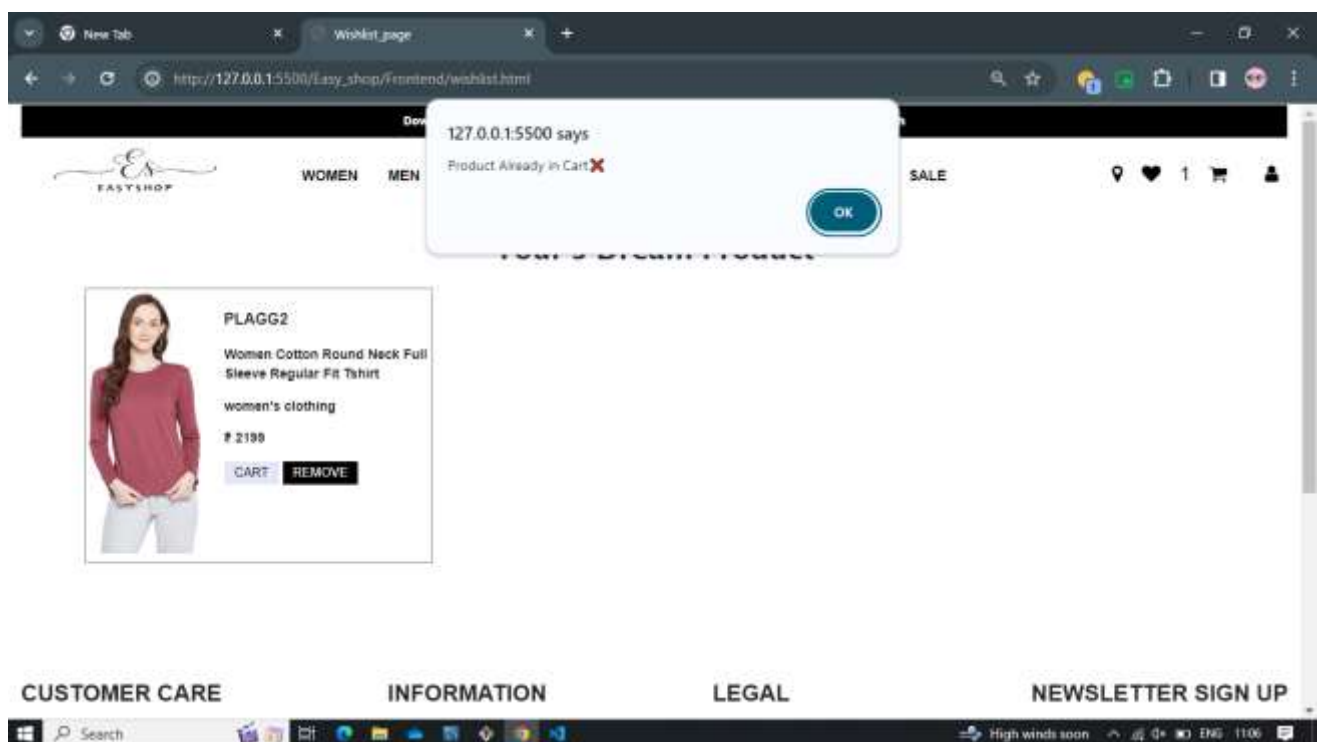
Women Product page :



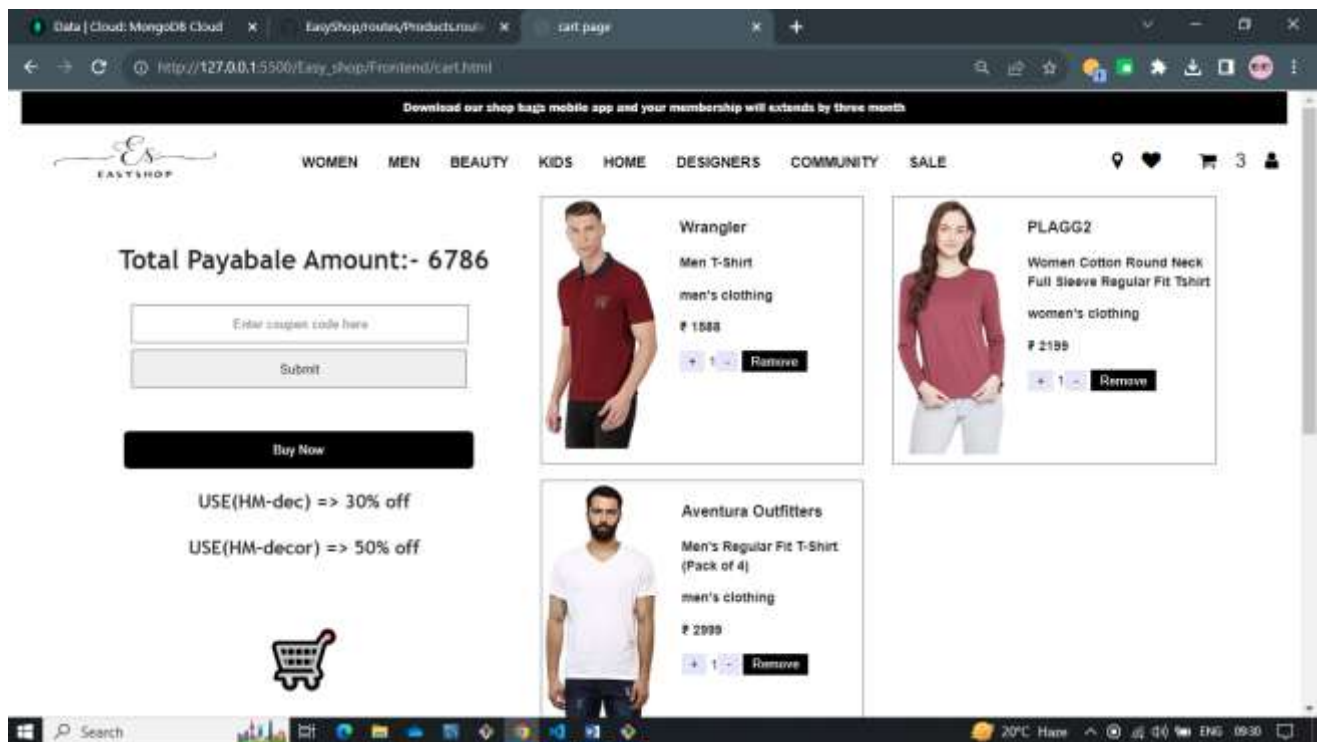
Men product :



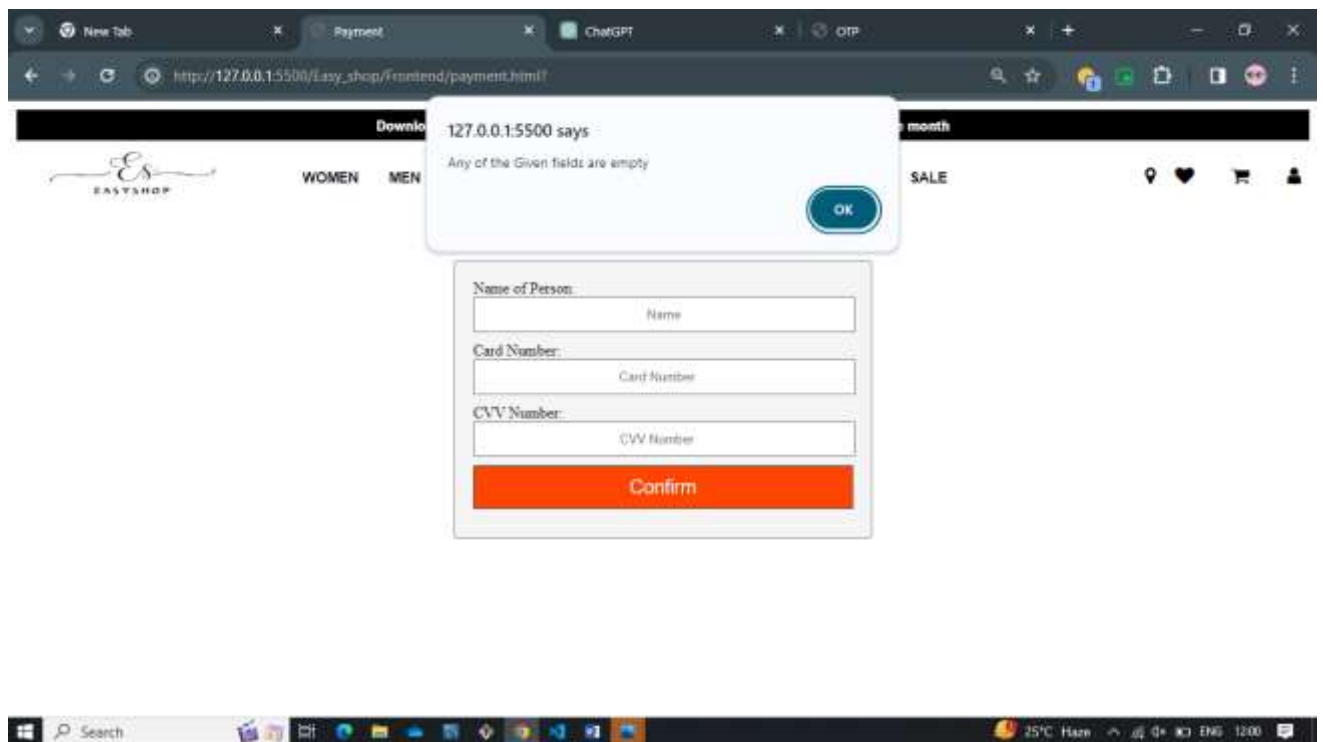
Wishlist Page :



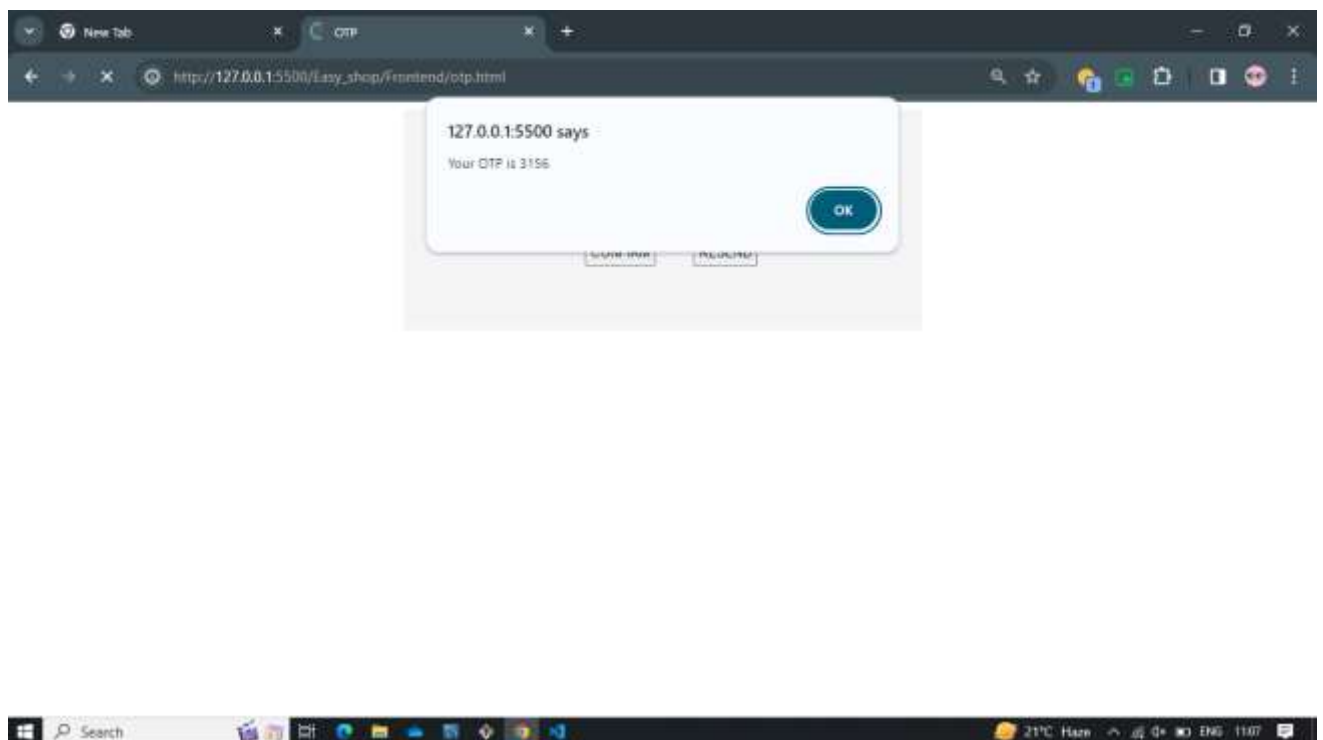
Cart Page :



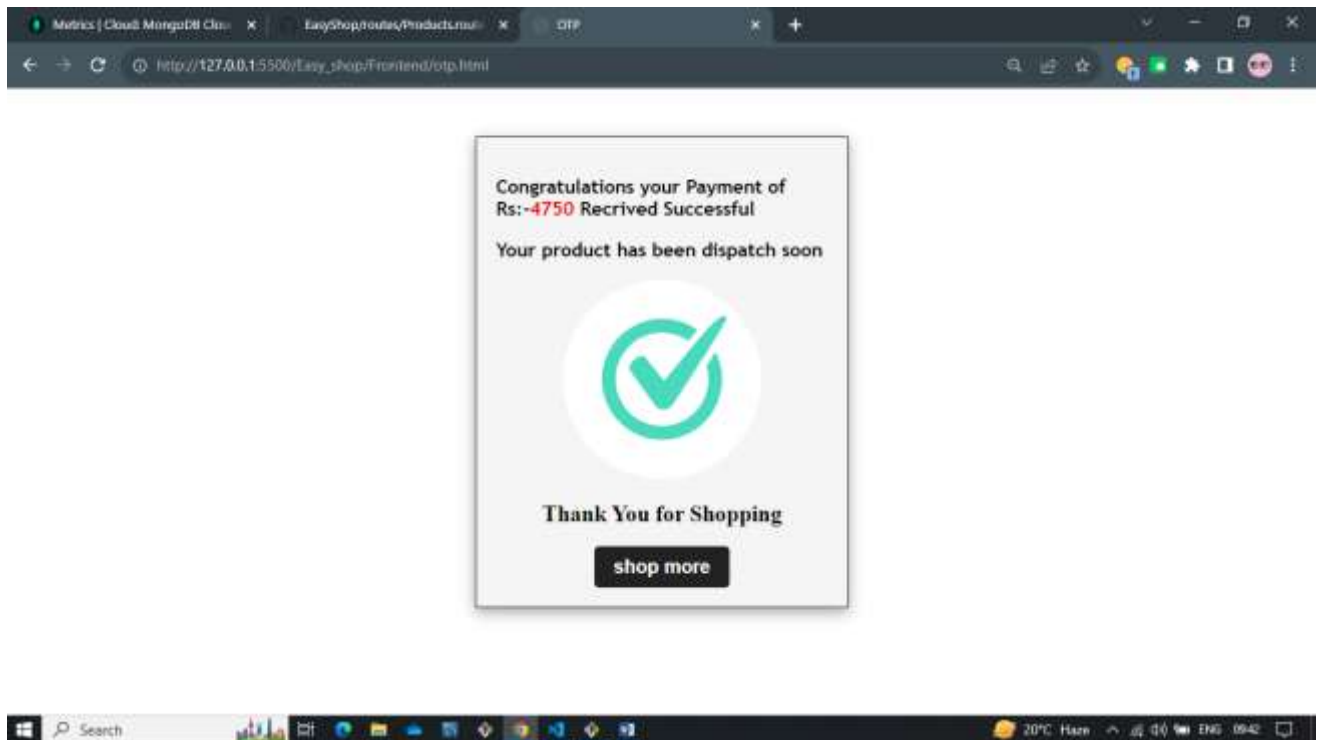
Payment page :



Otp Page :



Receipt :



CHAPTER 4: SAMPLE CODE

User.routes.js:

```
const express = require("express")
const {UserModel} = require("../models/User.models")
const jwt = require("jsonwebtoken")
const bcrypt = require("bcrypt")

const userRouter = express.Router();

userRouter.post("/register", async (req, res) => {
  const { name, email,password,address} = req.body
  const findemail = await UserModel.find({"email":email})

  if(findemail.length > 0){
    res.send({ "msg":"User already exist please login"})

  }else{
    try {
      bcrypt.hash(password, 5, async (err, hash) => {
        if (err) {
          res.send({ "msg": "Something went wring", "error": err.message })
        } else {
          const user = new UserModel({ name, email, password: hash,address})
          await user.save();
          res.send({ "msg": " New User register" })
        }
      })
      // Store hash in your password Data Base.
    } catch (err) {
    }
  }
});
```



```

        res.send({ "msg": "Something went wrong", "error": err.message })
        console.log(err)
    }
}

}))

userRouter.post("/login", async (req, res) => {
    const { email,password } = (req.body)
    try {
        const user = await UserModel.find({ email })
        console.log(user)
        if (user.length > 0) {
            bcrypt.compare(password, user[0].password, (err, result) => {
                if (result) {

                    const token = jwt.sign({userID:user[0]._id}, 'masai');
                    res.send({ "msg": "Login sucess", "token": token })

                } else {
                    res.send({ "msg": "Wrong Credentilas" })
                }
            });

        } else {
            res.send({ "msg": "Credentilas not found" })
        }
    }
    catch (err) {

        res.send({ "msg": "Something went wrong", "error": err.message })
        console.log(err)
    }
}

```

```

    }
  })
  userRouter.put("/updateprofile", async (req, res) => {
    const { userID, name, email, password, address } = req.body;

    try {
      // Check if the user exists
      const user = await UserModel.findById(userID);

      if (!user) {
        return res.status(404).send({ "msg": "User not found" });
      }

      // Update user data
      user.name = name || user.name;
      user.email = email || user.email;
      user.city = address || user.address;

      if (password) {
        bcrypt.hash(password, 5, async (err, hash) => {
          if (err) {
            return res.status(500).send({ "msg": "Something went wrong", "error": err.message });
          }
          user.password = hash;
          await user.save();
          return res.send({ "msg": "User profile updated successfully" });
        });
      } else {
        // If no password provided, save without updating the password
        await user.save();
      }
    }
  });
}

```

```
    return res.send({ "msg": "User profile updated successfully" });
  }
} catch (err) {
  return res.status(500).send({ "msg": "Something went wrong", "error": err.message });
}
});
```

// implementation of logout route

```
userRouter.post("/refresh-token", async (req, res) => {
  const { refreshToken } = req.body;

  const newToken = jwt.sign({ userID: "someUserID" }, 'masai', { expiresIn: '1h' });

  res.send({ "token": newToken });
});
```

```
userRouter.post("/logout", async (req, res) => {
  const { token } = req.body;

  try {

    const isTokenBlacklisted = await BlacklistTokenModel.exists({ token });

    if (isTokenBlacklisted) {
      return res.status(401).send({ "msg": "Token is already blacklisted" });
    }

    // Blacklist the token
    await new BlacklistTokenModel({ token }).save();
```

```

    res.send({ "msg": "Logout successful" });
  } catch (err) {
    console.error(err);
    res.status(500).send({ "msg": "Something went wrong" });
  }
});

```

```

module.exports = {
  userRouter
}

```

Products.route.js:

```

const express = require("express");
const { MenProductModel, WomenProductModel } = require("../models/Post.model");

const productRouter = express.Router();

productRouter.post("/create", async (req, res) => {
  const payload = req.body;

  try {
    const category = payload.Category ? payload.Category.toLowerCase() : null;

    if (!category || (category !== "men's clothing" && category !== "women's clothing")) {
      return res.status(400).json({ msg: "Invalid category" });
    }
  }
}

```

```

let product;

if (category === "men's clothing") {
  product = new MenProductModel({
    Title: payload.Title,
    Image: payload.Image,
    Description: payload.Description,
    Price: payload.Price,
    // Add other fields specific to men's products
  });
} else {
  product = new WomenProductModel({
    Title: payload.Title,
    Image: payload.Image,
    Description: payload.Description,
    Price: payload.Price,
    // Add other fields specific to women's products
  });
}

await product.save();

res.json({ msg: "Product registered on site", product });
} catch (err) {
  res.status(500).json({ msg: "Not able to add", error: err.message });
}
});

productRouter.get("/allmenproducts", async (req, res) => {
  try {
    const menProducts = await MenProductModel.find();
    res.json(menProducts);
  }

```

```

    } catch (err) {
      console.error(err);
      res.status(500).json({ msg: "Error fetching men's products" });
    }
  });

  productRouter.get("/allwomenproducts", async (req, res) => {
    try {
      const womenProducts = await WomenProductModel.find();
      res.json(womenProducts);
    } catch (err) {
      console.error(err);
      res.status(500).json({ msg: "Error fetching women's products" });
    }
  });

```

```

productRouter.patch("/update/:id", async (req, res) => {
  const productId = req.params.id;

  try {
    const category = req.body.Category ? req.body.Category.toLowerCase() : null;

    let updatedProduct;

    if (category === "men's clothing") {
      updatedProduct = await MenProductModel.findByIdAndUpdate(
        { _id: productId },
        { $set: req.body },
        { new: true }
      );
    } else if (category === "women's clothing") {
      updatedProduct = await WomenProductModel.findByIdAndUpdate(
        { _id: productId },

```

```

    { $set: req.body },
    { new: true }
  );
} else {
  return res.status(400).json({ msg: "Invalid category" });
}

res.json({ msg: "Product updated successfully", product: updatedProduct });
} catch (err) {
  console.error(err);
  res.status(500).json({ msg: "Error updating product" });
}
});

productRouter.delete("/delete/:id", async (req, res) => {
  const productId = req.params.id;

  try {
    const category = req.body.Category ? req.body.Category.toLowerCase() : null;

    let deletedProduct;

    if (category === "men's clothing") {
      deletedProduct = await MenProductModel.findByIdAndDelete(productId);
    } else if (category === "women's clothing") {
      deletedProduct = await WomenProductModel.findByIdAndDelete(productId);
    } else {
      return res.status(400).json({ msg: "Invalid category" });
    }

    if (deletedProduct) {
      res.json({ msg: "Product deleted successfully", product: deletedProduct });
    } else {

```

```
    res.status(404).json({ msg: "Product not found" });  
  }  
} catch (err) {  
  console.error(err);  
  res.status(500).json({ msg: "Error deleting product" });  
}  
});
```

```
module.exports = {  
  productRouter  
};
```


CHAPTER 5: LIMITATIONS OF SYSTEM

Technical Limitations:

1. User Authentication Requirement:

- **Description:** To facilitate purchases and ensure personalized experiences, users are required to create profiles or accounts. While this enhances security and order tracking, it may act as a barrier for individuals who prefer a quicker guest checkout option.
- **Impact:** Potential customers may abandon purchases if they are unwilling to create accounts, impacting the user base and potentially reducing conversion rates.

2. Payment Dependency:

- **Description:** The system mandates payment for order processing, and alternative payment methods may not be supported. This dependency on electronic transactions could limit accessibility for users who prefer cash-on-delivery or other payment options.
 - **Impact:** Users without access to electronic payment methods or those with security concerns may be deterred from completing purchases, affecting the inclusivity of the platform.
-

Chapter 6: PROPOSED ENHANCEMENTS

1. AI-Powered Recommendations:

- Implement an artificial intelligence (AI) algorithm to analyze user preferences and behavior, providing personalized product recommendations to enhance the shopping experience.

2. Social Media Integration:

- Integrate social media platforms to allow users to share their favorite products, reviews, and purchases, fostering a sense of community and increasing the platform's visibility.

3. Virtual Try-On Technology:

- Introduce virtual try-on features for products such as clothing and accessories, leveraging augmented reality (AR) technology to enable users to visualize items before purchase.

4. Interactive Product Demos:

- Incorporate interactive product demonstrations, including videos or virtual tours, to provide users with a more immersive and informative shopping experience.

5. Voice Search Functionality:

- Implement voice search capabilities to enable users to search for products using voice commands, enhancing accessibility and catering to users with different preferences.

6. Localized Marketing Campaigns:

Develop targeted and localized marketing campaigns to promote products based on geographical preferences, cultural events, or regional trends.

7. Subscription Services:

- Introduce subscription services for regularly purchased items, allowing users to subscribe for automated deliveries and benefit from discounts or exclusive offers.

8. Gamification Elements:

- Incorporate gamification elements such as loyalty programs, challenges, or rewards to engage users, encourage repeat purchases, and build brand loyalty.

9. Enhanced Seller Analytics:

- Provide sellers with advanced analytics tools to track product performance, customer behavior, and market trends, empowering them to optimize their offerings and marketing strategies.

10. Multi-Channel Shopping:

- Expand the platform to support multi-channel shopping, allowing users to seamlessly transition between devices (desktop, mobile, tablet) while maintaining a consistent shopping experience.

11. Green Shopping Initiatives:

- Introduce eco-friendly and sustainable shopping initiatives, such as a "green" product category or carbon footprint information, to appeal to environmentally conscious consumers.

12. Augmented Reality (AR) Shopping Assistant:

- Develop an AR-based shopping assistant that guides users through product selection, offering insights, recommendations, and additional information in real-time.

Chapter 7: CONCLUSION

"EasyShop - The Shopping Hub" promises to revolutionize online shopping by prioritizing user convenience, cutting-edge technology, and innovative features. With a commitment to continuous improvement and a vision for the future, the platform aims to redefine the online shopping experience, creating a dynamic and user-centric ecosystem. "EasyShop" aspires to be more than just a marketplace; it envisions becoming a cornerstone in the evolution of e-commerce, where seamless transactions, personalized interactions, and sustainability converge to shape the future of online shopping.

CHAPTER 8: BIBLIOGRAPHY

8.0.1 Websites

- **Sinhgad Institute of Management. (n.d.). Institute Website.** Retrieved from <https://www.sinhgad.edu/SinhgadManagementSIOM/Pune/Default.aspx>
 - **Savitribai Phule Pune University. (n.d.). University Website.** Retrieved from <https://www.unipune.ac.in/>
 - **MySQL. (n.d.). MySQL Documentation.** Retrieved from <https://dev.mysql.com/doc/>
- MongoDB :** MongoDB documentation from <https://www.mongodb.com/docs/>
- **Node.js. (n.d.). Node.js Documentation.** Retrieved from <https://nodejs.org/en/docs/>

8.0.2 Books

- “UML 2.0 in a Nutshell” by Dan Pilone, Neil Pitman Released June 2005 Publisher(s): O'Reilly Media, Inc. ISBN: 9780596552312