



Tribhuvan University

Faculty of Humanities and Social Studies

I-Wears (Online Spectacle Store)

A PROJECT REPORT

Submitted to:

Department of Computer Application

Prime College

*In the partial fulfillment of the requirements for the bachelors in Computer
Application*

Submitted by:

Rikesh Shrestha (21-00014-8)
Sushant KC(21-00030-8)

April 2024 A.D

**Under the supervision of
Mr. Sujesh Manandhar**



Tribhuvan University

Faculty of Humanities and Social Studies

I-Wears (Online Spectacle Store)

A PROJECT REPORT

Submitted to:

Department of Computer Application

Prime College

*In the partial fulfillment of the requirements for the bachelors in Computer
Application*

Submitted by:

Rikesh Shrestha (21-00014-8)
Sushant KC (21-00030-8)

April 2024 A.D

**Under the supervision of
Mr. Sujesh Manandhar**



**Tribhuvan University Faculty of
Humanities and Social Science Prime
College**

Supervisor's recommendation

We hereby recommend that this project is prepared under my supervision by Rikesh Shrestha and Sushant KC entitled “**I-Wears**” (Online Spectacles Store) in the partial fulfillment for the degree of Bachelor of Computer Application is recommended for the final evaluation.

Mr. Sujesh Manandhar
SUPERVISOR
Prime College



Tribhuvan University
Faculty of Humanities and Social Science
Prime College

LETTER OF APPROVAL

This is to certify that this project is prepared by Rikesh Shrestha and Sushant KC entitled “I-Wears” (Online Spectacle Store) in the partial fulfilment for the degree of Bachelor of Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

Mr. Sujesh Manandhar Supervisor Prime College, Khusibun	Er. Rolisha Sthapit BCA Co-Ordinator/ Internal Examiner BCA Department Prime College, Khusibun
	External Examin

ABSTRACT

The Online Spectacles Store “I-Wears” is an efficient online platform that enables customers to easily browse, select, and purchase spectacles. Customers can create accounts and log in to access a wide catalog of spectacles, complete with detailed descriptions and pricing information. They can place orders seamlessly, with the system managing their order history for convenience. Admin users have specialized access to an administrative dashboard, where they can manage product listings, update stock levels, and process orders efficiently. Customers receive timely notifications regarding their order status, ensuring a smooth and transparent purchasing experience. This system is developed using HTML, CSS, JavaScript, PHP and MySQL. Overall, the system provides a user-friendly interface for customers while offering robust administrative tools for inventory management and order processing.

Keywords: HTML, CSS, JavaScript, PHP, MySQL

ACKNOWLEDGEMENT

For the partial fulfillment of the project in this semester, We would like to express my sincere gratitude to everyone who had directly and indirectly helped us to complete this project. There were times when we thought that this project was too difficult or we may not be able to complete this in time, but we are really thankful to everyone who had encouraged, inspired and helped us to complete this project. We are really thankful to our supervisor **Mr. Sujesh Manandhar** sir and our coordinator **Er. Rolisha Sthapit** who helped us in our each and every difficulty that aroused during our project.

We would also like to express our heartfelt gratitude to all the classmates who were always inspiring us to continue with the project and reminded us the competition every time. I am also grateful to all our professors for their guidance and support throughout the project.

Finally, We are grateful to Tribhuvan University for giving this opportunity via the course of Computer Application to help me understand the project ethics at this early stage and helped me develop my skills and knowledge through this project.

Rikesh Shrestha

Sushant KC

TABLE OF CONTENTS

SUPERVISOR'S RECOMMENDATION.....	i
LETTER OF APPROVAL	ii
ABSTRACT.....	iii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENTS	v
LIST OF ABBREVIATIONS.....	vii
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1 INTRODUCTION	1
1.1 Introduction.....	1
1.2 Problem Statement.....	1
1.3 Objectives	2
1.4 Scopes and Limitations	2
1. 4.1 Scopes.....	2
1.4.2 Limitations.....	2
1.5 Development Methodology.....	2
1.6 Report Organization.....	4
CHAPTER 2 BACKGROUND STUDY AND LITERATURE REVIEW	5
2.1 Background Study.....	5
2.2 Literature review	5
CHAPTER 3 SYSTEM ANALYSIS AND DESIGN	7
3.1 System Analysis	7
3.1.1 Requirement Analysis.....	7
3.1.2 Feasibility Study	9
3.1.3 Data Modeling	12
3.1.4 Process Modeling	13
3.2 System Design	16
3.2.1 System Architecture.....	16

3.2.2 Database Schema Design.....	18
3.2.3 Interface Design (UI Interface/ Interface Structure Diagrams).....	20
3.2.4 Physical DFD.....	21
CHAPTER 4 IMPLEMENTATION AND TESTING	23
4.1 Implementation	23
4.1.1 Tools Used (CASE tools, Programming Languages, Database Platforms).....	23
4.1.2 Implementation Details of Modules (Description of Procedures/ functions).....	23
4.2 Testing	24
4.2.1 Unit Testing	24
4.2.2 System testing.....	28
CHAPTER 5 CONCLUSION AND FUTURE RECOMMENDATIONS	31
5.1 Lesson learnt/ Outcome	31
5.2 Conclusion	31
5.3 Future Recommendation	32
REFERENCES	33

APPENDIX

LIST OF ABBREVIATIONS

CSS	Cascading Style Sheet
DFD	Data Flow Diagram
ERD	Entity Relational Diagram
HTML	Hypertext Markup Language
JS	JavaScript
PHP	Hypertext Preprocessor
SQL	Structure Query Language

LIST OF TABLES

Table 3. 1 Gantt Table.....	11
Table 4. 1 User Registration	25
Table 4. 2 Order Product.....	26
Table 4. 3 User Wish list details	27
Table 4. 4 User Cart details.....	28
Table 4. 5 User Interface	29
Table 4. 6 Admin Interface.....	30

LIST OF FIGURES

Figure1. 1 Iterative Methodology	3
Figure 3. 1 Use case diagram	8
Figure 3. 2 Gantt Chart	12
Figure3. 3 Entity Relationship Diagram	13
Figure 3. 4 Context level Diagram.....	14
Figure 3. 5 Level 1 Data Flow Diagram	15
Figure 3. 6 System Architecture.....	17
Figure 3. 7 Database Schema Design	18
Figure 3. 8 Interface Design.....	20
Figure 3. 9 UI Interface.....	21
Figure 3. 10 Physical Diagram	21

CHAPTER 1

INTRODUCTION

1.1 Introduction

The Online Spectacles Store “**I-Wears**” is a web-based solution aimed at efficiently handling administrative tasks, inventory management, and customer interactions related to a spectacles store. This project addresses a need in the spectacles retail industry by providing a user-friendly platform for storing, processing, and analyzing information.

Users, once registered, can access the system using their credentials throughout their lifetime, facilitating easy tracking of purchases and preferences. Additionally, the system seamlessly integrates with the store's database to manage inventory, allowing users to check stock availability in real-time.

The application ensures a secure environment for users to browse and make purchases, safeguarding their personal information. It includes features such as product browsing, ordering, and payment processing. Different interfaces are provided for customers and administrators, enabling customers to browse spectacles and place orders, while administrators can manage inventory, process orders, and handle customer inquiries.

In its development, the system utilizes HTML and CSS for creating a visually appealing user interface, JavaScript for client-side interactivity, PHP for server-side processing, and MySQL for database management, ensuring efficient and reliable performance.

1.2 Problem Statement

The development of an Online Spectacles Store “**I-Wears**” also encounters various challenges that need to be tackled to optimize the efficiency and effectiveness of the store's operations. Primarily, reliance on manual and paper-based processes can lead to inefficiencies, errors, and delays. Managing accurate inventory records, tracking sales in real-time, and handling related data manually can become cumbersome and prone to mistakes.

Secondly, manual processes make it challenging to keep customer information updated, track purchase history, and engage with potential customers effectively. This limitation hampers the ability to maintain a diverse and loyal customer base.

Existing spectacles store often suffer from manual and paper-based processes, lack standardization, and inefficient customer management. Overcoming these challenges through the implementation of an advanced Online Spectacles Store “**I-Wears**” is essential to ensure smoother operations, better customer service, and ultimately, improved profitability for the store.

1.1 Objectives

- To enable users to check spectacles availability instantly.
- To help users find spectacles that match their preferences.
- To notify users about their account details and order status via email.

1.2 Scopes and Limitations

1.4.1 Scopes

The scope of an Online Spectacles Store “**I-Wears**” in Nepal involves facilitating easy access to a wide range of eyewear options, enabling customers to conveniently browse, purchase, and receive spectacles from the comfort of their homes. Additionally, it opens up opportunities for opticians and eyewear retailers to expand their market reach beyond physical stores, catering to a larger audience nationwide.

1.4.2 Limitations

- This application does not cover the actual transaction.
- User cannot experience the trial phase for trying out glasses

1.3 Development Methodology

A development methodology is a systematic approach or framework used in software development to guide the process of creating software or web applications. It provides a structured and organized way for a team to plan, design, develop, test, and deliver a

software product. Development methodologies define the processes, tasks, roles, and responsibilities that team members need to follow throughout the project's lifecycle. There are different models or methods used or followed during software development life cycle (SDLC) processes such as the waterfall model, prototyping model, spiral model and others based on the nature or objective of the software.

As maximum requirements for the project were discussed and finalized before starting working on the project and one stage would come after the completion of the previous steps, the author decided to use the waterfall model for the completion of the project.

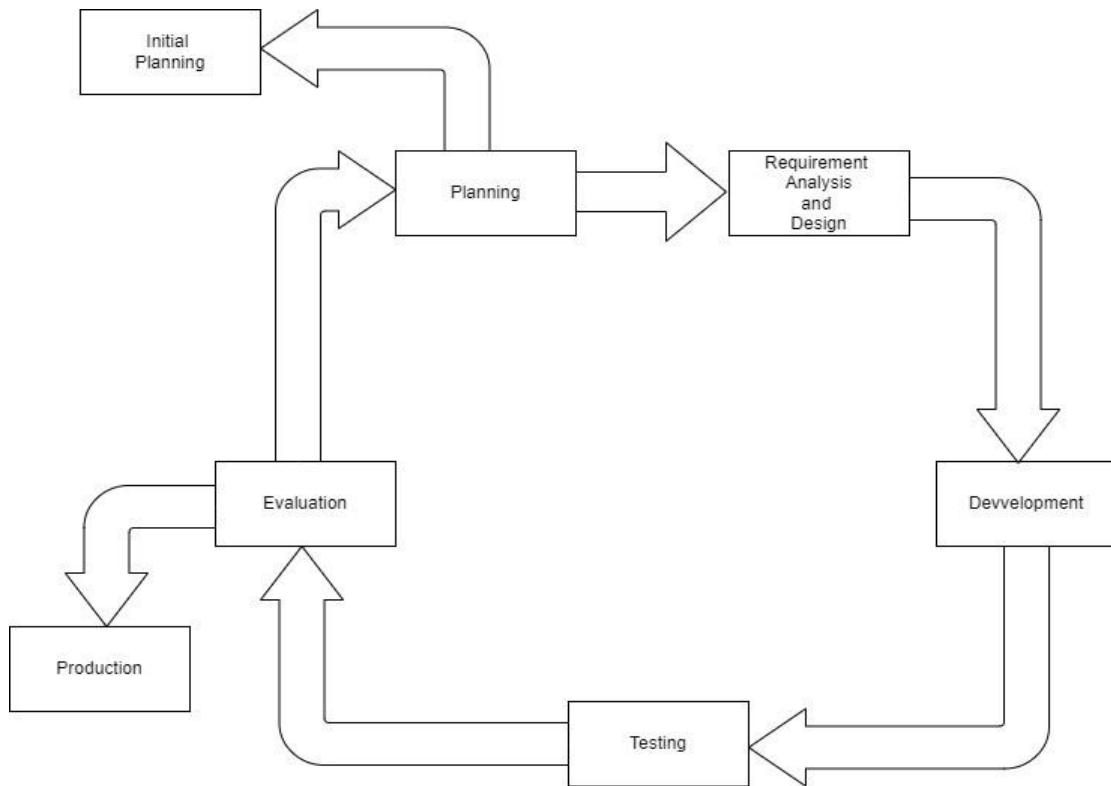


Figure1. 1 Iterative Methodology

- a. **Planning:** In this process, the project's plans were defined and aligned the overall project objectives.
- b. **Requirement analysis and Design:** During this step, it was focused on the technical requirement of the project.
- c. **Development:** With inputs from the requirement analysis and system design, the system is first developed in small programs called units, which are integrated in the next phase. Each module of the system is developed independently, following

coding standards and guidelines. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

- d. **Testing:** Units are developed and tested individually. Then, they're integrated into the system and tested together. This process involves various levels like unit testing and system testing to ensure everything works smoothly.
- e. **Evaluation:** After the testing of the project, the success of the project and the requirements were either meet or not was evaluated.
- f. **Initial Planning:** After evaluating all the prepared project, there was some of the limitations that should be changed so it was planned once again and repeat the process.

1.4 Report Organization

This report starts with Chapter 1 introducing the concept of managing spectacles sales online, allowing customers to easily browse and purchase eyewear from the comfort of their homes and contact the store digitally for any queries or transactions. It is stated with the problem statement, report organization, objectives, scopes, limitations of the project and which methodology is used for the development process.

Chapter 2 begins with the background study of the project about how the people are in need of this project in the context of this country and is followed with a literature review of different other similar projects done by others.

Chapter 3 discusses about the data modeling and process modeling technique that are used to give the information about the system requirement and feasibility study. The system design used are Use Case Design, Gantt Chart, Entity Relationship Diagram, Process modeling (Level 0 and Level 1 DFD), System Architecture, database schema design, interface design and Physical DFD.

Chapter 4 explains about the implementations and testing done in this project. It provides a brief introduction about the tools used in this project's front end, back end and purpose of it. The testing and the modules are also explained in the same part.

Chapter 5 includes the conclusions of how the project is accomplished, its findings and many more. It also discusses the recommendations for the future enhancements of the project. In conclusion, this chapter overview's purpose of doing this project including its scopes and objectives with its limitations.

CHAPTER 2

BACKGROUND STUDY AND LITERATURE REVIEW

2.1 Background Study

There's often a disconnect between customers seeking spectacles and the stores selling them. When someone needs spectacles, they typically start by asking family and friends or visiting nearby stores. However, this process can be time-consuming and may not always result in finding the right pair of spectacles. Therefore, there is a need for an Online Spectacles Store "**I-Wears**".

The "**I-Wears**" (Online Spectacles Store) offers features for easy registration of customers and seamless browsing and purchase of spectacles directly from the store. It allows for monitoring sales performance and customer satisfaction.

In the context of Nepal, an online spectacles store would greatly benefit both customers and eyewear retailers by providing a convenient platform for browsing and purchasing spectacles, ultimately improving accessibility and efficiency for all involved.

2.2 Literature review

In the realm of online spectacle stores, the dynamics of e-commerce and digital innovation have reshaped the landscape of eyewear retail. This literature review explores various research endeavors and developments within the domain of online spectacle stores to offer insights into the current state of the industry and identify avenues for enhancement.

Several projects and studies shed light on different facets of online spectacle stores:

In "Eyewear E-commerce: A Cloud-Based Approach" by A. Smith, B. Johnson, C. Lee (2020), the authors propose a cloud-based eyewear e-commerce platform designed to streamline the process of browsing, selecting, and purchasing spectacles. By leveraging cloud computing technology, this system aims to enhance scalability, accessibility, and data security for both retailers and consumers [1].

"Challenges and Opportunities in Online Spectacle Retailing" by E. Chen, J. Wang (2020) delves into the unique challenges and opportunities faced by online spectacle retailers. The study examines factors such as product differentiation, customer engagement strategies, and supply chain management techniques employed by leading players in the online eyewear market [2].

In "Optimizing Distribution Channels in Online Eyewear Retail" by K. Patel, M. Gupta, S. Sharma (2019), the authors discuss strategies for optimizing distribution channels in online eyewear retailing. By employing advanced analytics and supply chain optimization techniques, eyewear retailers can enhance inventory management, reduce delivery times, and improve customer satisfaction [3].

"IoT Integration in Online Eyewear Stores" by T. Nguyen, L. Kim, H. Park (2021) explores the integration of Internet of Things (IoT) technology in online eyewear stores. The study investigates how IoT devices such as smart mirrors and wearable sensors can enhance the virtual try-on experience, personalize product recommendations, and gather valuable consumer data for targeted marketing initiatives [4].

"Enhancing User Experience in Online Spectacle Shopping" by S. Gupta, R. Sharma (2022) discusses strategies for enhancing the user experience in online spectacle shopping. The study examines the role of user interface design, website performance optimization, and customer support services in fostering customer satisfaction and loyalty in the competitive online eyewear market [5].

CHAPTER 3

SYSTEM ANALYSIS AND DESIGN

3.1 System Analysis

System analysis is an important step in making software where we look closely at what the software needs to do and who will be using it. This helps us figure out exactly what the users and others involved need from the software. The main aim of system analysis is to make sure the software we create will do what it's supposed to and meet everyone's needs.

3.1.1 Requirement Analysis

Requirement analysis is a systematic process of studying, documenting and understanding the needs, expectations and constraints of a stakeholder for a system or application. It is a critical phase in software development lifecycle, as it forms the basis for designing and building the right solution that meets the desired objectives and user requirements.

The output of the requirement analysis serves as the basis for subsequent phase of software development, including system design, coding, testing, and deployment. It is essential to invest time and effort in thorough requirement analysis to avoid costly rework, improve the chances of project success, and deliver a software system that satisfies stakeholders' expectations.

i. Functional requirement

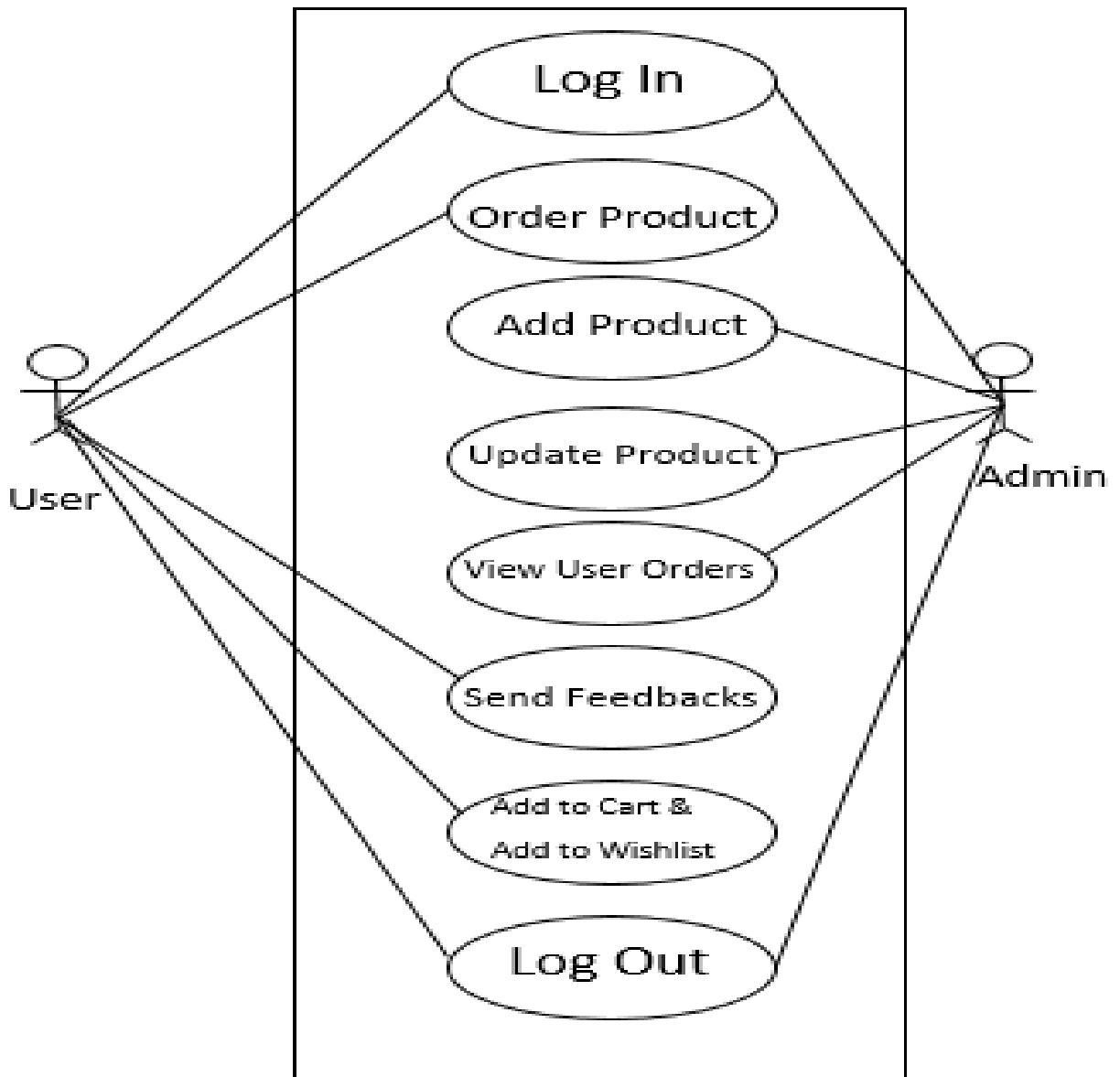


Figure 3. 1 Use case diagram

- a. **Registration:** Registration is open to all visitors on the “I-Wears” (Online Spectacles Store). Users can sign up by completing a form and providing the necessary details.

- b. **Login:** User can login with username and password they have entered during the registration process. Admin can also login to admin panel using credentials they received during the process of admin registration process.
 - c. **Order Product:** One can order the products once they have logged in by following registration process.
 - d. **Add to cart/ Add to wishlist:** Visitors can easily add products they want to purchase to their cart or wishlist for future reference but it is only possible if they are logged in.
 - e. **Send Feedbacks:** User can send feedback about their experiences and interactions with the website.
- .

ii. Non-functional Requirement

- a. **User-friendly:** The Online Spectacle Store “**I-Wears**” is designed to be user-friendly, requiring no professional skills to navigate. Individuals with basic computer knowledge and skills can easily use this web application.
- b. **Simple and easy to use:** The Online Spectacles Store “**I-Wears**” utilizes a straightforward design and language to enhance the user-friendliness of the web application.
- c. **Easy Access:** The Online Spectacles Store “**I-Wears**” can be accessed anytime, anywhere with an internet connection on the device.

3.1.2 Feasibility Study

After completing the Online Spectacles Store “**I-Wears**” project and thoroughly studying and analyzing all existing or required functionalities, the next step is to conduct a feasibility study for the project. This involves considering all possible approaches to provide a solution to the given problem.

a. Economic feasibility

The specific requirements and solutions have been identified to weight the cost and benefits of the alternatives. The hardware and software used are simple and there is no other additional requirement. It is based on the existing system, so the cost will be minimum. The only cost that will be encountered are printing cost, paper costs and internet and electricity expenses.

b. Operational Feasibility

The primary focus is on providing information about the remaining stock of spectacles in the online store. Since it's an internet-based application, there may be issues loading the website in case of internet disconnection. This application is developed with a simple concept and a user-friendly interface for easy usage.

c. Technical Feasibility

Technical feasibility study is the evaluation of the hardware and software and how it meets the needs of the proposed system. This application is technically feasible as high expert person is not required to use this application.

Software Requirements: This application is compatible with any browsers. This system itself is a platform independent and it can be run on any Operating System.

Hardware Requirements: This project is developed and ran on Intel Core i5: 11th generation. Although the system runs fine on i3 processors, for smooth implementation. The proposed hardware and software requirements are feasible for almost all the processors and aren't too expensive. Therefore, this project is technically feasible.

d. Schedule Feasibility

Schedule feasibility is one of the key aspects assessed during the early stages of a project to determine whether the proposed project timeline is achievable and realistic. This includes the project schedule and the time allocated for their completion. The Gantt Table and Gantt Chart are as follows:

Table 3.1 Gantt Table

Task	Start Date	End Date	Duration
Requirement Gathering	November 27, 2023	December 8, 2023	11
Design & Development	December 9, 2023	December 22, 2023	13
Testing	December 24, 2023	January 10, 2024	17
Implementation	January 7, 2024	January 27, 2024	20
Documentation	November 27, 2023	January 28, 2024	62

Spectacle Store

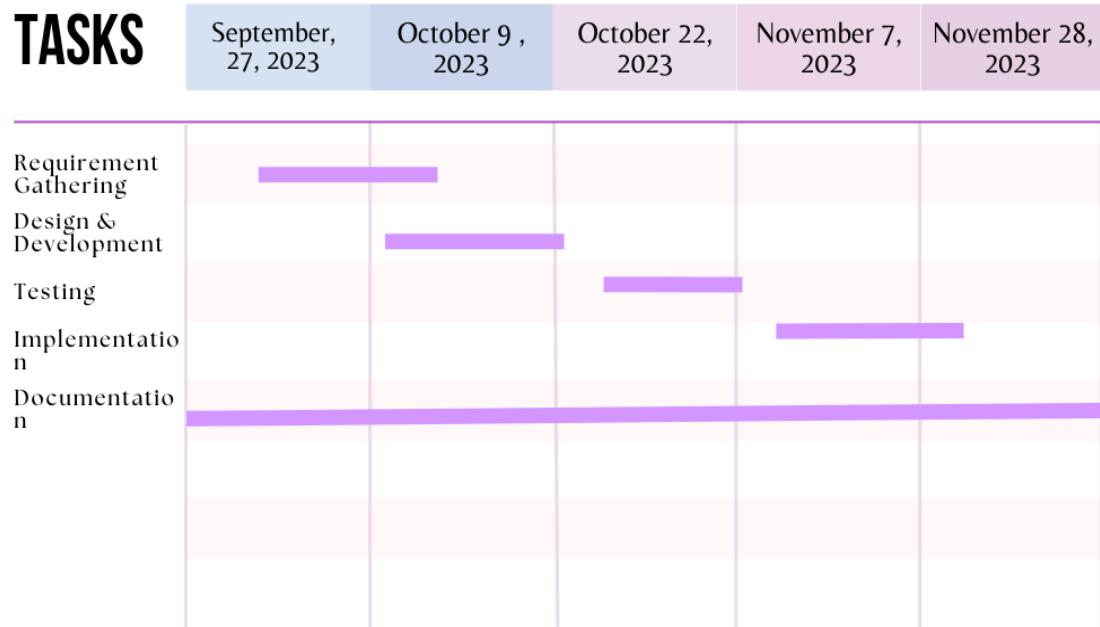


Figure 3. 2 Gantt Chart

3.1.3 Data Modeling

Data modeling is the act of crafting a conceptual portrayal of the data utilized in a software system or database. This process entails outlining the structure, connections, and limitations of the data in a manner that is clear and feasible for developers and stakeholders. Often, data modeling employs specialized notation or tools such as Entity-Relationship Diagrams (ERDs), which offer graphical depictions aiding stakeholders in comprehending the data structure and relationships in a simple and intuitive manner.

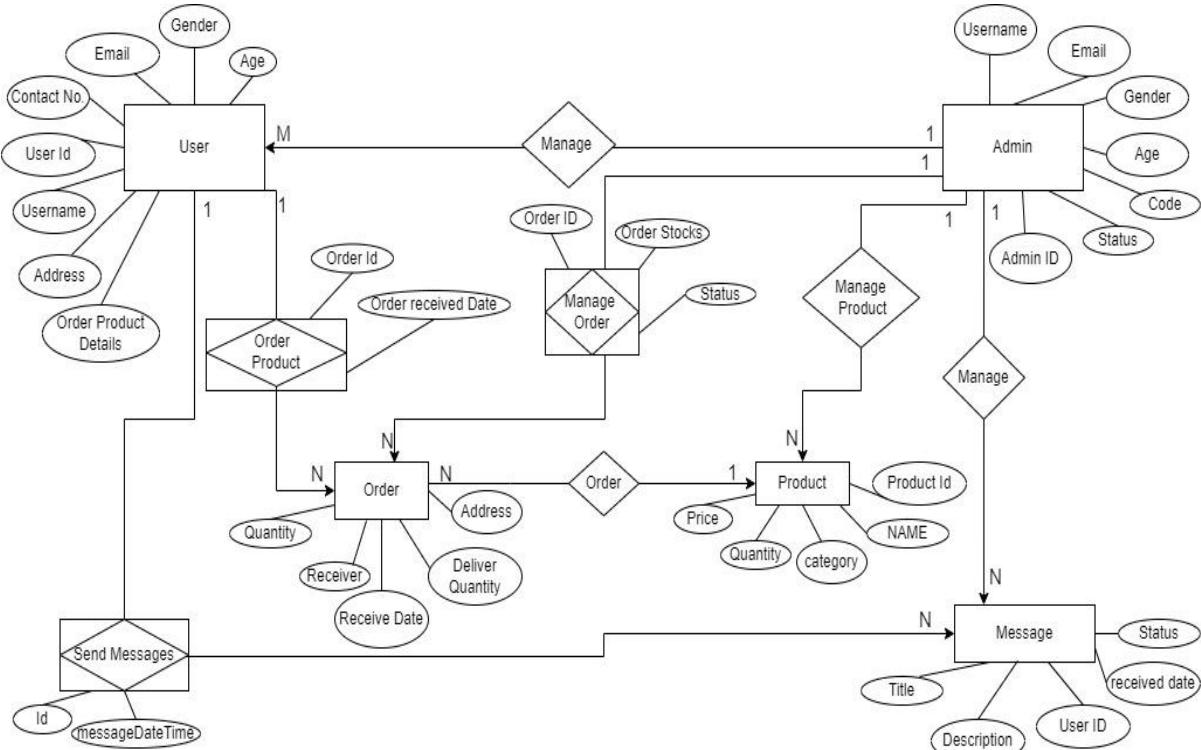


Figure 3.3 Entity Relationship Diagram

This figure 3.3 visually depicts the database structures of the project, illustrating how the system operates. In this representation, the entity Admin serves as the administrator of the project, empowered to manage various aspects including spectacles, orders, and customer interactions. Customers can send either positive or negative feedback as a message to admin for any type of enquiries. An order can be initiated by a customer and may involve multiple spectacles. Additionally, the administrator can send and receive multiple messages as part of managing the system.

3.1.4 Process Modeling

A Data Flow Diagram can be referred as Process Model. It is a representation of the “flow” of a data through an information system. It is a significant modeling technique for analyzing and constructing information process illustrates this flow of information in a process based on the inputs and outputs.

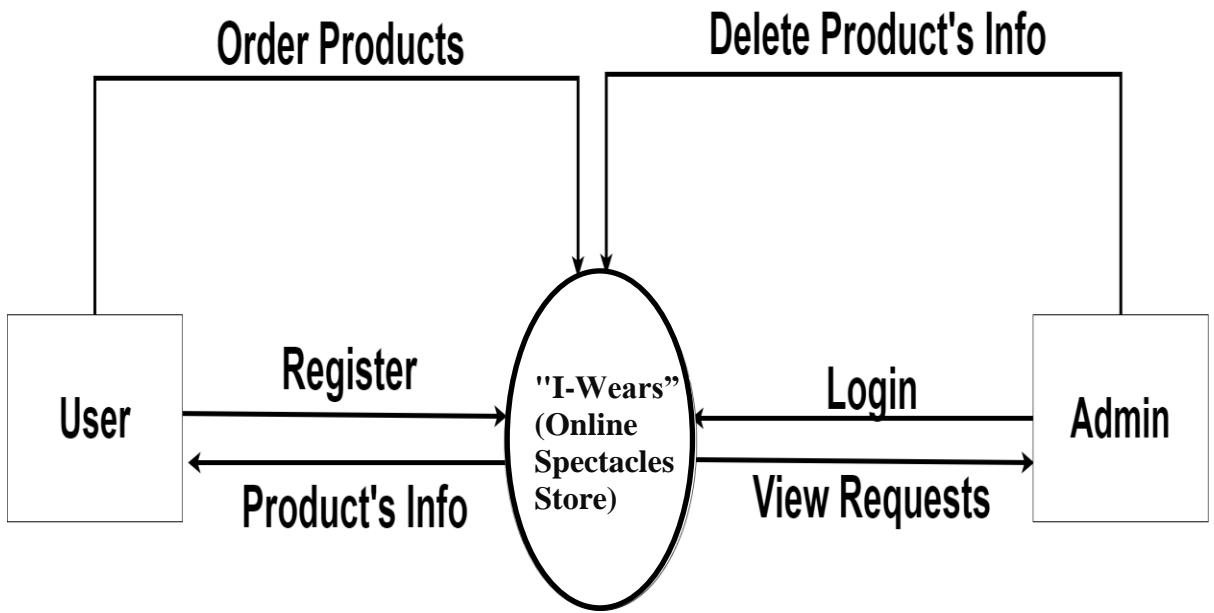


Figure 3.4 Context level Diagram

The Level 0 Data Flow diagram illustrates the fundamental interactions between users and administrators within the system. It outlines that a customer can browse and request spectacles, while an administrator can view and manage these requests, as well as oversee customer information.

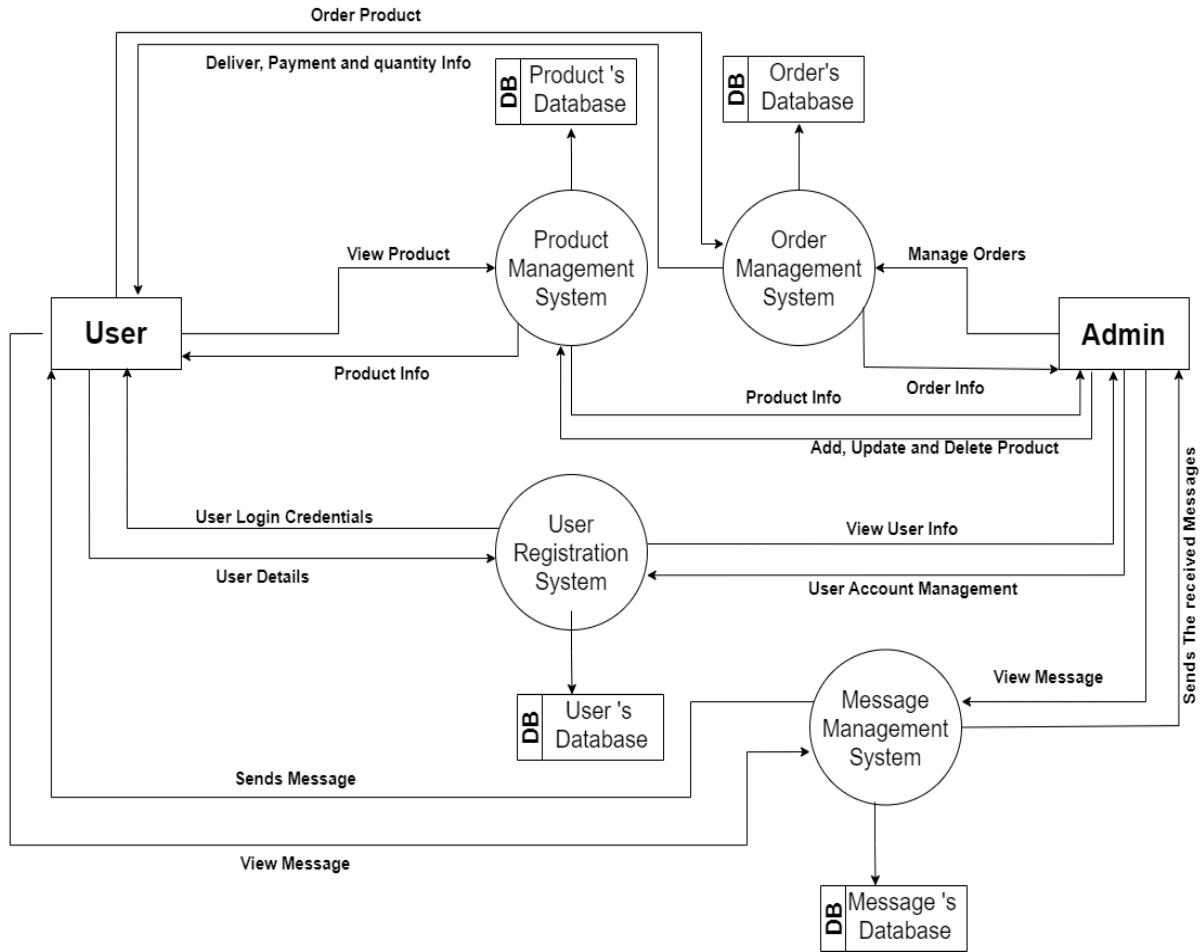


Figure 3. 5 Level 1 Data Flow Diagram

A level 1 DFD notes each of the main sub-processes that together form the complete system. This level provides a more detailed view of the system by breaking down the major processes identified in the level 0 DFD into sub-processes. Each sub-process is depicted as a separate process on the level 1 DFD. The data flows and data stores associated with each sub-process are also shown. It demonstrates how various modules interact and contribute to the overall functionality of the system.

3.2 System Design

System design is the process of planning a new system or to replace the existing system. Simply, the design is like the blueprint for a building, that specifies all the features that are to be in the finished product.

System design phase follows system analysis phase. Design is concerned with identifying functions, data streams among those functions, maintaining a good record of the design decisions and providing a blueprint the implementation phase.

Design is the bridge between system analysis and system implementation. Several designs were created in the design phase of the project such as system architecture, database schema design, UI Interface and Interface Structure diagram, physical DFD.

3.2.1 System Architecture

The system architecture of “**I-Wears** (Online Spectacles Store)” can be divided into three main layers: presentation layer, application layer, and database layer.

Presentation Layer: This layer is responsible for the user interface and provides an interactive environment for the user to interact with the system. The user interface can be designed using HTML/CSS and JavaScript.

Application Layer: This layer contains the business logic and data processing. It is responsible for processing user requests, validating user input, and executing the appropriate actions. The application layer is designed using a server-side programming language such as PHP.

Database Layer: This layer is responsible for storing all the data related to the online spectacle store. It is designed using a database management system such as MySQL. The database layer will store all the information related to suppliers, customers, orders, inventory, and transactions.

The web server will host the application and allow users to access it through a web browser. The web server will be responsible for handling incoming requests and forwarding them to the application layer. Once the application layer has processed the request, the web server will return the appropriate response to the user.

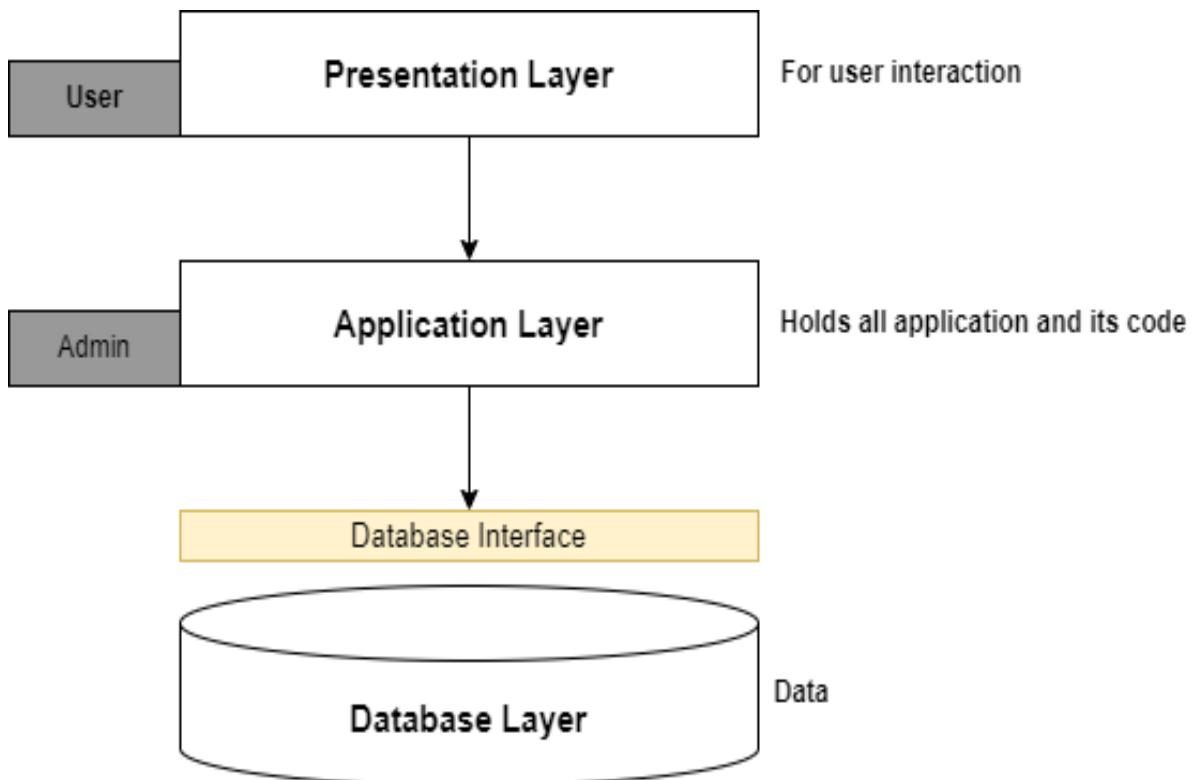


Figure 3. 6 System Architecture

3.2.2 Database Schema Design

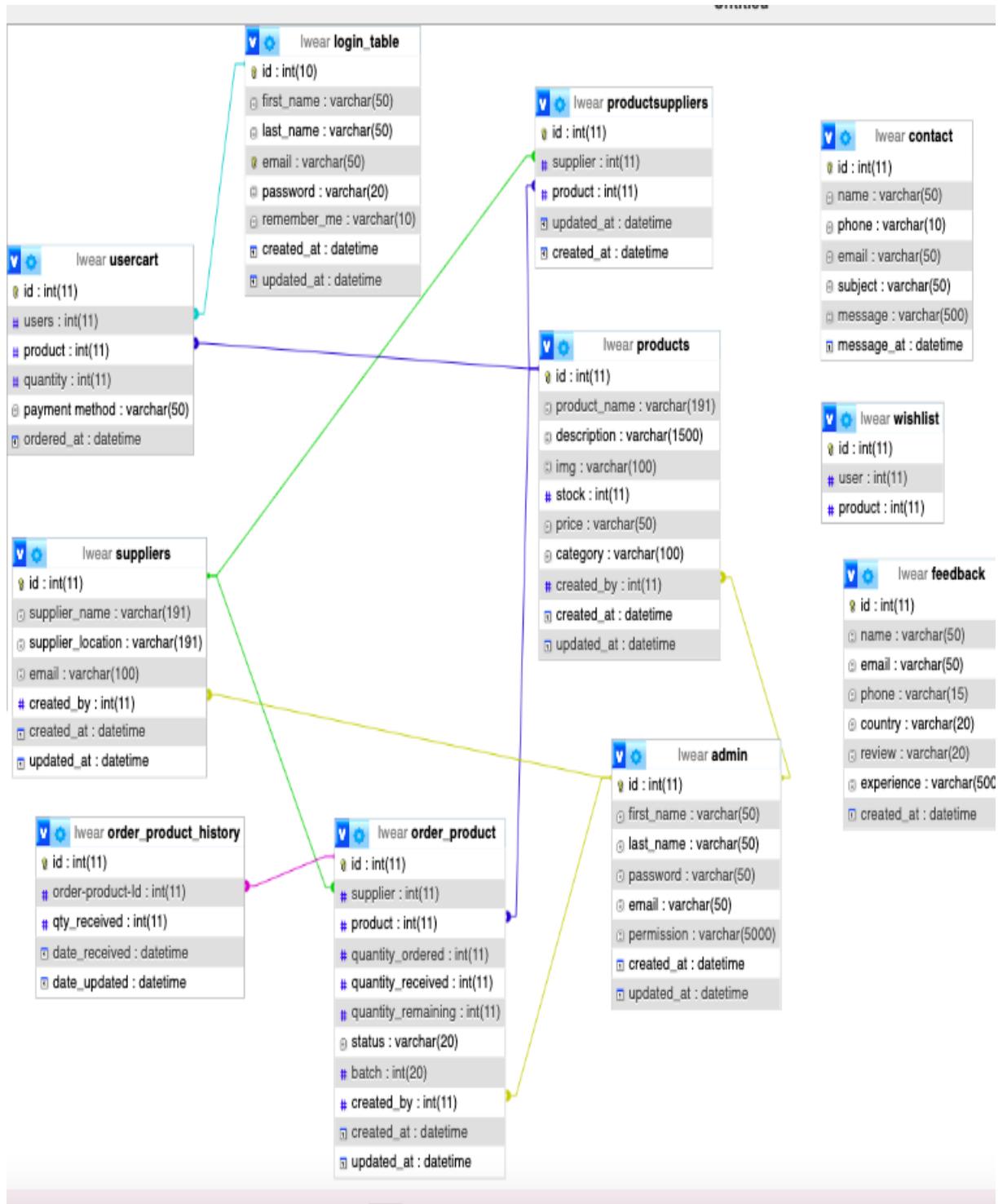


Figure 3. 7 Database Schema Design

I-Wears (Online Spectacles Store)" database comprises various tables: login_table, products, suppliers, usercart, productsuppliers, order_product_history, order_product, admin, feedback, wishlist, and contact. Here's how they relate:

The 'users' field in the usercart table, which is a foreign key, establishes a relationship with the 'id' field in the login_table. Similarly, the 'product' field in usercart, productsuppliers, and order_product serves as a foreign key, linking back to the 'id' field in the products table. Likewise, the 'supplier' field in productsuppliers and order_product acts as a foreign key, connecting to the 'id' field in the suppliers table. The 'created_by' field in order_product, which is a foreign key, relates to the 'id' field in the admin table. Finally, the 'order-product-id' field in order_product_history serves as a foreign key, tying back to the 'id' field in the order_product table.

3.2.3 Interface Design (UI Interface/ Interface Structure Diagrams)

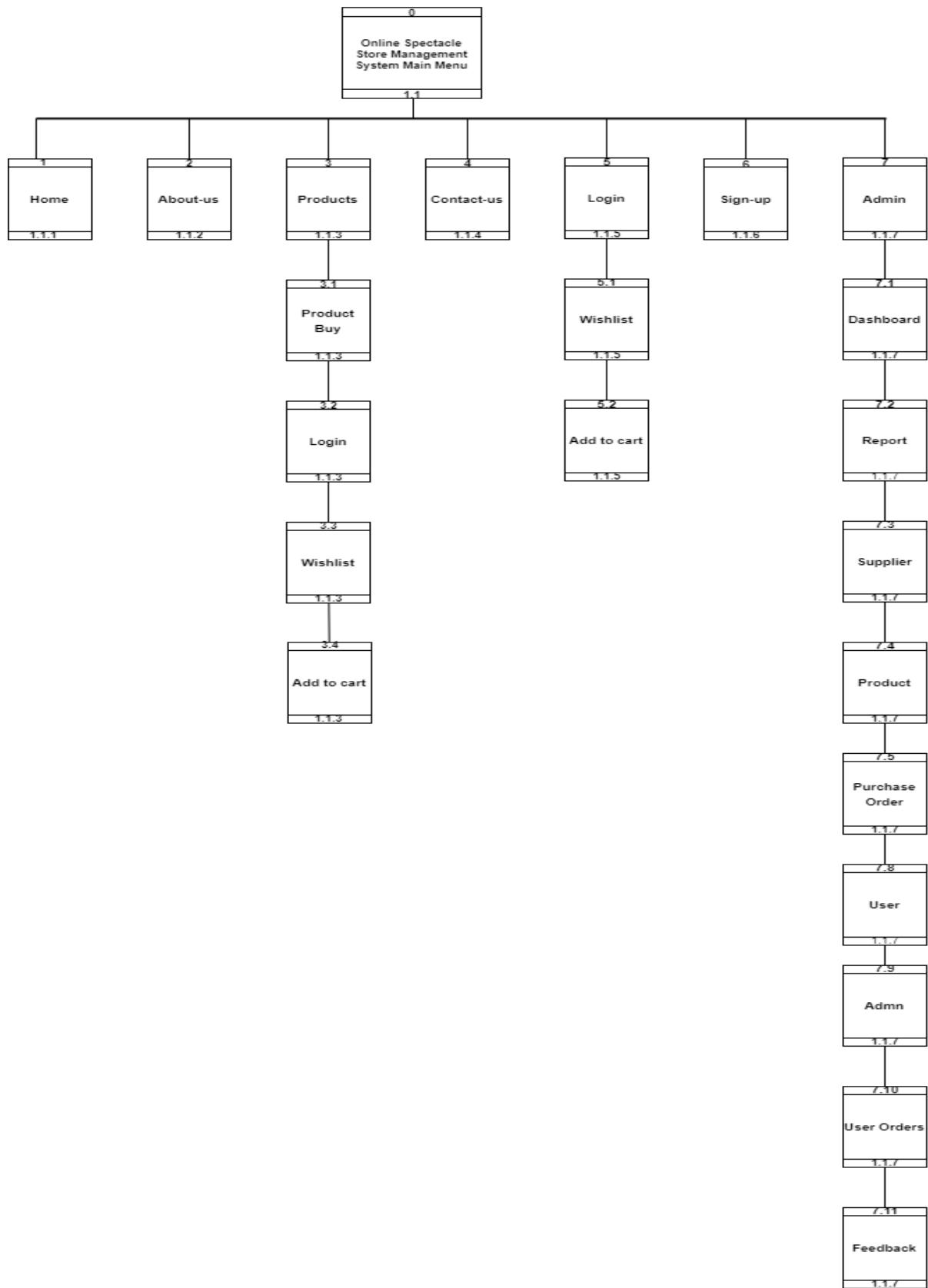


Figure 3.8 Interface Design

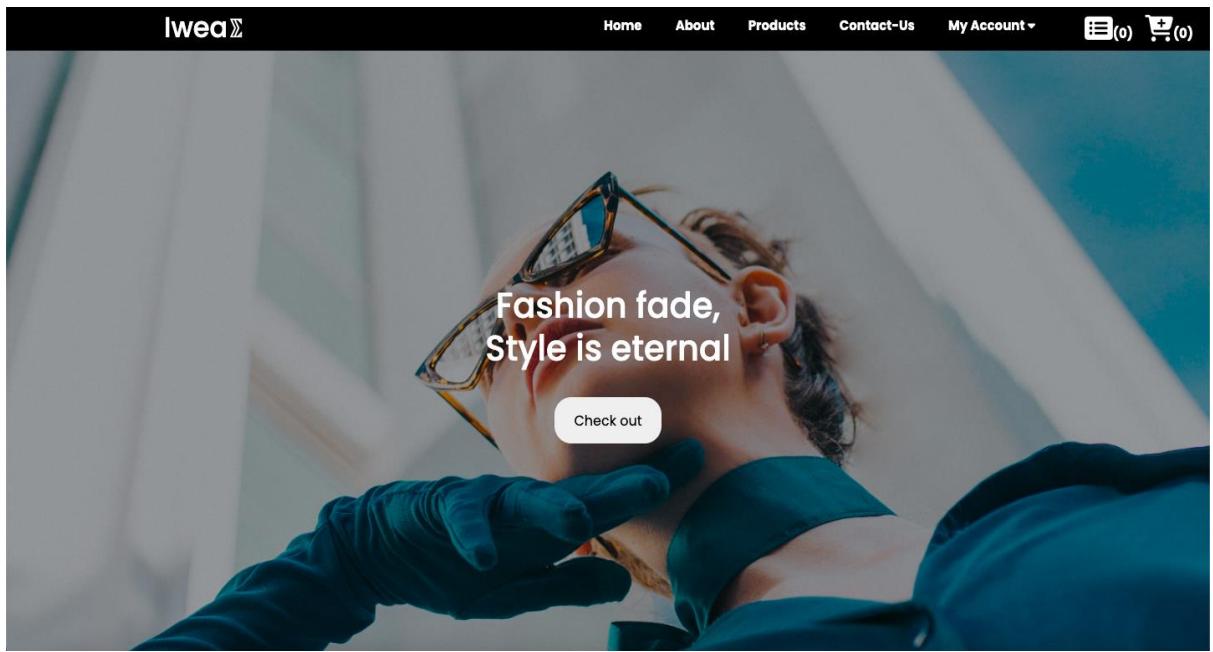


Figure 3. 9 UI Interface

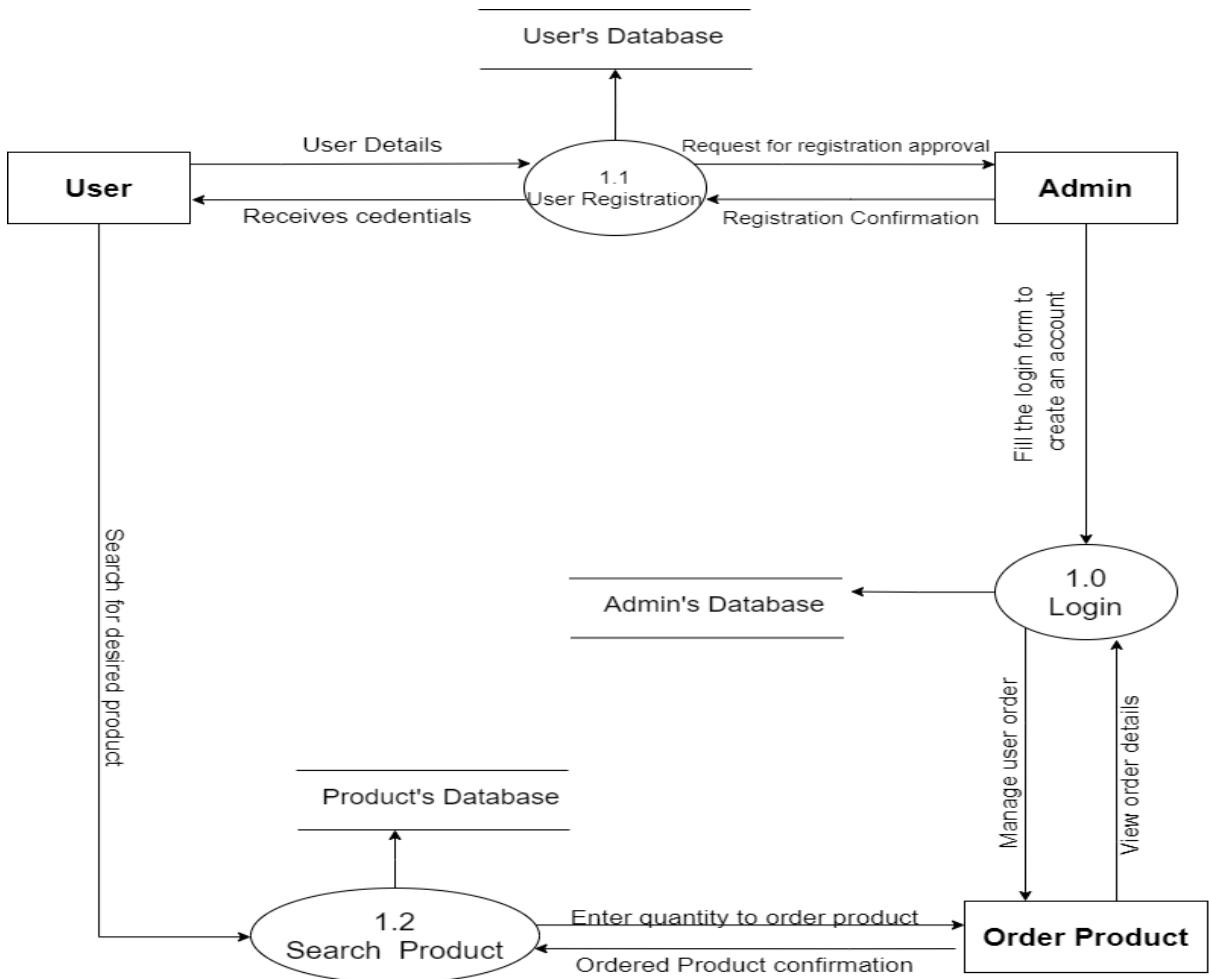


Figure 3. 10 Physical Diagram

An “I-Wears (Online Spectacles Store)” comprises several crucial databases. Firstly, there's the customer database, where all information about customers, including their details and contact information, is stored. Next, the inventory database keeps track of the spectacle inventory, listing details such as types of spectacles available and their quantities. Finally, there's the login database, which stores information about system administrators, including their usernames and administrative privileges. These databases collectively form the backbone of the “I-Wears (Online Spectacles Store)”, ensuring smooth operations and efficient management of resources.

CHAPTER 4

IMPLEMENTATION AND TESTING

4.1 Implementation

4.1.1 Tools Used (CASE tools, Programming Languages, Database Platforms)

The mostly used tools used in this application are HTML, CSS, JavaScript, jQuery, PHP, MySQL.

4.1.1.1 Front End Tools

HTML: HTML is the standard markup language that is used to design the structure and content of this application. This tool has been used in the project for displaying text, images, and other form of multimedia on the webpage.

CSS: CSS is used in this page to provide the visual style to the pages. It has been used in this project to create a consistent look which can improve user experience. It used to control the layout, font, color and visualize the aspect of project.

JavaScript: JavaScript web framework is one of the best ways to stack backend and frontend frameworks and has been used for the same in the project. It has been used for adding interactivity to the user interface, validate user input and perform calculations in this project.

4.1.1.2 Backend Tools

PHP: It is a server-side scripting language that is used to create a dynamic web page which can interact with databases. It has been useful to handle the server-side processing of data, such as storing and retrieving data from the database like MySQL.

MySQL: MySQL is an open-source relational database management system (RDBMS). It is used MySQL to store and manage data related to transactions, orders and inventory. It has been used in this project to perform operations like datainsertion, deletion, and modification.

4.1.2 Implementation Details of Modules (Description of Procedures/ functions)

There are different modules descriptions. They are described below:

User's Module: This module is dedicated to Lets customers create accounts, browse, order, and track spectacles easily.

Admin Module: This module can be accessed by those who have admin credentials and are responsible to Helps store managers oversee orders, update products, and manage inventory efficiently.

Order Management Module: This module facilitates the efficient processing and tracking of orders from placement to fulfillment. It includes features such as order status updates, order history tracking, automated notifications, and integration with shipping and payment systems. The goal is to streamline order management processes and ensure timely delivery to customers.

Inventory Management Module: The inventory management module enables administrators to maintain accurate stock levels, track product availability, receive notifications for low stock items, and manage supplier information. It aims to optimize inventory control, prevent stockouts, and ensure a diverse selection of spectacles for customers to choose from.

4.2 Testing

Testing is the process of detecting the errors. It performs a very crucial role for quality assurance and for ensuring the reliability of the software. The results of testing are used later on during maintenance also. Testing requires a lot of time and labor.

4.2.1 Unit Testing

Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation. “I-Wears (Online Spectacles Store)”contains different types of individual partsthat are tested. Some of the test cases are:

Table 4. 1 User Registration

S. N	Action	Input	Expected Outcome	Actual Outcomes	Test Result
1	Launch application	http://localhost/I-Wears/partials/signup.php	User Registration Page	User Registration Page	Pass
2	Submit without anydetails	Null	Please fill out this field	Please fill out this field	Pass
3	Enter different passwords	First Name: Rikesh Last Name: Shrestha Username: rikeshshrestha123@gmail Enter Your Password: rikesh@123 Confirm Your Password: Rikesh123	Error! Your passwords don't match	Error! Your passwords don't match	Pass
4	Enter correctdetails	First Name: Rikesh Last Name: Shrestha Username: rikeshshrestha123@gmail Enter Your Password: rikesh@123 Confirm Your Password: rikesh@123	Success! Your account is created and you can logged in now.		Pass

Table 4. 2 Order Product

S. N	Action	Input	Expected Outcome	Actual Outcomes	Test Result
1	Launch application	http://localhost/I-Wears/product.php	Redirect to product page	Redirect to product page	Pass
2	Select Product	Click on the product photo	Redirect to product buy page	Redirect to product buy page	Pass
3	Enter add to cart without quantity	Null	Please enter the quantity of an item. Quantity can't be 0.	Please enter the quantity of an item. Quantity can't be 0.	Pass
4	Enter add to cart with correct quantity	Quantity : 3	Success! New Item has been added to your cart	Success! New Item has been added to your cart	Pass
5	Enter add to wish list the same product	Null	Error! Already added to cart	Error! Already added to cart	Pass
6	Enter add to wish list the new product	Null	Success! New Product has been added to wishlist.		Pass

Table 4. 3 User Wish list details

S. N	Action	Input	Expected Outcome	Actual Outcomes	Test Result
1	Launch application	http://localhost/I-Wears/wishlist.php	User wishlist details page	User wishlist details Page	Pass
2	View Product in wishlist	Null	Show user cart wishlist products	Show user wishlist products	Pass
3	Enter Delete	Null	Success! Product has been successfully deleted from your cart.	Success! Product has been successfully deleted from your cart.	Pass
4	Enter add to cart	Null	Redirect to productbuy page	Redirect to productbuy page	Pass

Table 4. 4 User Cart details

S. N	Action	Input	Expected Outcome	Actual Outcomes	Test Result
1	Launch application	http://localhost/I-Wears/mycart.php	User cart details page	User cart details Page	Pass
2	View Product in add to cart	Null	Show user cart products	Show user cart products	Pass
3	Update quantity of product	Put Quantity : no. of product quantity such as 3	Success! Product successfully updated in your cart.	Success! Product successfully updated in your cart.	Pass
4	Enter Make Purchase	Make Purchase	Success! Your order has been processed. Kindly check your Email for further details.	Success! Your order has been processed. Kindly check your Email for further details.	Pass
5	Enter delete product	Delete	Success! Product has been successfully deleted from your cart.	Success! Product has been successfully deleted from your cart.	Pass

4.2.2 System testing

System testing is an overall testing of the system after integrating all the functions of the project. When all the functions of the "I-Wears (Online Spectacles Store)" are done.

Table 4. 5 User Interface

S. N	Action	Input	Expected Outcomes	Actual Outcome	Test Result
1	Launch application	http://localhost/I-Wears/partials/signup.php	Directed to sign up page	Directed to sign I up page	Pass
2	Sign up newaccount	First Name: Rikesh Last Name: Shrestha Username: rikeshshrestha123@gmail.com Enter Your Password: rikesh@123 Confirm Your Password: rikesh@123	Success! Your account is created and you can logged in now	Success! Your account is created and you can logged in now	Pass
3	Login by different user email and password	Username: harry123@gmail.com Password: harry1234@	Error! Invalid Credentials	Error! Invalid Credentials	Pass
3	Login by same user	Username: rikeshshrestha123@gmail.com Password: rikesh1234@	Logged in successfull.	Logged in successfull and lead to I-Wears page	Pass

Table 4.6 Admin Interface

S. N	Action	Input	Expected Outcome	Actual Outcomes	Test Result
1	Launch application	http://localhost/I-Wears/admin/admin.php	Directed to login page	Directed to login page	Pass
2	Admin Login	Username: admin123@gmail.com Password: Admin	Login successful	Login successful	Pass
3	Manage Dashboard	DASHBOARD	Redirect to dashboard page	Redirect to dashboard page	Pass
4	Manage Reports	REPORTS	Download xls file and redirected to pdf file	Download xls file and redirected to pdf file	Pass
5	Manage Products	View Products and add Product	Redirect to View Products and add Product page	Redirect to View Products and add Product	Pass
6	Manage Suppliers	View Suppliers and add Supplier	Redirect to View Suppliers and add Suppliers page	Redirect to View Suppliers and add Suppliers page	Pass
7	Manage Purchase Order	View Purchase Orders and Create Order	Redirect to View Purchase Orders and Create Order	Redirect to View Purchase Orders and Create Order	Pass
8	Manage Users	View Users and Add User	Redirect to View Users and Add User	Redirect to View Users and Add User	Pass
9	Manage Admin	View Admins and Add Admin	Redirect to view admin and add admin page	Redirect to view admin and add admin page	Pass
10	Manage User Orders	View User Orders	Redirect to view user orders page	Redirect to view user orders page	Pass
11	Manage Feedbacks	View User Messages and View User Feedbacks	Redirect to view user messages and view user feedbacks page	Redirect to view user messages and view user feedbacks page	Pass

CHAPTER 5

CONCLUSION AND FUTURE RECOMMENDATIONS

5.1 Lesson learnt/ Outcome

During the app development, the author often felt they could add more features. However, due to limitations in programming languages, there might be some issues that could be fixed as the author becomes more familiar with the technology. Since everything was new, the author learned about managing time to meet project deadlines.

Although the project met expectations, there are some functions the author wants to improve to make the app more user-friendly and competitive in the future.

5.2 Conclusion

In conclusion, the design of an online spectacle store's database schema plays a crucial role in efficiently managing and organizing information related to spectacle inventory, customers, orders, and transactions. The schema presented above provides a foundation for storing and retrieving data in a structured manner.

By employing this schema, the online spectacle store can effectively track and manage customers, including their personal details, contact information, and purchase history. The system also maintains information about different types of spectacles and their availability, ensuring efficient matching between customers and available products based on preferences and prescriptions.

The database schema incorporates relationships between entities, such as the association of spectacle products with specific brands and categories, and the link between orders and customers/products. These relationships enable the system to provide accurate and reliable information, supporting various operations, such as order processing and inventory management.

However, it is important to note that the provided schema serves as a starting point and may require customization based on the specific needs of the online spectacle store. Additional tables and attributes can be added to accommodate more complex functionalities or reporting requirement

Overall, the database schema presented in this report lays the foundation for a robust and efficient online spectacle store, enabling streamlined operations, effective customer-product matching, and accurate tracking of inventory and transactions. With proper implementation and customization, this schema can contribute to the success of an online spectacle store in serving customers and providing quality eyewear products.

5.3 Future Recommendation

This system can be further enhanced to incorporate additional features and improve its efficiency. For instance, integrating Google Maps functionality could enable tracking the location of both customers and orders, providing precise information about geographical areas and delivery sites worldwide. Additionally, implementing user/customer login capabilities could allow them to access detailed reports on their spectacle orders, including information on production progress and estimated delivery times.

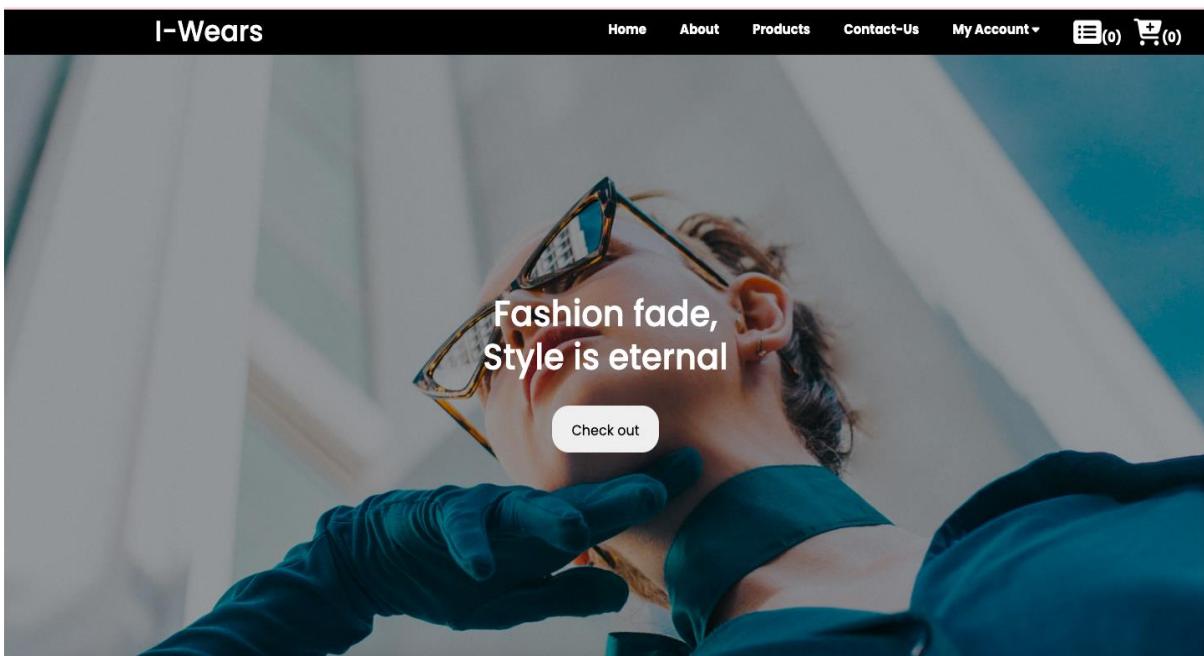
Furthermore, enhancing the system's interface to include interactive virtual try-on features could offer customers a more engaging and personalized shopping experience. This could involve integrating augmented reality technology, allowing users to virtually try on different spectacle frames before making a purchase decision.

- **Usability and User Experience Improvements:** Regularly update the online spectacle store's interface and user experience based on customer feedback. The goal is to make it easy to use, navigate, and responsive to different devices.
- **Mobile App for Spectacle Shopping:** Create mobile applications that enable customers to browse, purchase, and track their spectacle orders on-the-go. Features may include order notifications, virtual try-on options, and easy access to order history.
- **Integration with Eyecare Professionals:** Collaborate with eyecare professionals to provide online consultations, prescription uploads, and virtual fitting services. This integration enhances the customer experience and ensures accurate prescriptions for eyewear purchases.

REFERENCES

- [1] A. Smith, B. Johnson, C. Lee (2020) “Eyewear E-commerce: A Cloud-Based Approach” Information Systems Department, University of Technology, Sydney, Australia.
- [2] E. Chen, J. Wang (2020) “Challenges and Opportunities in Online Spectacle Retailing” Department of Business Administration, National Taiwan University, Taipei, Taiwan
- [3] K. Patel, M. Gupta, S. Sharma (2019) “Optimizing Distribution Channels in Online Eyewear Retail” Supply Chain Management Institute, University of Illinois, Urbana-Champaign, USA.
- [4] T. Nguyen, L. Kim, H. Park (2021) “IoT Integration in Online Eyewear Stores” Department of Computer Science, Seoul National University, Seoul, South Korea.
- [5] S. Gupta, R. Sharma (2022) “Enhancing User Experience in Online Spectacle Shopping” Department of Marketing, University of California, Berkeley, USA.

APPENDIX



What we sell



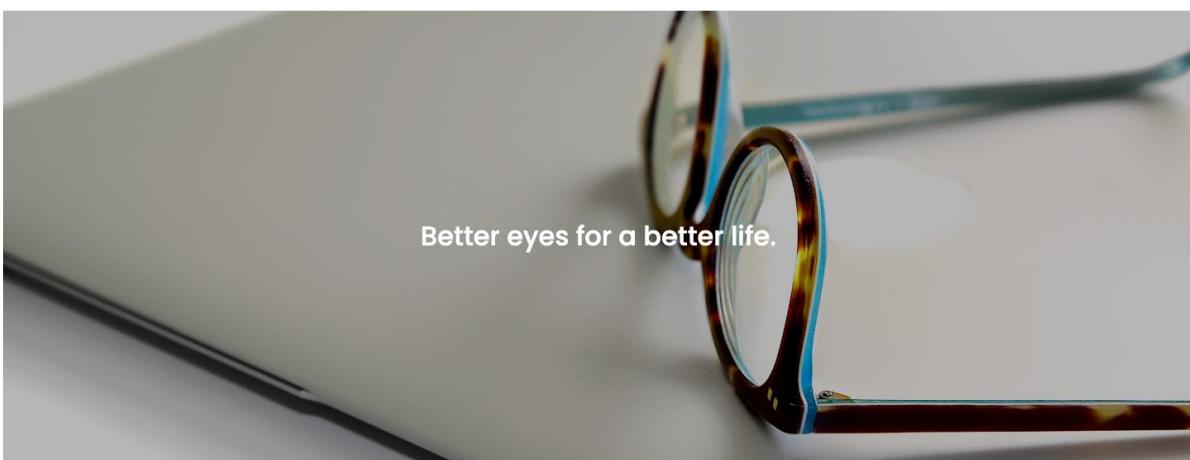
Sun Glasses



Eve Glasses



Custom Orders



Check out our new product

[Homepage](#)

I-Wears

Home About Products Contact-Us My Account  (0)



Established in 2019 as a spectacles store in Kathmandu, I-Wears has since expanded its presence to 15 countries and embraced online orders, transforming into a global eyewear destination. Offering an extensive range of 25 categories of spectacles and catering to diverse tastes, I-Wears stands out by accommodating custom orders, enabling customers to curate their individual style. Committed to authenticity and innovation, I-Wears continues to lead the eyewear industry, providing unparalleled choices and experiences while setting new standards for quality and service.

[More Info](#)

Our Staffs



Founder

Rikesh Shrestha



Designer Head

Emma White



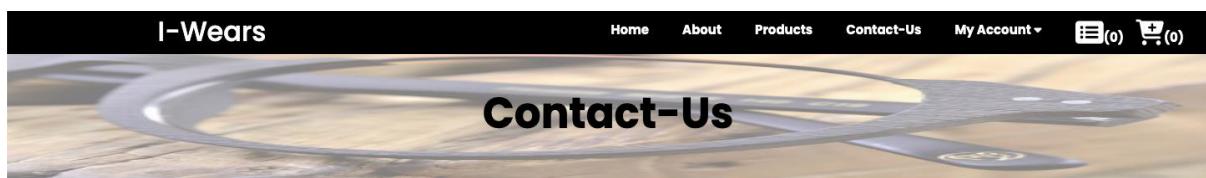
Assistance Designer

Alisha Lehmann

About Us

I-Wears

Home About Products Contact-Us My Account  (0)  (0)



Contact-Us

Send your request

Name

Your name*....

Phone

Your phone number*....

Email

Your email....

Subject

Subject....

Message

Type Message.....

Reach Us

 Email

iwear_contact_services@gmail.com

iwear_contactAgents@gmail.com

 Phone

+977 - 9800999092

+977 - 9800999092

 Address

#212, Ground Floor, 7th cross Some layout, Some Road,
Prime International College Nayabazar, Kathmandu

Contact-Us

Our Products

Rectangle Spectacles



RayBan Top-Notch



Eyewear Rec



Rec-Specs A33

Round Spectacles



O-shaped Rayz



Roundspecs223



Black circle glasses aesthetic

Aviator Spectacles



Wearme Pro - Polarized Pilot Style



Ray-Ban aviator sunglasses - Black



TOM FORD FT0836 Unisex Troy Aviator

Square Spectacles



Nevaeh - L / Silver



Black Oversized Thick Square Eyeglasses



Eyglasses Mys9012 - Silver

Cat-eye Spectacles



Giv Cut Rays



New Features



Men's leaf-shaped Spectacles



User Illuminated Cyber Visors



Support

[Terms and Conditions](#)[Get Support](#)[Guide](#)[Contact](#)

Links

[Home](#)[About-US](#)[Products](#)[Contact](#)

Contact-Us

[Nayabazar, Kathmandu, Nepal](#)[+977-9841888992](#)[+977-9877889900](#)

Our Products

Iwea »

Home About Products Contact-Us My Account  (0)

My Profile



Name : Rikesh Shrestha

Email : rikeshshrestha123@gmail.com

 0 Total Products in Your Wishlist

 0 Total Products in Your Cart

Feedback Form

Name:

Email:

Phone:

Select Country:

- Nepal India China USA UK
 Australia Canada England

How was our service:

- Bad Good Average Excellent

Share Your Experience:

submit

My Profile PAGE

I-Wears

Home About Products Contact-Us My Account  (0)



Product Name:
Eyewear Rec

Description:
Iconic style through the lens of Ray-Ban glasses.

Category:
Rectangle-Shaped Spectacles

Price:
500

Quantity:

Add to cart **Add to wishlist**

Product Buy Page

≡ My WishList

#	Product Image	Product Name	Category	Price	Action
---	---------------	--------------	----------	-------	--------

Your wishlist is empty. Please add items to your wishlist before proceeding with checkout.

Wishlist

≡ My Cart

#	Product Image	Product Name	Category	Price	Quantity	Action
---	---------------	--------------	----------	-------	----------	--------

Your cart is empty. Please add items to your cart before proceeding with checkout.

Add to cart

Sign-Up REGISTER

First Name

Last Name

Username

Enter Your Password

Confirm Your Password

Sign up Page**LOGIN REGISTER**

Username

Password

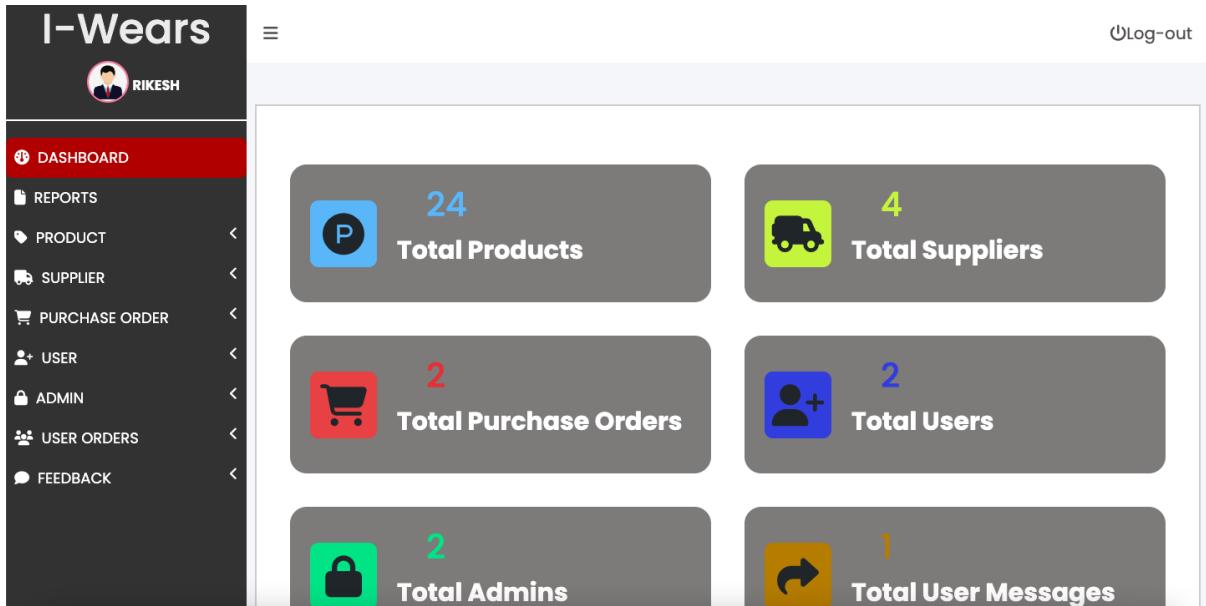
Remember me

[Don't have an account? Register here.](#)**Log in Page****I-Wears****Admin Panel**

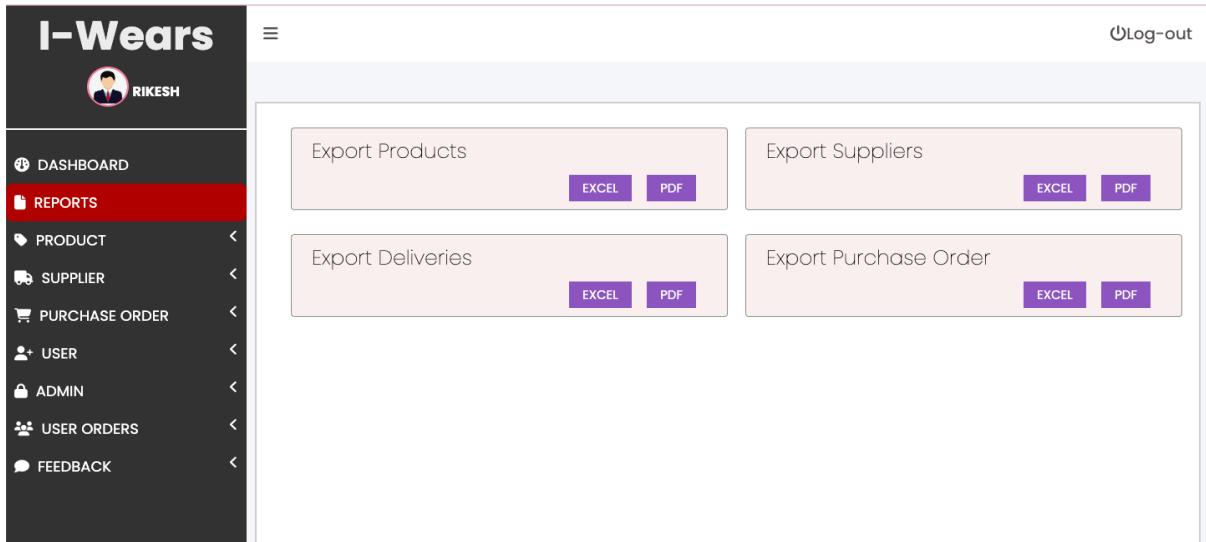
USERNAME

PASSWORD

Admin Panel Login Page



Dashboard



Reports

I-Wears

RIKESH

- DASHBOARD
- REPORTS
- PRODUCT
 - View Products
 - Add Product
- SUPPLIER
- PURCHASE ORDER
- USER
- ADMIN
- USER ORDERS
- FEEDBACK

List of Products

#	IMAGE	PRODUCT NAME	STOCK	DESCRIPTION	PRICE	CATEGORY	SUPPLIER	CREATED BY	CREATED AT	UPDATED AT	ACTION
74		Nevaeh - L / Silver	14	The black metal rectangular frame is the basis of various shapes of frames. These rectangular glasses have a firm square structure with a black finish and silver metal, making them even more simple and elegant. Some people may think that the basic model is simple and ordinary, but sometimes, the classic is the trend.	340	Square-Shaped Spectacles	Lenskart 2	Rikesh Shrestha	February 27,2024 @ 12:55:59 PM	March 25,2024 @ 19:12:34 PM	Edit Delete
75		RayBan Top-Notch	0	Iconic style through the lens of Ray-Ban glasses.	450	Rectangle-Shaped Spectacles		Rikesh Shrestha	February 27,2024 @ 16:22:28 PM	February 29,2024 @ 16:32:12 PM	Edit Delete
76		Eyewear Rec	0	Iconic style through the lens of Ray-Ban glasses.	500	Rectangle-Shaped Spectacles		Rikesh Shrestha	February 27,2024 @ 16:25:20 PM	February 29,2024 @ 16:32:19 PM	Edit Delete

View Products Page

I-Wears



- [DASHBOARD](#)
- [REPORTS](#)
- PRODUCT**
 - [View Products](#)
 - [Add Product](#)
- SUPPLIER**
 - [View Suppliers](#)
 - [Add Supplier](#)
- PURCHASE ORDER**
- USER**
- ADMIN**
- USER ORDERS**
- FEEDBACK**

+Add Product

PRODUCT NAME	<input type="text" value="Enter product name...."/>
DESCRIPTION	<input type="text" value="Enter product description..."/>
SUPPLIERS	Select Supplier Lenskart 2 bluerayeyes Eyeron
CATEGORY	<input type="text" value="Select Category"/>
PRODUCT IMAGE	<input type="file" value="Choose File No file chosen"/>

Add Product Page

I-Wears



- [DASHBOARD](#)
- [REPORTS](#)
- PRODUCT**
 - [View Products](#)
 - [Add Product](#)
- SUPPLIER**
 - [View Suppliers](#)
 - [Add Supplier](#)
- PURCHASE ORDER**
- USER**
- ADMIN**
- USER ORDERS**
- FEEDBACK**

:List of Suppliers

#	SUPPLIER NAME	SUPPLIER LOCATION	PRODUCT	CONTACT DETAILS	CREATED BY	CREATED AT	UPDATED AT	ACTION
1	LENSKART 2	India, delhi	Rec-Specs A33 Nevaeh - L / Silver	lenkart@Gmail.com	Rikesh Shrestha	February 19,2024 @ 19:42:36 PM	February 21,2024 @ 21:32:09 PM	Edit Delete
5	BLUERAYEYES	Pakistan	Rec-Specs A33	bluerayseyes@gmail.com	Rikesh Shrestha	February 21,2024 @ 08:31:43 AM	February 21,2024 @ 08:31:43 AM	Edit Delete
6	EYERON	Singapore	Rec-Specs A33	eyeron@gmail.com	Rikesh Shrestha	February 21,2024 @ 08:32:57 AM	February 21,2024 @ 08:32:57 AM	Edit Delete
7	EYEMANIAC	USA	Rec-Specs A33	eyemaniac@yahoo.com	Rikesh Shrestha	February 21,2024 @ 08:36:23 AM	February 25,2024 @ 20:18:26 PM	Edit Delete

4 SUPPLIERS

View Suppliers Page

I-Wears



- [DASHBOARD](#)
- [REPORTS](#)
- PRODUCT**
- SUPPLIER**
 - [View Suppliers](#)
 - [Add Supplier](#)
- PURCHASE ORDER**
- USER**
- ADMIN**
- USER ORDERS**
- FEEDBACK**

+Insert Supplier

SUPPLIER NAME	<input type="text" value="Enter supplier name...."/>
LOCATION	<input type="text" value="Enter supplier location....."/>
EMAIL	<input type="text" value="Enter supplier email...."/>

[+Add Supplier](#)

Add Supplier Page

List of Purchase Order

BATCH #: 1709499826

#	PRODUCT	QTY ORDERED	QTY RECEIVED	SUPPLIER	STATUS	ORDERED BY	CREATED DATE	DELIVERY HISTORY
1	Nevaeh - L / Silver	6	5	Lenskart 2	PENDING	Rikesh Shrestha	2024-03-04 02:48:46	Show Delivery History

BATCH #: 1713256053

#	PRODUCT	QTY ORDERED	QTY RECEIVED	SUPPLIER	STATUS	ORDERED BY	CREATED DATE	DELIVERY HISTORY
1	Nevaeh - L / Silver	12		Lenskart 2	ORDERED	Rikesh Shrestha	2024-04-16 14:12:33	Show Delivery History

[Update](#)

2 PURCHASE ORDER

View Purchase Order Page

+Order Product

[Order Product](#)

PRODUCT NAME [Remove](#)

[Submit Order](#)

Create Purchase Order Page

List of Users

#	FIRST NAME	LAST NAME	EMAIL	CREATED AT	UPDATED AT	ACTION
76	Rikesh	Shrestha	rikeshshresthat23@gmail.com	April 20,2024 0 16:28:16 PM	April 20,2024 0 16:28:16 PM	Edit Delete
77	Sushant	KC	sushantkhatril23@gmail.com	April 23,2024 0 20:49:28 PM	April 23,2024 0 20:49:28 PM	Edit Delete

2 USERS

View Users Page

I-Wears



- DASHBOARD**
- REPORTS**
- PRODUCT**
- SUPPLIER**
- PURCHASE ORDER**
 - View Orders
 - Create Order
- USER**
- ADMIN**
- USER ORDERS**
- FEEDBACK**

+Order Product

PRODUCT NAME: Select Product

Add User Page

I-Wears



- DASHBOARD**
- REPORTS**
- PRODUCT**
- SUPPLIER**
- PURCHASE ORDER**
- USER**
- ADMIN**
 - View Admins
 - Add Admin
- USER ORDERS**
- FEEDBACK**

List of Admin

#	FIRST NAME	LAST NAME	EMAIL	CREATED AT	UPDATED AT	ACTION
1	Rikesh	Shrestha	rikeshshrestha9841@gmail.com	February 15, 2024 0 06:43:11 AM	April 20, 2024 0 16:17:15 PM	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
34	Admin	Panel	admin123@gmail.com	April 18, 2024 0 13:27:31 PM	April 20, 2024 0 16:24:34 PM	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

2 ADMINS

View Admin Page

I-Wears



- DASHBOARD**
- REPORTS**
- PRODUCT**
- SUPPLIER**
- PURCHASE ORDER**
- USER**
- ADMIN**
- USER ORDERS**
 - View User Orders
- FEEDBACK**

List of User Orders

#	PRODUCT IMAGE	PRODUCT NAME	CATEGORY	ORDER-BY	CUSTOMER EMAIL	PRICE	QUANTITY	TOTAL PRICE	PAYMENT METHOD	ORDER AT	ACTION
1		Eyewear Rec	Rectangle-Shaped Spectacles	Rikesh Shrestha	rikeshshrestha123@gmail.com	500	2	1000		2024-04-24 01:52:02	<input checked="" type="checkbox"/> Completed <input type="button" value="Delete"/>
2		Men's leaf-shaped Spectacles	Other New Feature Spectacles	Rikesh Shrestha	rikeshshrestha123@gmail.com	1600	2	3200		2024-04-24 01:52:06	<input checked="" type="checkbox"/> Completed <input type="button" value="Delete"/>

2 USER ORDERS

View User Orders Page

I-Wears



Log-out

DASHBOARD

REPORTS

PRODUCT

SUPPLIER

PURCHASE ORDER

USER

ADMIN

USER ORDERS

FEEDBACK

- [View User Message](#)
- [View User Feedback](#)

List of User Feedbacks

#	NAME	EMAIL	PHONE NUMBER	COUNTRY	REVIEW	EXPERIENCE	SHARED_AT	ACTION
1	Rikesh Shrestha	rikeshshrestha9821@gmail.com	9841879297	Nepal	Good	Very good website to buy spectacles. Just loved it.	2024-04-24 01:53:08	✓ Completed Delete

1 USER FEEDBACKS

View User Message Page

I-Wears



Log-out

DASHBOARD

REPORTS

PRODUCT

SUPPLIER

PURCHASE ORDER

USER

ADMIN

USER ORDERS

FEEDBACK

- [View User Message](#)
- [View User Feedback](#)

List of Users Message

#	USER NAME	PHONE NO.	EMAIL	SUBJECT	MESSAGE	DATE	ACTION
1	RIKESH SHRESTHA	9841879297	rikeshshrestha@gmail.com	product damage	the product was damaged	March 05,2024 @ 00:10:39 AM	Edit Delete

1 USER MESSAGES

View User Feedback Page