BULKPULSES - ECOMMERCE WEBSITE FOR PULSES WHOLESALE

BY

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

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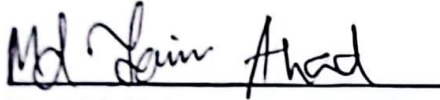

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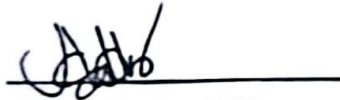**DHAKA, BANGLADESH**

JANUARY 2024

APPROVAL

This Project titled "ECOMMERCE WEBSITE FOR PULSES WHOLESALE", submitted by Shovon Kumar Nag, ID-191-15-12819, to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 26 January 2024.

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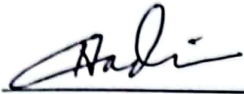Faculty of Science & Information Technology
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DECLARATION

I hereby declare that this project has been done by us under the supervision of **Mr. Mahimul Islam Nadim, Lecturer,** Department of CSE Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.
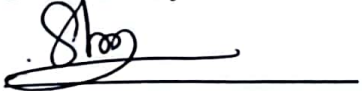
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ABSTRACT

The goal of this project is to create an internet store that specializes in selling pulses. The website attempts to give users an easy-to-use and simple way to browse, choose, and buy a large range of pulses from the comfort of their homes. The project's main goals are to protect transactions, expedite the ordering process, and create a flawless shopping experience by utilizing e-commerce technologies. This report provides a thorough summary of the project, outlining its goals, methods, and specifics of implementation. It goes over the market research done to determine the target market and rivals, as well as the design and functionality considerations for the website. The study also emphasizes the technical features of the project, including the selection of databases, frameworks, and programming language, frameworks, and databases secure used for development.

Throughout the project, crucial component such a user-friendly interface, product classification, search capabilities, secure payment methods, and order tracking have been incorporated, furthermore, every attempt has been made to maximize the websites responsiveness and compatibility across a range of browsers and devices.

If this project is successful, customers will have a dependable online platform for simple pulses purchases, and it should aid in the expansion of the business by increasing income and clientele

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CHAPTER 1

Introduction

1.1 Introduction

The project's relevance stems from its potential to capitalize on the expanding internet industry and offer customers a dependable and easy-to-use platform for buying pulses. The growing popularity of e-commerce has changed how consumers purchase for a wide range of goods, including food. Online platforms have become indispensable for businesses looking to expand their customer base, given the increasing desire for a hassle-free and convenient shopping experience. This idea aims to counter this trend by creating an online store that sells only pulses.

Online platforms have grown to be indispensable for businesses looking to expand their consumer base due to the increasing need for easy and hassle-free shopping experiences.

The purpose of this project is to counter this trend by creating an online store that sells only pulses.

1.2 Motivation

This idea is motivated by multiple considerations that emphasize the necessity for an online marketplace specifically for the sale of pulses. Among these are:

Convenience and accessibility: Customers look for convenience in their purchasing experiences in the fast-paced world of today. The ease of perusing and buying goods from the comfort of one's home at any time is provided by online shopping. With the launch of our online pulse store, we hope to satisfy consumers' increasing need for easily accessible and convenient buying experiences.

Expanding E-commerce Market: Over the past ten years, the e-commerce sector has grown tremendously as more people choose to shop online. This also applies to the supermarket and food product markets, where pulses are no exception. Our goal is to take advantage of the potential that the digital landscape presents by entering this growing market.

Product Specificity: For a large number of people around the world, pulses form a vital component of their diet. However, typical brick-and-mortar retailers may not always provide an extensive selection of high-quality pulses. Our commerce website, which specializes in the sale of pulses, seeks to offer clients a wide selection of pulses, including specialty and difficult-to-find types.

Market Gap: We have discovered a void in the online pulse market through market research and analysis. Although a number of e-commerce sites provide a large selection of supermarket items, there isn't much of an emphasis on pulses. We hope to close this gap and meet the unique requirements of people looking for a specific online marketplace where they may buy pulses.

1.3 Objective:

The primary goal of this project is to provide pulses as cheaply as possible for users because there is no middleman and lower production costs. The project also has the following goals, which, when met, will enable us to build a strong and profitable website for the sale of pulses that offers users a safe, easy, and enjoyable online shopping experience.

Create an Easy-to-Use E-Commerce Website. The major goal is to create a user-friendly e-commerce website that offers users a smooth and simple buying experience. The website should have an easy-to-use layout with clear navigation and features that make it simple for users to browse, choose, and buy pulses.

Integrate Key E-commerce Features: The project's goal is to include key elements that are necessary for an e-commerce platform. These consist of order tracking, user reviews and ratings, secure payment channels, product classification, and search capabilities. Our goal is to improve the overall purchasing experience and give customers a sense of security and dependability by introducing these features.

Optimize for Compatibility and Responsiveness: Ensuring that the e-commerce website is compatible and responsive across a range of devices and browsers is another goal. As more people purchase online using smartphones and tablets, it's critical to optimize the

website's functionality and appearance to provide a consistent user experience across devices.

Boost Customer Engagement and contentment: Through the provision of interactive user interfaces, tailored product suggestions, and educational product descriptions, the initiative seeks to enhance customer engagement and contentment. Our objective is to cultivate enduring client relationships and augment overall happiness by comprehending consumer preferences and providing a customized experience.

1.4 Expected Outcome:

My e-commerce website for wholesale pulses using the MERN stack should have a variety of effects that will complement the project's goals and objectives. Here are a few possible anticipated results.

- A user-friendly interface that encourages more user interaction.
- Positive comments from users on the usability and design of the website
- An increase in sales of pulses, particularly as a result of an easy purchase procedure.
- A rise in the number of transactions and income generated by my website.
- Drawing in new clients who are eager to buy pulses in large quantities.
- A rise in the quantity of users who have registered on my website.
- Various pulses are presented clearly and with comprehensive information.
- Explicit and succinct communication about pricing, quantity options, and high-quality pulses. Online transactions that are safe and effective.
- Compiling information on user preferences, behavior, and trending topics.
- The website can accommodate larger user loads and product listings because it is scalable.
- Reliability with little interruptions or downtime.
- A favorable impression of my brand as a trustworthy supplier of wholesale pulses.
- Increasing user confidence in the quality and service of pulses.
- A strong base for upcoming features and improvements.
- Capacity to adjust to shifting consumer demands and market trends

1.5 Project Scope

Selling pulses is the background of my e-commerce website project. Here is an illustration of the project scope:

Creation of an Easy-to-Use E-Commerce Website:
Create and implement a user-friendly and intuitive website interface. Include functions like user reviews, search functionality, and product categorization. Make sure clients have a flawless online shopping experience, complete with a simple checkout procedure.

Functionality of the backend:
Create a safe and effective database to handle customer data, product inventories, and order fulfillment. Establish a reliable backend system to track shipments and fulfill orders. For seamless and safe transactions, incorporate secure payment channels.

Product Catalog: Make an extensive product catalog that covers the various kinds and variations of pulses. For every product, provide a thorough description, nutritional data, and pictures. Sort and classify things to make browsing and choosing easier.

Make sure the website is responsive and workable on a range of screens and devices by using responsive design.

Make that the layout and design are optimized to offer a consistent user experience across mobile, tablet, and desktop platforms. To verify compatibility, test the website's responsiveness and compatibility across a range of browsers.

1.6 Report Layout

This report consists of 7 chapters.

CHAPTER 1

INTRODUCTION: Here, I go over my project's motivation as well as its introduction, objectives, and anticipated results—these being the project's original language.

CHAPTER 2:

BACKGROUND: In that chapter, I'll go over my project's Related Works, which show how similar my project is to other projects, Comparative Works, which explain how my project differs from similar projects and what the advantage of using my website is, and the Scope of Problems, which includes what kinds of problems I should expect and the requirements of my project. This section will cover the issues and difficulties I could encounter.

CHAPTER 3

DESIGN AND SOFTWARE: I'll go over my project's design in that chapter, including front-end and back-end details. The languages and frameworks I used on the front end and back end will be explained. Furthermore, appropriate consideration will be given to the user experience, interaction design, and implementation requirements. I'll also go over requirements gathering, analysis, description, and use case modeling.

CHAPTER 4

AUTHENTICATION: Here I talk about user authentication during login or sign up process also data safety and data analysis

CHAPTER 5

IMPLEMENTATION AND TESTING: I'll go over front end and database implementation in that chapter. I will also provide the test findings and report and talk about how the testing was implemented.

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY: I'll discuss how our app affects the neighborhood and the environment in that area. I'll also discuss my moral principles and the ethical aspects of this endeavor. and the long-term plan for the environmental friendliness of my website.

CHAPTER 7

CONCLUSION AND FUTURE SCOPE: I'll talk about potential developments and draw a conclusion in that chapter.

CHAPTER 2

Background

2.1 Terminologies

The wholesale is a system that facilitates the buying and selling of goods in large quantities. The process of purchasing goods in larger quantities, typically at a discounted price is called bulk ordering

You can do this in this website to this website provides the facilitates of buying pulsus in large quantities. Given that my project is an online wholesale pulse marketplace, the following terms are particular to my project:

Platform for BulkPulses: The entire infrastructure that makes it easier to purchase and sell pulses in bulk. The Pulse Catalog contain every kinds of pulses a thorough inventory or database displaying the many kinds of pulses that are sold.

Several kinds of pulses, each having specific product specifications, such as lentils, beans, chickpeas, etc.

Prices by Level of Pulses: Various price points according to the number of ordered pulses. Lower costs per unit can be available for larger purchases. The set requirements and specifications guaranteeing the caliber of the pulses offered for sale

Minimum Order Amount for Pulses: 10kgs

2.2 Related Work

The e-commerce scene has undergone significant change, especially when it comes to wholesale platforms. The objective of this literature analysis is to examine the essential components and tactics utilized by well-known wholesale e-commerce sites, such as Facebook Marketplace, Amazon and Daraz shop.
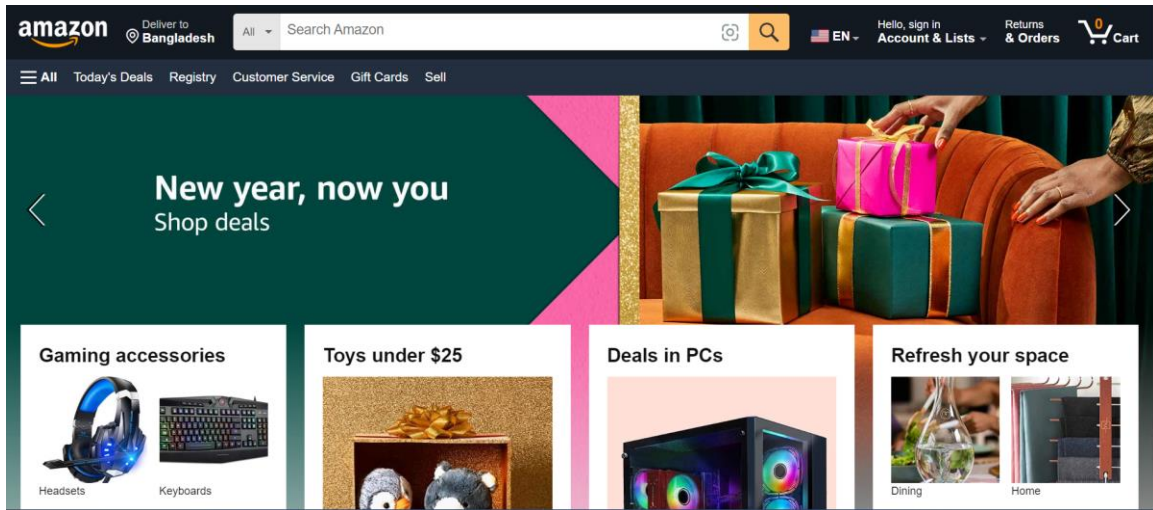
Figure 2.2.2: amazon

With a focus on the B2B sector, Amazon corporate offers features including bulk discounts, tiered pricing, and customized corporate accounts. The platform's huge product selection, easy user experience, and solid infrastructure all contribute to its success. Facebook Marketplace highlights the possibility for incorporating social networking into the wholesale buying experience, even if it is not just focused on wholesale. In a wholesale setting, the engagement and trust that are developed through social ties may be quite significant.

2.3 Comparative Analysis

Let's compare my wholesale pulses e-commerce venture, BulkPulses, with established wholesale marketplaces such as Facebook Marketplace and Amazon Business.

Amazon Commercial:
Strengths: Known for being a specialized B2B platform, it has a sizable product library and a strong infrastructure. Weaknesses: May not have the concentration or specialty on particular sectors or markets.

Marketplace on Facebook:
Strengths: Promotes community participation and uses social connectedness for business-to-business interactions.

Weaknesses: The wholesale features are more supplemental and were primarily intended for peer-to-peer transactions.

BulkPulses: Advantages: Focused on providing a customized and targeted experience, with a concentration on wholesale pulses. Differentiators: a specialized focus on pulses that offers bulk purchasers a solution tailored to their sector.

2.4 Scope of the Problem

Within a project report, the "Scope of the Problem" section usually establishes the parameters and background of the problems my project seeks to solve. Defining the potential and obstacles in the niche I am targeting is part of the scope of the problem for my e-commerce business with wholesale pulses. This is an example of a framework:

Problem's scope: Wholesale E-Commerce website for pulses

Synopsis of the market:

Scope: Examining the wholesale pulses trading market as it is now.

Goals: Gaining insight into the wholesale pulse industry, competition, and trends.

Deliverables: Demand assessment, competitive analysis report, and market analysis.

Conditions for Users:

Range: Determining the particular requirements of large purchasers

Deliverables: Prioritizing features, creating user personas, and documenting user requirements.

Features and Functionalities of the Platform:

Scope: Identifying the attributes and capabilities necessary for an effective wholesale pulses e-commerce site.

Goals: Outlining the essential components, such tools for large orders, procedures for quality control, and unique pricing schemes

Deliverables: Wireframes, functional prototypes, and a feature specification paper.

Technology Stack:

Scope: Deciding which technologies are suitable for BulkPulses platform development.

Goals: Determining the best technology stack for security, scalability, and a smooth user experience.

Deliverables: Development roadmap, system architectural diagrams, and documentation on the technology stack.

The compliance and quality of pulses offered for sale on the site.

Implementing quality control procedures and abiding by rules and industry norms are the goals.

2.5 Challenges

Some possible difficulties I can run across with my pulses wholesale e-commerce website are as follows:

Quality Assurance: It might be difficult to guarantee the same quality of pulses, particularly when handling large volumes. To achieve consumer expectations, it is imperative to implement effective quality control methods.

Shipping and Logistics: It might be difficult to handle the shipping, packaging, and prompt delivery of large purchases. It is essential to optimize the supply chain and coordinate with dependable delivery partners.

Security Issues: A strong security architecture is necessary for handling sensitive data, such as buyer information and financial transactions, in order to guard against cyberattacks and guarantee data privacy.

Cost Structure: It might be difficult to establish a price structure for bulk purchases that is both lucrative and competitive. It's a tricky endeavor to maintain profitability while balancing volume discounts. Standard and the outcomes of penetration tests.

User Credibility and Trust: Establishing confidence is essential, particularly with first-time purchasers. It's constant work to build your platform's reputation and reassure consumers on the quality of your pulses.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

admin Onboarding Process:

Objective: To make it easier for a new administrator to enter the platform. Activities: Administration registration and creation of a profile. A verification of your administrator credentials. List products and set the prices. Training on how to use the platform. Product listing and catalog management

Objective: To facilitate the display of the pulses that are available for purchase. Activities: Product information is uploaded by the administrator. Quality check and approval. Catalog management and categorization.

Buyer Registration and Account Setup:

Objective: To make it easier for buyers to create accounts and access the platform. Activities: A buyer's registration with the necessary details. Account verification. User preferences are being personalized.

Payment and Invoicing:

Objective: To provide for safe and transparent finance transactions. Activities: Secure payment gateway for buyers. Invoice generation for suppliers. Verification of the completion of the payment.

3.2 Requirement Collection and Analysis

Market Research: Perform market research to understand the current trends, challenges, and opportunities in the wholesale pulses market. Identify the competitive landscape and user expectations.

Functional Requirements: List the specific functionalities that BulkPulses must have. This includes: Supplier and buyer registration. Product listing and catalog management. Order placement and processing. Payment and invoicing. Quality assurance features..

Regulatory Compliance: Identify and document any legal or industry-specific regulations that your platform must comply with. This might include data protection laws, financial regulations or agricultural standards. Usability and User Experience: Specify requirements related to the user interface and overall user experience. For example: Intuitive navigation. Responsiveness on various devices. Accessibility features. **Feedback and Iterative Improvement:** Establish mechanisms for collecting user feedback and define how this feedback will be incorporated into iterative improvements of the platform. Technology Stack: Define the technologies and tools that will be used in the development of the platform, **Testing Requirements:** Define the testing criteria and procedures, covering areas like functionality testing, security testing, and user acceptance testing.

3.3 Use Case Modeling and Description

Actor: Buyer

Use Case 1: Register

Use Case 2: Search for Pulses

Use Case 3: Select Pulses

Use Case 4: Add to Cart Product

Use Case 5: View Cart

Use Case 6: Conform Order

Use Case 7: Payment

Use Case 8: View MyOrder

Use Case 9: Log Out

Actor: Admin

Use Case 1: Login as a Admin

Use Case 2: Update Product

Use Case 3: Add Or Delete Product

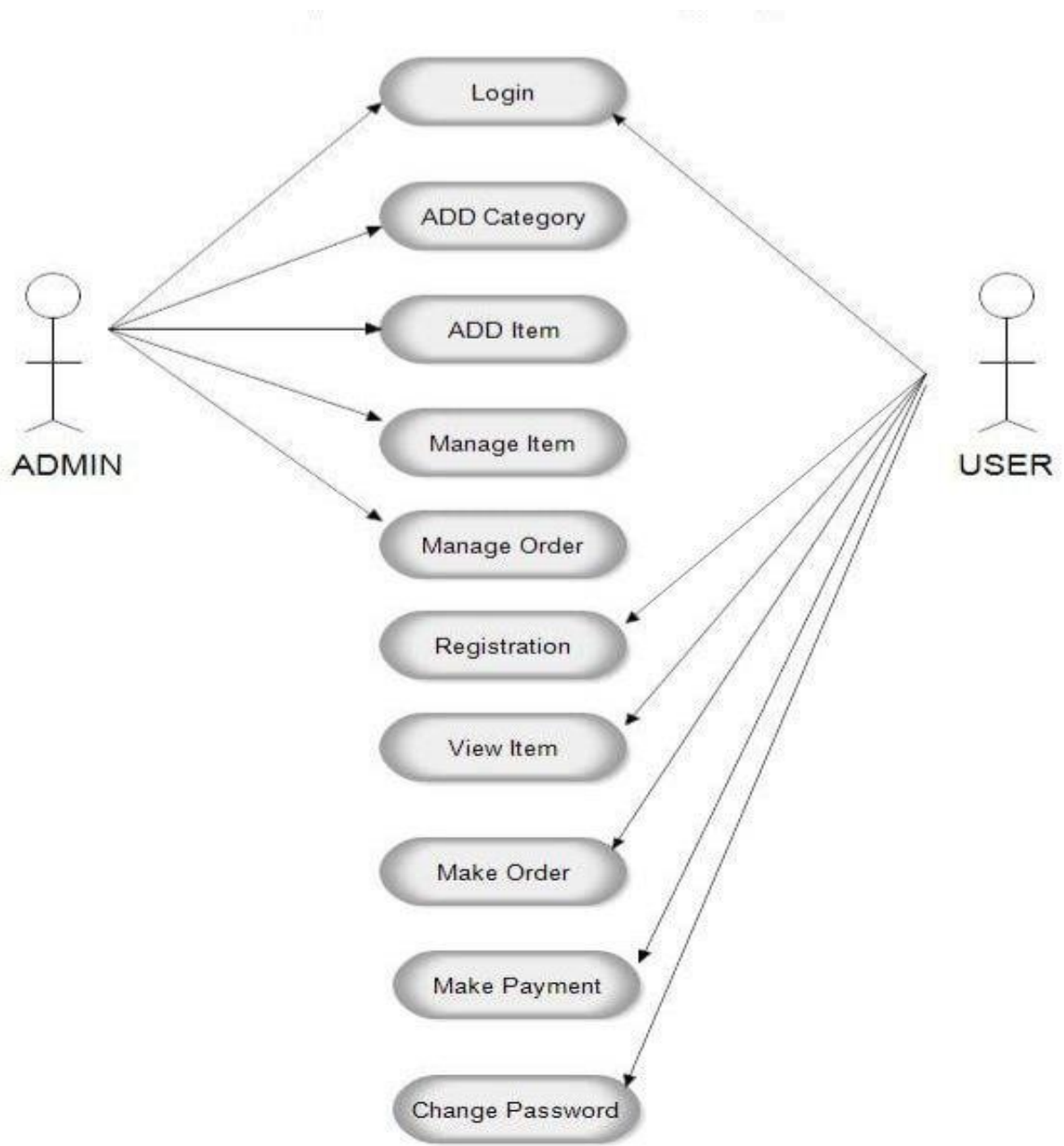Use Case 4: Manage Order

Use Case 5: Log Out

Figure 3.3.1: Use Case Diagram

Table 4.5.1: Use case for login

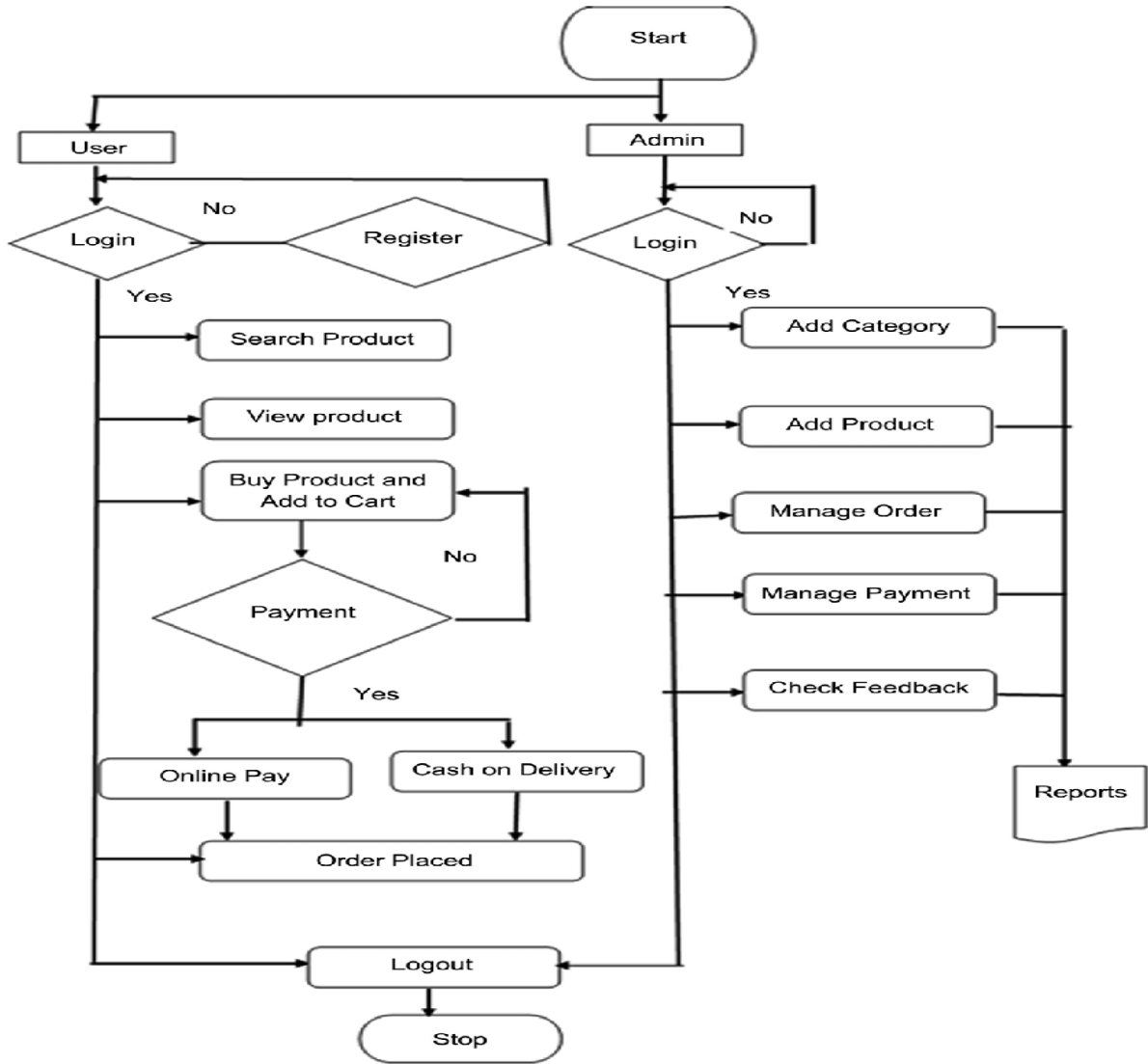| Use Case ID	UC001
Use Case Name	User Login
Actor	User
Description	User must have a registered account
Postcondition	The user is logged in and granted access to their account
Main Flow	1. User opens the login page. 2. User enters their email and password. 3. User clicks on the login button. 4. System validates the credentials. 5. If the credentials are valid, the user is logged in. 6. The system redirects the user to the home page.
Alternative Flows	If the entered email or password is invalid, the system displays an error message.
Exceptions	if there is a technical issue with the signup process, the system displays an error message
Priority	High

Use case for Sign-up

Table 4.5.2: use case for signup

Use Case ID	UC001
Use Case Name	User Sign UP
Actor	User
Description	The user creates a new account by providing their information

Precondition	The user does not have an existing account
Main Flow	1. User opens the signup page. 2. User enters their name, email, and password. 3. User clicks on the signup button. 4. System validates the entered information. 5. If the information is valid, the user's account is created. 6. The system redirects the user to the login page
Alternative flows	If the entered email is already registered, the system displays an error message.
Exceptions	If there is a technical issue with the signup process, the system displays an error message.
Priority	High

3.4 Logical Data Model

Figure 3.4.1: Data Flow Diagram
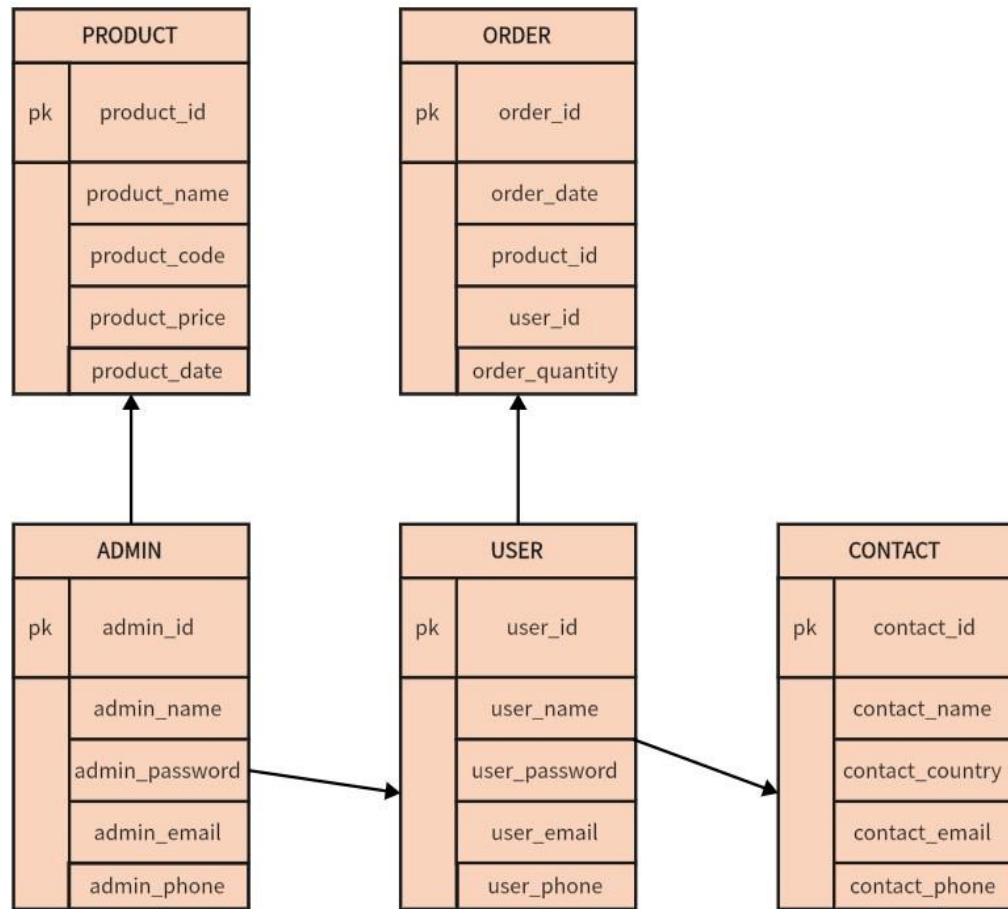
Figure 3.4.2: ER Diagram

The Logical Data Model is a crucial component that guides the database design and organization of information in BulkPulses. A clear and well-structured data model ensures efficient data management and retrieval, contributing to the overall functionality and performance of my wholesale e-commerce platform

3.5 Design Requirement

Design requirements in BulkPulses refer to the specifications and guidelines that inform the design and architecture of the software. These requirements ensure that the final product is aligned with the project's goals and user expectations. Below is a structure for the Design Requirements section:

- User Interface Design
- Navigation Design
- Database Design
- Performance Requirements
- Security Design
- Scalability Design
- Integration Requirements
- Maintainability Design
- Mobile Responsiveness
- Feedback and Iteration

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end and UI Design:

Here are some advantages and things to think about if you decide to utilize React as your front-end framework for your project in addition to Tailwind CSS and Daisy UI for UI design:

The Component-Based design of React: Reacts component-based design facilitates the creation of reusable user interface components, which helps you maintain efficiency and consistency across your project. Code can be written more neatly and manageably by building and composing components in a modular manner.

Tailwind CSS is a utility-first CSS framework that offers a large selection of pre-defined utility classes. Tailwind CSS is useful for styling. By adding tiny, modular classes straight into your HTML or JSX code, it facilitates quick prototyping and adaptable stylistic options. The utility classes in Tailwind CSS facilitate rapid style modifications and aid in the upkeep of a unified design system.

The Daisy UI plugin for Tailwind CSS allows pre-styled components to be added to the utility classes of Tailwind CSS. It provides a selection of pre-made user interface (UI) elements, including forms, buttons, modals, and navigational elements. You can use these pre-styled components to speed up your development process without compromising customization options by employing Daisy UI.

Responsive Design: Tailwind CSS and React both offer strong support for responsive design. Applying responsive utility classes to adjust the layout and styling for various screen sizes is simple when using Tailwind CSS. Reaction component structure also allows for conditional rendering and dynamic content adjustments, ensuring a seamless experience across various devices.

Productivity and Developer Experience: React, Tailwind CSS, and DaisyUI work together to provide a seamless developer experience and higher output. Tailwind CSS's utility classes and pre-styled components, together with React's effective virtual DOM,

minimize the need to write repetitive CSS code. Faster development cycles and simpler UI upkeep are the outcomes of this.

Flexibility and Customization: Tailwind CSS's utility-first methodology makes it simple to modify and expand the default configuration to satisfy the particular design specifications of your project. You can alter fonts, colors, spacing, and other elements to make sure your user interface complements your brand.
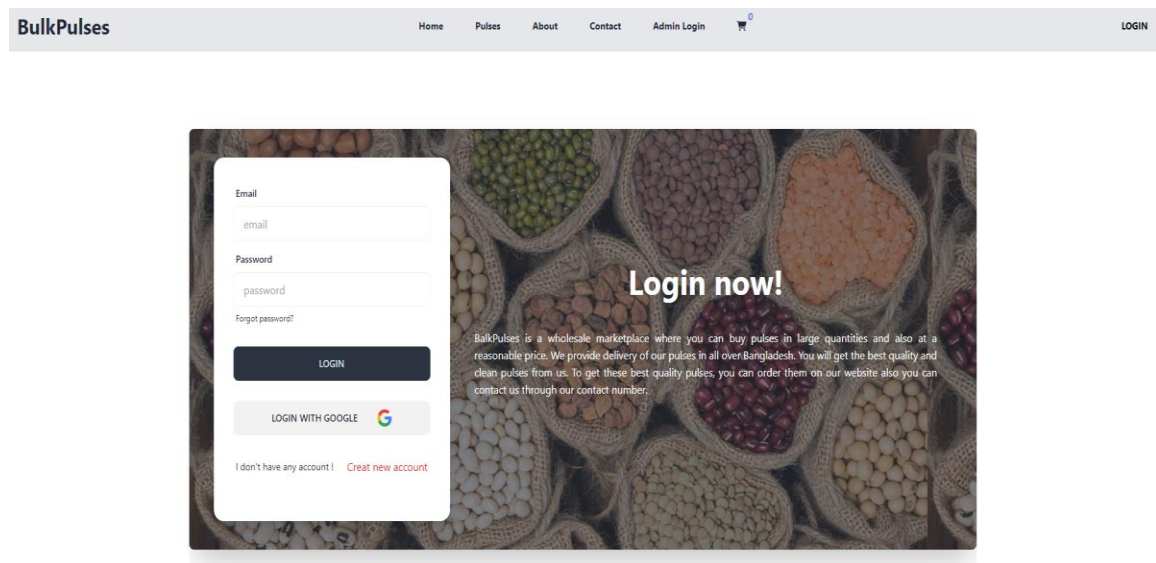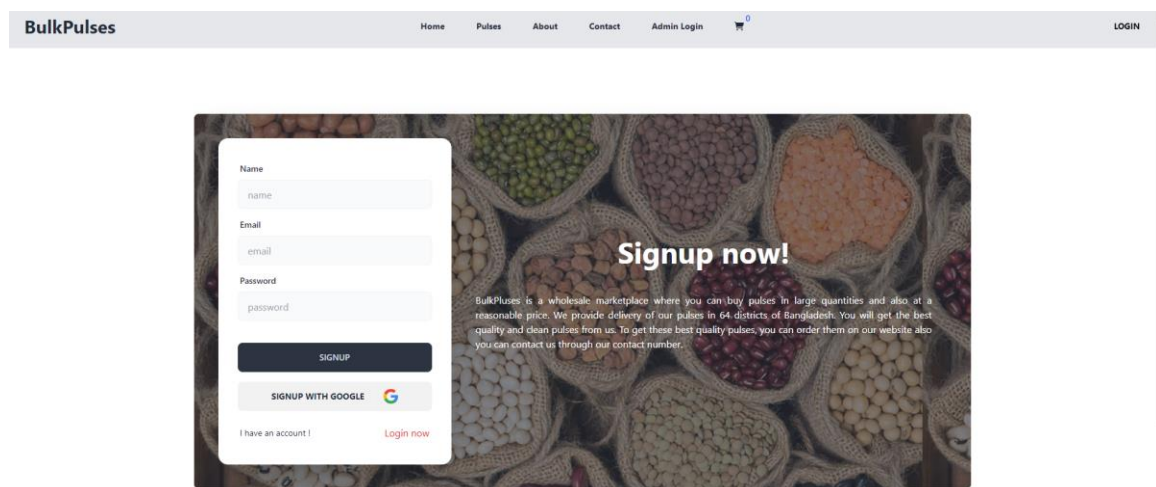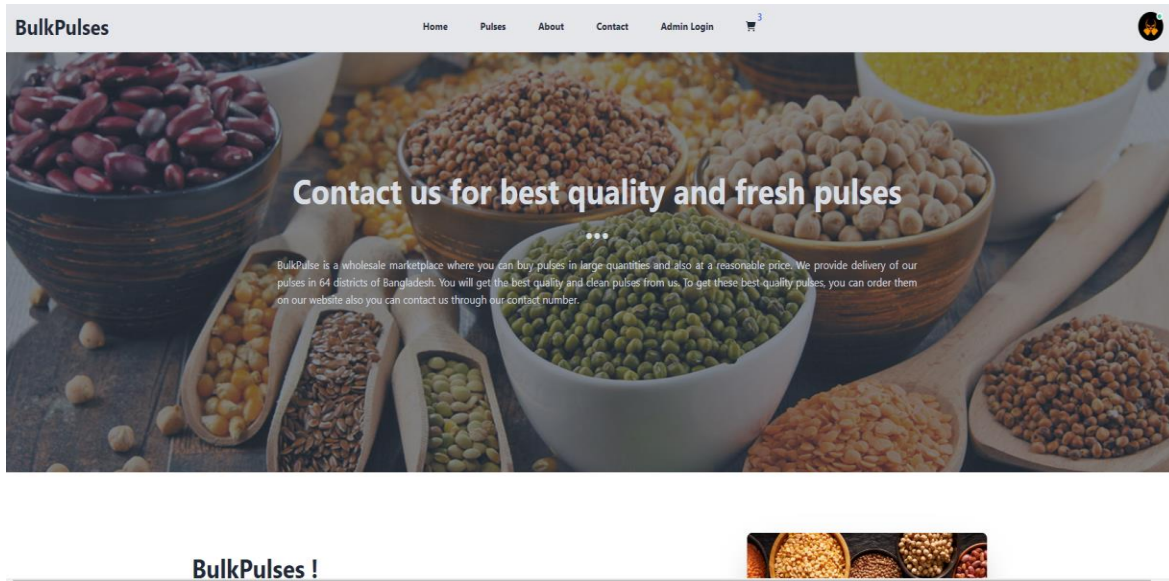

Figure 4.1.1: Login Page

Figure 4.1.2: signup Page

Figure 4.1.3: Home Page
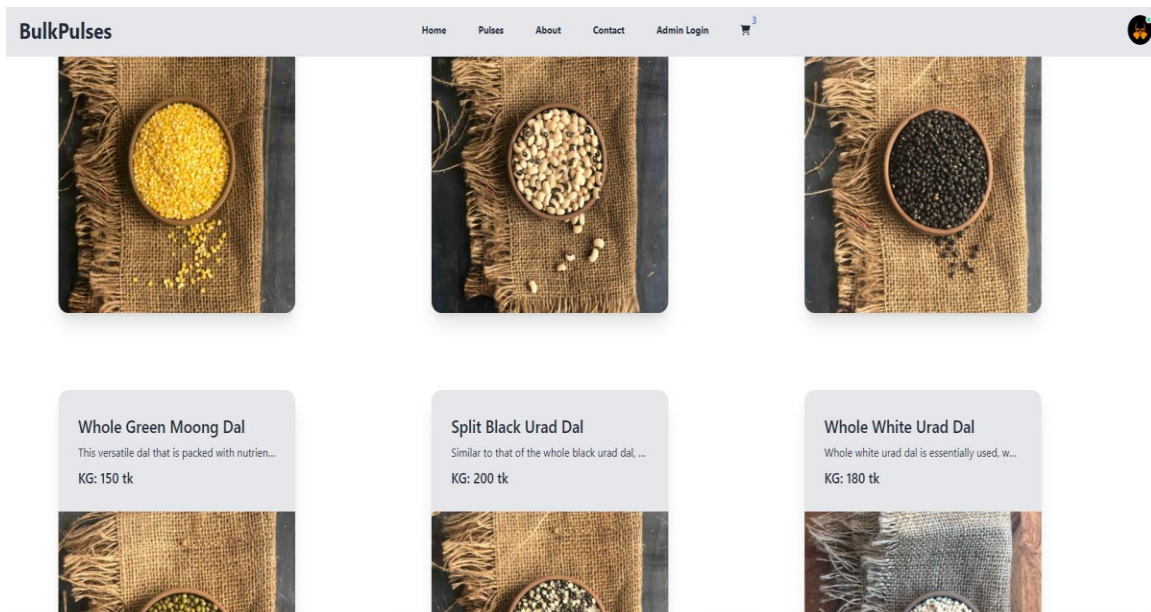
Figure 4.1.4: Product Page
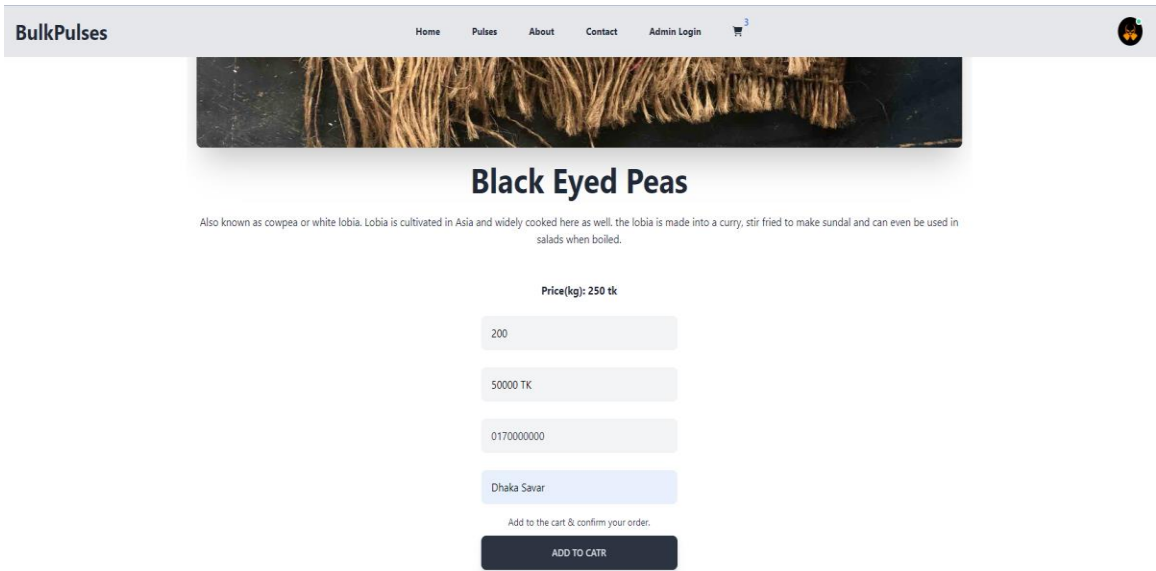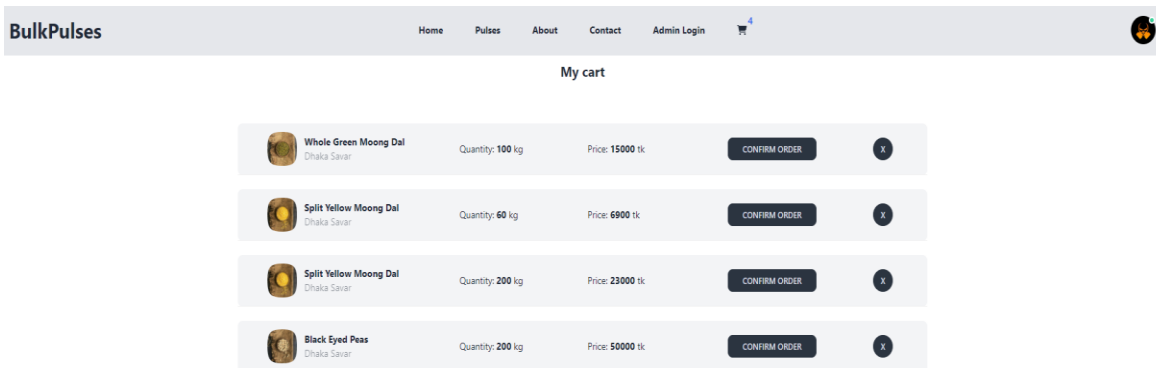
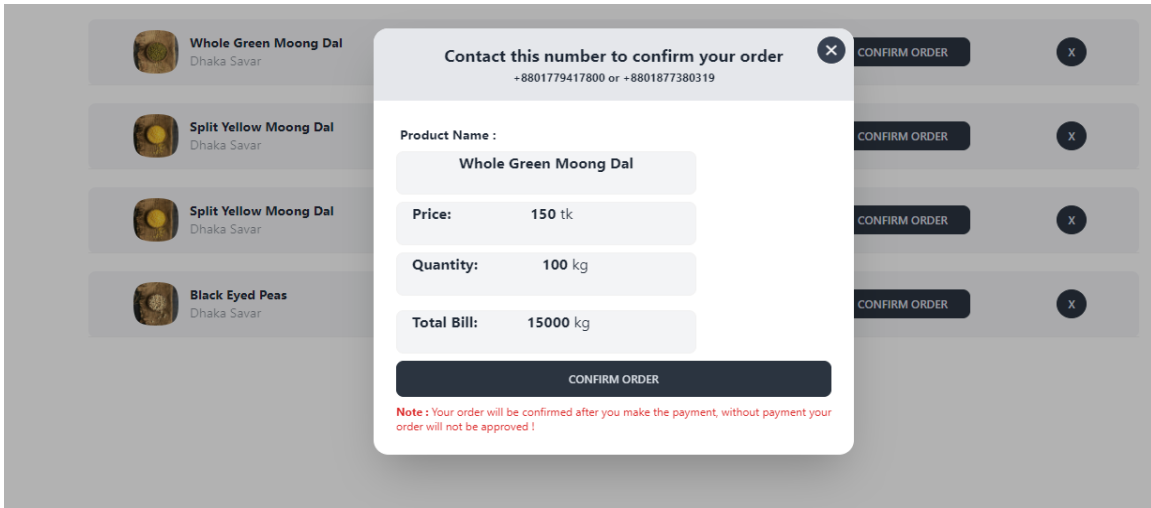Figure 4.1.5: Add to Cart Page

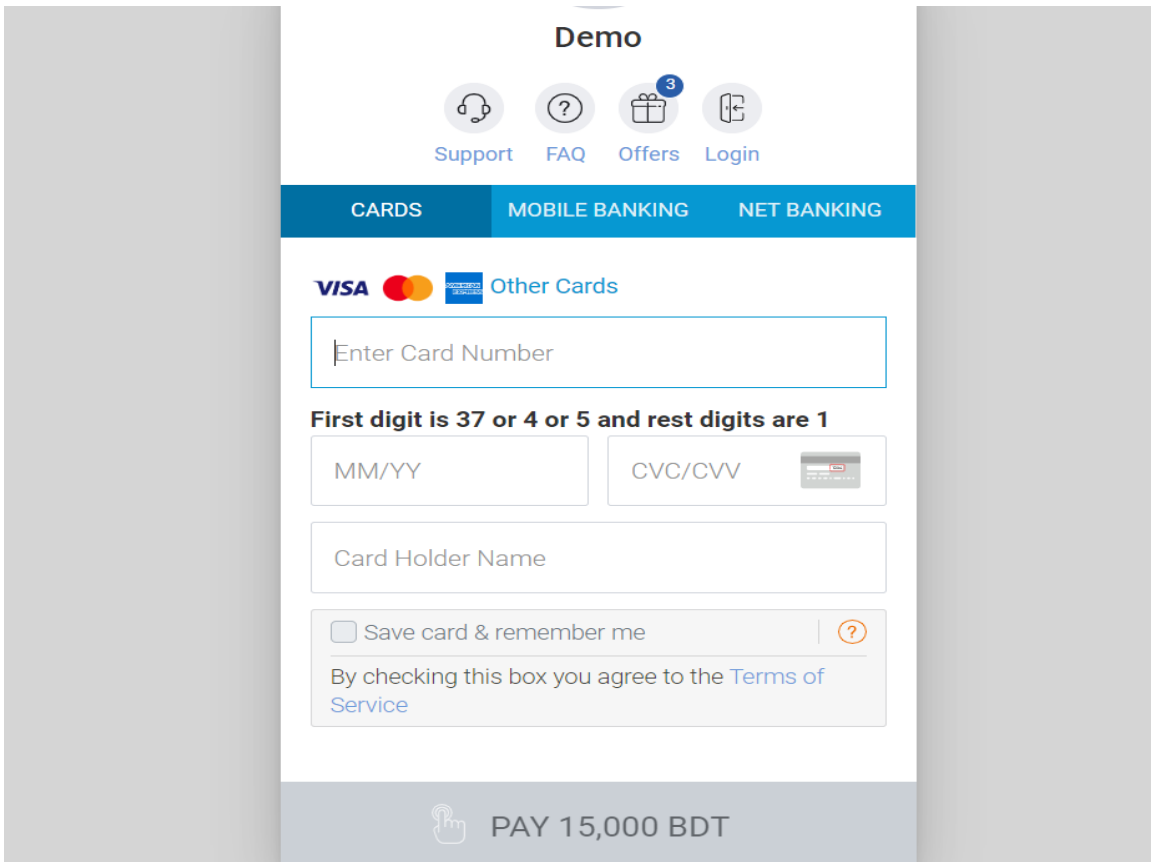Figure 4.1.6: cart-section

Figure 4.1.7: Confirm order section

Figure 4.1.8: Payment section

Figure 4.1.9: Mobile Banking section

Figure 4.1.12: Admin Panel Product-info page

Figure 4.1.13: Upload Product page

Figure 4.1.14: Order management page

4.2 Back-end Design:

For the backend design of my project here are some essential concerns and components to focus on:

User Authentication: To manage user registration, login, and authentication for wholesale purchasers, put in place a secure user authentication system. Use encryption techniques, such as hashing and salting, to protect sensitive user information and ensure secure access to user-specific features.

Database Design: Create a well-organized database schema to store and manage user, product, order, and other relevant data. Use MongoDB, a NoSQL database to store and manage data efficiently. Define relevant relationships and indexes to improve query performance.

Order Management: Create a system to manage the wholesale orders, such as order placement, tracking and fulfillment. Create endpoints to process orders, retrieve orders, and update status. Implement logic for calculating bulk pricing, handling quantity calculations, and managing stock availability

Inventory management: Develop mechanisms to manage the pulse inventory, track available stock quantities and update the inventory levels on the basis of incoming orders and replenishment.

Error handling and logging: Establish error handling capabilities to gracefully manage exceptions and provide the frontend with informative error messages. Logging Establish logging capabilities to record the relevant backend events and errors.

Security & Authorization: Establish adequate security measures, such as: Input validation; Data sanitization; Web vulnerability protection (cross-site scripting; SQL injection, etc.). Role Based Access Control: Restrict access to the sensitive backend functions and make sure proper authorization is in place. Backend Performance & Scalability: Improve backend performance by using efficient database indexing, caching, and query optimization. Creating a system that can accommodate a growing number of users, orders, and product data is known as scalable design.

For my project, I adhere to best practices like code modularity, separation of concerns, and documentation in order to guarantee an organized and manageable backend design.
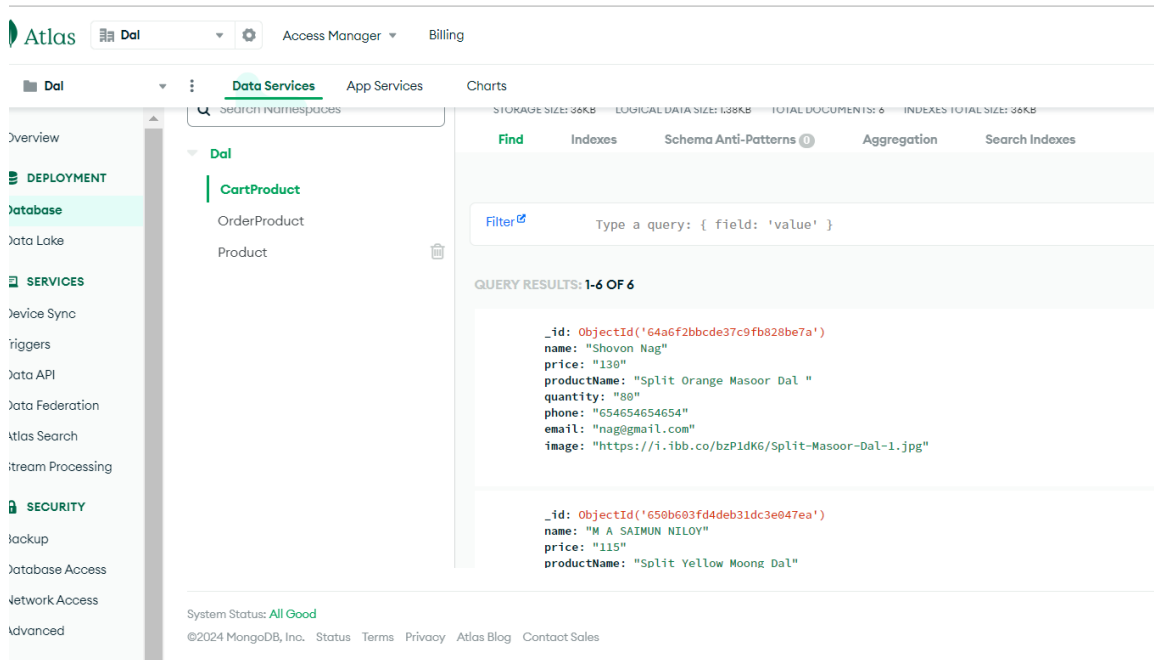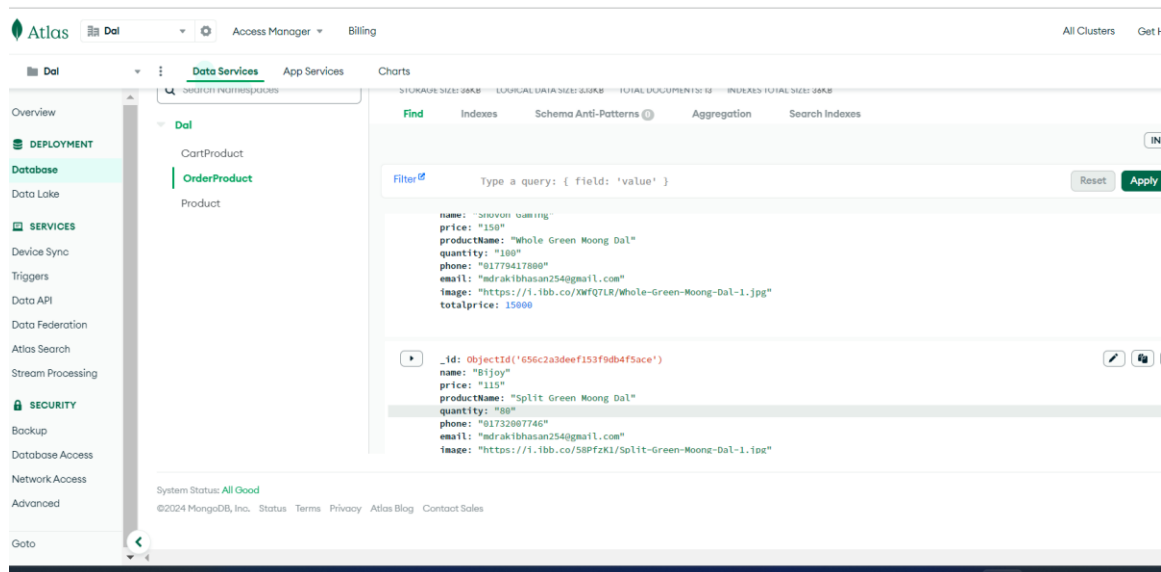

Figure 4.2.2: Cart Product Database

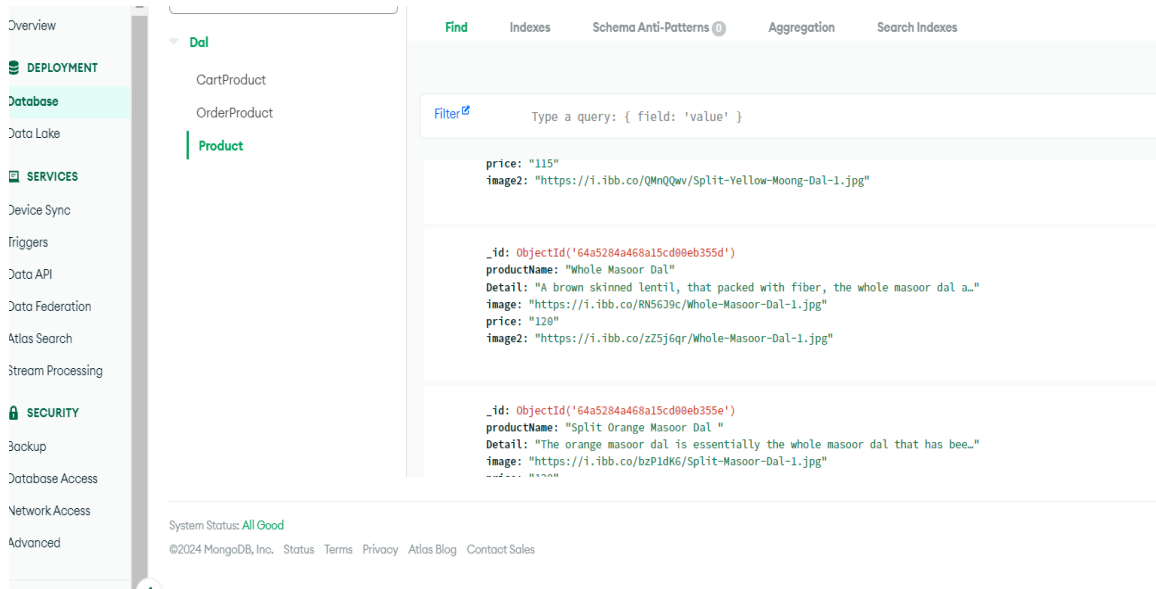

Figure 4.2.3: Order Product Database

Figure 4.2.4: Backend Product Database
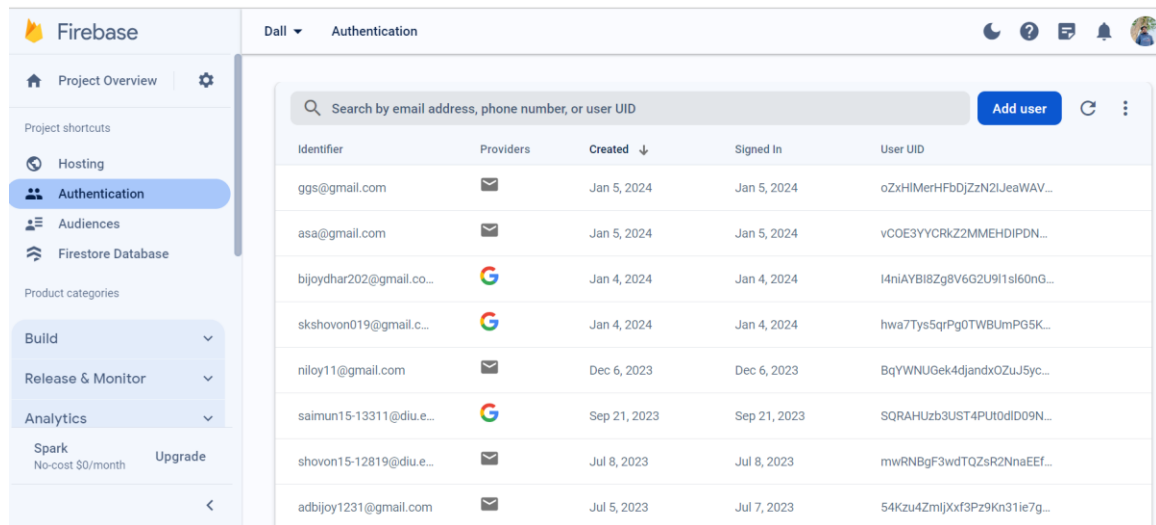
Figure 4.2.5: User Authentication on firebase

4.3 Interaction Design and User Experience (UX)

There are a few things to think about when it comes to the interface design and user experience (UX) of my e-commerce website project for wholesale pulses. Here are a few crucial areas to concentrate on:

User Flow and Navigation: Create a user flow on the website that makes it simple for wholesale purchasers to find the pulses they require. Provide easy-to-use search options, filters, and navigation menus to assist visitors in finding certain pulses or perusing other categories.

Clearly Stated Product Presentation: Provide each pulse product with concise, comprehensive information that includes pictures, captions, dietary data, and any other pertinent information. Make sure that the wholesale order's availability, quantity, and price are all clearly marked.

Features for Bulk Ordering: Include features that make it easier for wholesale purchasers to add big amounts of pulses to their carts. Give customers the opportunity to choose their preferred packing style, desired quantity, and any other pertinent requirements when making wholesale purchases.

User Account and Authentication: Permit users to register, login, and obtain wholesale prices, as well as save and manage their orders. To safeguard user information and provide a tailored and easy experience, put in place a safe authentication system.

Seamless Checkout Process: Create a simplified checkout procedure that leads customers through the steps of effectively placing wholesale orders. Give precise details regarding delivery schedules, shipping alternatives, and any relevant costs or promotions.

Responsive and Mobile-Friendly Design: Make sure the website is adaptable to various screen sizes and devices, such as tablets, smartphones, and desktop computers. This will improve user experience and let wholesale buyers access the system from different devices and place orders.

Reviews and Feedback: Put in place a mechanism that enables customers to write reviews and offer feedback on the pulses they have bought. Good user experiences can be enhanced

by favorable evaluations and testimonials, which can help to establish confidence with prospective wholesale buyers.

Performance and Loading Speed: Make sure your website loads quickly by optimizing its performance, as a slow loading website can be very annoying for users. To increase overall website performance, reduce pointless data requests, optimize image sizes, and make use of caching strategies.

User Support and Communication: Establish avenues via which users can get in touch with customer service or ask for help when they need it. This can involve a specialized help portal, email support, or live chat. Quick and beneficial answers to consumer questions enhance the user experience.

By user testing and gather feedback during the development process I will identify areas for improvement and enhance the overall interaction design and UX of my wholesale pulse e-commerce website.

I will pinpoint areas for improvement and improve the overall interaction design and user experience (UX) of my wholesale pulse e-commerce website by doing user testing and collecting feedback during the development process.

4.4 Implementation Requirements

- ❖ MongoDB
- ❖ Express JS
- ❖ React JS
- ❖ Nodejs
- ❖ tailwind CSS
- ❖ Firebase
- ❖ Operating system (windows)
- ❖ GitHub
- ❖ VS code
- ❖ Material UI
- ❖ Toastify
- ❖ Multer

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database:

A crucial option in the creation of my wholesale pulses e-commerce website, BulkPulses, is the database. Following a thorough evaluation of many databases, MongoDB was determined to be the best option for fulfilling the particular needs of our project.

Collections and Database Structure

As a NoSQL database, MongoDB provides a scalable and adaptable structure that fits in nicely with the dynamic nature of e-commerce data. The database is divided into many collections, each of which stands for a distinct component of the wholesale pulses ecosystem.

Users' Gathering

retains data on people who have registered, such as account and purchasing details.contains information on the many varieties, prices, and descriptions of pulses that are available for purchase.

Order Fulfillment: Keeps track of wholesale order information, such as the customer, the goods, the quantity, and the status of the order. To link the Node.js server and the MongoDB database, the solution makes use of the standard MongoDB Node.js driver. To maintain secrecy, connection information, including the database URI, is safely saved in environment variables.

5.2 Implementation of Front-end Design

Using React.js for Front-end Design to Create an Easy-to-Use User Interface for BulkPulses. BulkPulses front-end design is essential to provide wholesale purchasers with a smooth and intuitive experience. The JavaScript library React.js was selected for its component-based design and rendering efficiency for creating user interfaces.

Parts and Modular Architecture

Every UI element in the front-end architecture is contained within a React component, which has a modular design. This method improves reusability and maintainability across many application areas.

Part of the Navbar:

shows access to the shopping basket, user authentication status, and navigation buttons.

Product Listing Elements:

provides a list of the available pulses together with information on their name, kind, cost, and add-to-cart option.

Managing States Using React Hooks

React Hooks like use State and use Effect are used to control the application's dynamic state. Efficient state changes and side effects are made possible by these hooks.

Cart State Hook: Controls the condition of the cart's contents. Utilizing Flexbox and CSS Grid for Responsive Design Component style is done using CSS Grid and Flexbox to provide a consistent and responsive layout on a variety of devices. Because of this, the program can easily adjust to different screen sizes.

React.js is used in BulkPulses' front-end design to provide a responsive, effective, and flexible user experience. The portal offers wholesale buyers a dynamic and captivating experience via the use of React Hooks and responsive design techniques.

5.3 Testing Implementation

Testing is an essential part of the implementation process for my project. It involves conducting various types of testing, such as unit testing, integration testing, and user acceptance testing, to ensure that the web app functions correctly, meets the requirements, and provides a seamless user experience. Through comprehensive testing, including test case development, test execution, and bug tracking, any issues or bugs can be identified and resolved, ensuring a stable and reliable application for users.

Here are some test case and results:

Table 5.3.1: Test Case for user who has account

Test case	Details	Expected Outcome	Actual Result	Status	Date
Login	User login	Successfully login	Successfully login	Passed	1.01.2024
Add to cart	Buying product	Successfully added	Successfully added	Passed	1.01.2024
Conform order	Conforming order	Order conformed	Order conformed	Passed	1.01.2024
Logout	User logout	Logout successful	Logout successful	Passed	1.01.2024

Table 5.3.1: Test Case for user who dose not have account

Test case	Details	Expected Outcome	Actual Result	Status	Date
Create account	User who need to create account	Account create successful	Account create successful	Passed	2.01.2024
login	User login	Successfully log in	Successfully login	Passed	2.01.2024
Add to cart	Buying product	Successfully added	Successfully added	Passed	2.01.2024
Conform order	Conforming order	Order conformed	Order conformed	Passed	2.01.2024
Logout	User logout	Logout successful	Logout successful	Passed	2.01.2021

CHAPTER 6

Impact On Society, Environment and Sustainability

6.1 Impact on Society

Enabling Availability of High-Quality Pulses

By bridging the gap between wholesale pulse suppliers and purchasers, BulkPulses hopes to make a significant social effect. The platform makes it easier for companies and individuals in the food and agriculture industries to obtain a wide variety of high-quality pulses. The availability of wholesome food alternatives is influenced by accessibility, which has an effect on community well-being.

Boosting Regional Farmers and Vendors

BulkPulses gives local farmers and suppliers the ability to reach a wider market by offering a consolidated platform for wholesale pulses transactions. This empowerment encourages local communities' economies to expand, which opens doors for small and medium-sized businesses to prosper. Consequently, this may have a favorable domino impact on the broader socioeconomic terrain.

Promoting Agriculture's Sustainability

Sustainable farming methods are aided by BulkPulses' emphasis on quality control and procurement of pulses from reliable vendors. Encouraging suppliers that use sustainable and ethical agricultural practices not only guarantees the availability of high-quality products but also promotes ecologically responsible practices in the agriculture sector.

The Creation of Jobs and Their Economic Impact

There may be job possibilities as a result of the wholesale pulses sector expanding thanks to BulkPulses. For people working in the logistics and distribution chain as well as those cultivating and processing pulses, the platform may help create jobs at different levels and promote economic growth.

BulkPulses have an influence on society that goes beyond e-commerce. In order to be a good influence in the agriculture and food industry, the platform promotes accessibility, empowerment, sustainability, job development, and community building. The combined influence of these effects places BulkPulses in a position to support a society that is more resilient and connected.

6.2 Impact on Environment

Practices of Sustainable Agriculture

BulkPulses is dedicated to promoting environmentally friendly farming methods. The platform actively helps to lessen the ecological footprint associated with pulse growing by collaborating with suppliers who value ecologically friendly farming practices. This pledge supports and fosters sustainable farming methods that give soil health, water conservation, and biodiversity first priority.

Minimizing Food Wastage

The possible decrease in food waste is one of BulkPulses' major environmental advantages. The technology helps buyers and sellers manage inventory more effectively, which makes it easier to match supply with demand. Effective inventory control can lessen the possibility of overproduction and the waste of unsold pulses. Consequently, this leads to a food supply chain that is more resource-efficient and sustainable.

Reducing Carbon Footprint

The BulkPulses platform's centralized and efficient design helps to lessen the carbon footprint left by conventional supply chains. There is less of a need for large transportation and distribution networks when customers and local suppliers are connected directly. By reducing transportation distances, greenhouse gas emissions may be reduced, which promotes a more ecologically friendly method of distributing pulses at wholesale.

Promoting Sustainable Packaging

BulkPulses promotes environmentally responsible packaging among its suppliers. The website aims to reduce the environmental effect of packaging materials by offering

incentives and information about sustainable packaging solutions. This pledge is in line with the larger push to decrease the use of single-use plastics and to support packaging options that are biodegradable, recyclable, or reusable.

Prioritizing Local Sourcing

In summary BulkPulses hopes to have a positive environmental effect by its dedication to sustainable practices, elimination of food waste, reduction of carbon footprint, and promotion of eco-friendly packaging. Through the implementation of eco-friendly practices into its operations, the platform hopes to strengthen and extend the sustainability of the agricultural and food distribution ecosystem.

5.3 Ethical Aspects

Equitable Trade Policies: The values of fair trade and moral business conduct serve as the foundation for BulkPulses. The platform is dedicated to helping buyers and suppliers build profitable partnerships while making sure that everyone is treated equally and openly. This commitment includes encouraging fair labor practices, fair pricing, and fair treatment of all supply chain participants.

Openness and Disclosure of Information

It is imperative that ethical business operations be transparent. The goal of BulkPulses is to offer clear details on the origin, caliber, and cost of pulses. The platform provides comprehensive product descriptions, supplier details, and pricing transparency to enable customers to make well-informed purchases. This dedication to openness encourages user trust and supports moral consumer decision-making.

Responsibility in the Supply Chain and Ethical Sourcing

The platform strongly emphasizes ethical sourcing and pushes suppliers to follow sustainable and ethical farming methods. BulkPulses constantly searches for suppliers who place a high priority on social responsibility, fair labor methods, and environmental protection. This dedication promotes ethical sourcing from farm to table along the whole supply chain.

Security and Privacy of User Data

Essential ethical concerns for BulkPulses include protecting user privacy and guaranteeing the security of user data. To protect user information, the platform uses strong data encryption and adheres to industry best practices for data security. Users are informed of clear privacy policies and given permission for the collection and use of their personal data. These steps are taken to preserve user confidence and safeguard their privacy.

Inclusivity and Nondiscrimination

BulkPulses is dedicated to creating a welcoming and nondiscriminatory atmosphere. Discrimination on the basis of nationality, ethnicity, gender, or any other protected trait is forbidden on the site. The platform's user regulations and standards, which foster an atmosphere that is welcoming, inclusive, and tolerant of diversity, reflect this dedication.

Participation and Empowerment of the Community

BulkPulses prioritizes ethical issues, seeking to create a platform that supports the values of accountability, fairness, transparency, and diversity in addition to facilitating trade. BulkPulses hopes to be a beneficial influence in the wholesale pulses market and contribute to a more moral and responsible business environment by integrating ethical principles into its daily operations.

5.4 Sustainability Plan

Sustainability of the environment:

Sustainability of suppliers Standards: Create and disseminate explicit sustainability standards for suppliers, promoting actions that give soil health, water conservation, and biodiversity a priority. Assess and keep an eye on supplier practices to make sure sustainability criteria are being followed.

Initiatives for Eco-Friendly Packaging:

Work with suppliers to encourage and fund the adoption of environmentally friendly packaging solutions, such as packaging made of recyclable materials or biodegradable

materials. To promote sustainable shopping, educate consumers on the effects that various packaging options have on the environment.

Assistance for Small and Medium-Sized Businesses (SMEs):

Promote the expansion of SMEs on the platform by offering them visibility, training, and resources. Establish equitable pricing policies that strike a balance between suppliers' profitability and affordability for customers, particularly for smaller companies.

Scalability and Flexibility:

Create an architecture for the platform that is both scalable and flexible to accommodate future expansion and technological developments. Maintain efficiency and security in the technological stack by updating and optimizing it on a regular basis.

Data Security and Privacy: By putting strong security measures in place and keeping up with industry best practices, you can continue to give data security and user privacy first priority. Conduct security audits and assessments on a regular basis to find and fix any possible vulnerabilities.

Feedback Loops:

To continually evaluate and enhance the platform, establish and maintain feedback loops with users, vendors, and other stakeholders. Seek out feedback on sustainability projects and take it into account when making decisions. Tracking KPIs, or key performance indicators:

Establish and systematically check important performance metrics associated with sustainability objectives.

BulkPulses is dedicated to an all-encompassing sustainability strategy that takes into account technological, social, economic, and environmental sustainability. Through proactive implementation of these activities and ongoing evaluation of their effects, the platform hopes to establish a robust and sustainable wholesale pulse ecosystem, improving the health of the earth and the well-being of local people.

Utilize KPI data to pinpoint areas in need of development and monitor advancement over time.

CHAPTER 7

CONCLUSION and Future Scope

6.1 CONCLUSION

To sum up, BulkPulses development and launch represent an important turning point for the wholesale pulses industry. The goal of this platform's conceptualization was to transform the ecosystem as a whole by integrating ethics, sustainability, and community participation principles, in addition to streamlining transactions.

As a gateway, BulkPulses connects wholesale buyers with a reliable source of high-quality pulses in a variety of varieties. For companies of all sizes, the platform's user-friendly interface and effective transaction procedures guarantee accessibility. BulkPulses' dedication to moral behavior—from fair trade ideals to open sharing of information—defines the platform as one built on honesty. Maintaining these moral principles is not just a business but also a moral obligation. Looking ahead, BulkPulses' journey is one of dynamic progress rather than static accomplishment. The platform is dedicated to creating a beneficial influence on society and the environment, and it is constantly improving, driven by user input and sustainability objectives. Without our suppliers, users, and the larger community's cooperation and support, this project would not have been feasible. BulkPulses has gained trust because of a common goal for a future that is more ethical and sustainable.

To sum up, BulkPulses is a platform, but it's also a dedication to good change. It serves as evidence of what is possible when business is conducted in accordance with values that place a premium on people, the environment, and moral behavior.

BulkPulses is still on its path, and we welcome any interested parties to join us in this revolutionary undertaking. BulkPulses is still on its path, and we welcome any interested parties to join us in this revolutionary undertaking.

6.2 Future Scope

With BulkPulses' achievement, an exciting adventure has begun. There are a lot of chances for development, innovation, and influence in the future. The platform is ready to change in a number of important ways:

- Integration of AI and Advanced Analytics
- Better Mobile Experience
- Building Communities and Sharing Knowledge for Sustainability Credentials and Insignias
- Strategic Alliances with Agricultural and Non-Profit Organizations
- Programs for User Onboarding and Training
- Constant Evaluation and Iterative Development
- Worldwide Growth
- Spreading Out Your Product Offerings

BulkPulses have a bright and promising future. The platform wants to maintain its leadership position in the wholesale pulses market by proactively tackling these issues and demonstrating its dedication to sustainability, morality, and user-centered innovation.

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PLAGIARISM REPORT

ECOMMERCE WEBSITE FOR PULSES WHOLSALE