Krishna Naturals

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Under the Guidance

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Mahatma Gandhi Mission's College of Engineering, Nanded (M.S.)

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A Project Report on

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BACHELOR OF TECHNOLOGY
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Certificate

This is to certify that the project entitled

"Krishna Naturals"

being submitted by ***Mr. Mandhani Vaibhav Ramesh*** *to the Dr. Babasaheb Ambedkar Technological University, Lonere , for the award of the degree of Bachelor of Technology in Computer Science and Engineering, is a record of bonafide work carried out by him/her under my supervision and guidance. The matter contained in this report has not been submitted to any other university or institute for the award of any degree.*

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This project has been a great learning experience, and we are truly grateful to all who made it possible.

Mandhani Vaibhav Ramesh – 266
Yedatkar Mohan Lobhaji – 271

ABSTRACT

The project titled “Online Dry Fruit Shop Website – Krishna Naturals” is a web-based e-commerce platform designed to simplify and modernize the process of purchasing premium dry fruits. The website offers users a seamless and convenient way to browse, select, and order a wide variety of dry fruits from the comfort of their homes.

This platform features a user-friendly interface that includes a product catalog, shopping cart, and checkout system. It also provides a dedicated bulk order enquiry module, allowing businesses, resellers, or institutions to place large orders efficiently. The website ensures easy navigation, responsive design for mobile users, and structured product information to enhance the customer experience.

The main goal of this project is to bring the traditional dry fruit business online, helping local sellers expand their reach and enabling customers to access high-quality products easily. The system is developed using modern web technologies, and it includes functionalities for both customers and administrators to manage orders, inventory, and enquiries effectively.

This project not only improves the shopping experience but also serves as a foundation for integrating more advanced features such as online payment gateways, delivery tracking, customer reviews, and mobile app integration in the future.

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CHAPTER 1

INTRODUCTION TO THE PROJECT

1.1 Overview

In today's digital era, the e-commerce industry has witnessed significant growth, making it easier for customers to buy a variety of products from the comfort of their homes. Among the many sectors adopting digital transformation, the food and grocery industry, including dry fruits, is rapidly moving online to cater to a tech-savvy and convenience-seeking customer base.

This project, titled **"Online Dry Fruit Shop Website – Krishna Naturals,"** is developed as a fully functional e-commerce platform that allows users to explore and purchase premium dry fruits online. The website serves as a bridge between local dry fruit sellers and nationwide consumers by offering a convenient, organized, and reliable online shopping experience.

1.2 Purpose of the Project

The purpose of this project is to:

- Provide a digital platform for selling dry fruits online.
- Make high-quality dry fruits easily accessible to customers across India.
- Support bulk order enquiries for institutions, resellers, and corporate buyers.
- Help small businesses grow by expanding their presence in the digital marketplace.

1.3 Why Dry Fruits?

Dry fruits are a staple in many Indian households due to their health benefits and traditional value. They are widely used for daily consumption, gifting, and festive occasions. However, buying dry fruits online is still a growing market, and many consumers face difficulty finding reliable sources with fair pricing, variety, and quality assurance.

By launching **Krishna Naturals** as an online store, this project addresses the need for:

- Trusted sources of fresh and pure dry fruits.
- A transparent, user-friendly platform with clear product information and secure ordering.
- Availability of both retail and wholesale options.

1.4 Problem Statement

Despite the rising popularity of online shopping, many local dry fruit businesses are limited to physical stores and unable to reach customers beyond their local area. Moreover, existing platforms may not offer competitive pricing or direct wholesale options for buyers.

The challenge is to:

- Build a responsive and scalable online platform.
- Provide users with a smooth shopping experience.
- Enable bulk order handling through enquiry forms.
- Make dry fruits accessible across India with proper information and assurance.

1.5 Project Objectives

- Develop a clean and mobile-friendly website for dry fruit shopping.
- Allow users to view products, add them to the cart, and place orders.
- Provide a dedicated module for bulk order enquiries.
- Enable admin functionalities for managing products and viewing leads.

CHAPTER 2

SYSTEM REQUIREMENTS AND TECHNOLOGIES USED

2.1 Overview

This CHAPTER outlines the system environment required to develop, deploy, and run the **Online Dry Fruit Shop Website** successfully. It also details the software tools, programming languages, and frameworks used throughout the development process.

2.2 Hardware Requirements

Component	**Specification**
Processor	Intel Core i3 or higher
RAM	Minimum 4 GB
Storage	At least 10 GB free space
Display	1366×768 resolution or higher
Internet Connection	Required for deployment and hosting

2.3 Software Requirements

Software	**Purpose**
Operating System	Windows 10 / macOS / Linux
Web Browser	Google Chrome / Mozilla Firefox
Code Editor	Visual Studio Code
Version Control	Git & GitHub
Design Tools (optional)	Figma / Canva (for UI prototyping)
Package Manager	npm (Node Package Manager)
Hosting Platform	Vercel (for frontend deployment)
Database Hosting (if used)	Firebase / MongoDB Atlas

2.4 Technologies Used

Frontend Development

Technology	Description
HTML5	For structuring content and web pages
CSS3	For styling and designing responsive layouts
JavaScript	To make the web pages dynamic and interactive
React.js	JavaScript library for building fast and modular user interfaces
Bootstrap / Tailwind CSS (if used)	For pre-built responsive design components

Backend Development

Technology	Description
Node.js	JavaScript runtime used to build the backend server
Express.js	Lightweight web application framework for creating RESTful APIs
MongoDB	NoSQL database used to store product details, user data, cart items, etc.
Mongoose	ODM (Object Data Modeling) library used to interact with MongoDB easily

CHAPTER 3

WEBSITE FUNCTIONALITIES AND FEATURES

3.1 Overview

The Krishna Naturals website is designed as a user-friendly and responsive e-commerce platform offering a variety of dry fruits, nuts, seeds, and spices. This CHAPTER explains each of the core features, their purpose, and the benefits they provide to users and admins.

3.2 Key Functional Features

1. Home Page

- Eye-catching banner with promotional headings.
- Clear call-to-action buttons: “Shop Now” and “Learn More.”
- Highlight on offers and product categories.
- Sets a welcoming tone and professional look for first-time visitors.

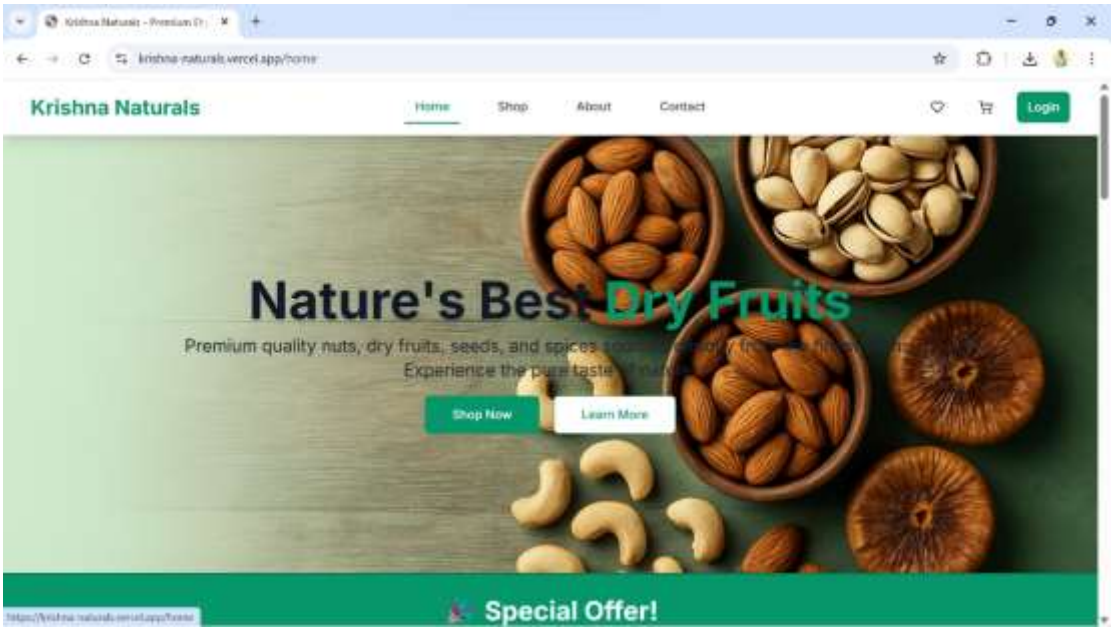
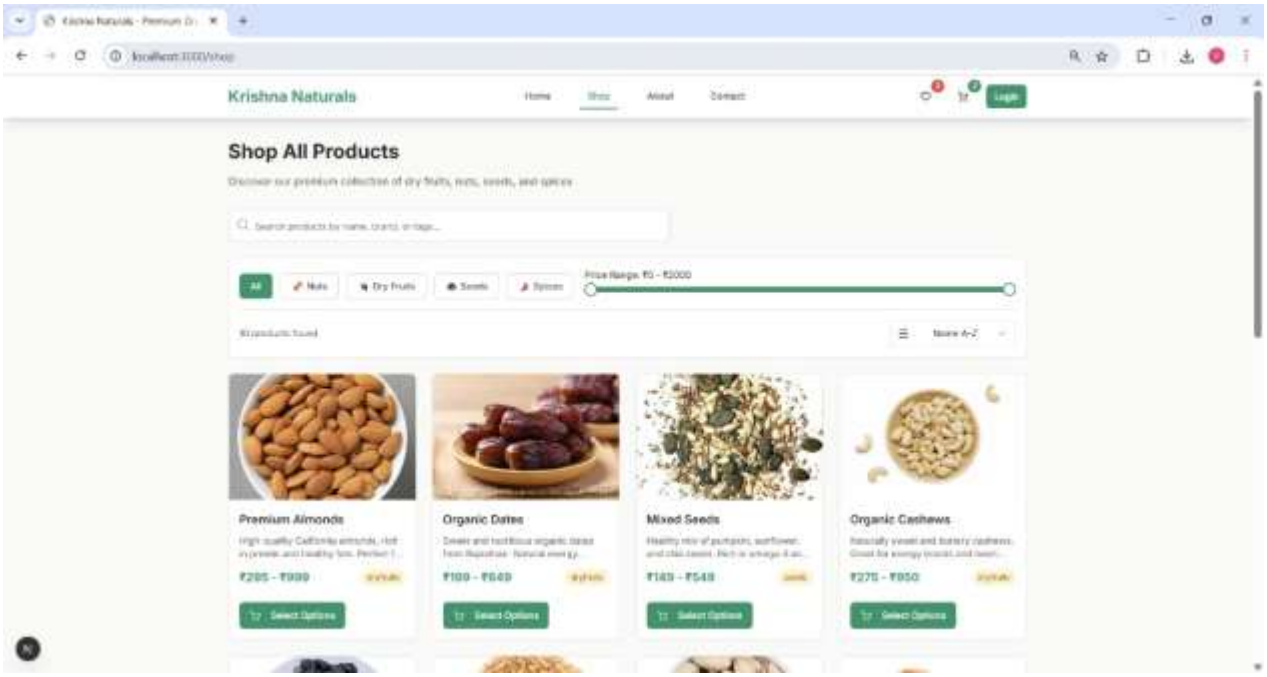


Fig 3.2.1 Home Page

2. Shop All Products Page

- **Category Filter:** Users can filter products by categories like Nuts, Dry Fruits, Seeds, and Spices.
- **Weight Filter:** Filter by packaging size – 100g, 250g, 500g, and 1kg.
- **Price Slider:** Dynamically updates the visible product range based on price selection (₹0–₹2000).
- **Search Box:** Users can search products by name or tag.
- **Sorting Options:** Sort by Name A-Z or other available criteria.
- **Stock Status & Tagging:** Shows if a product is in stock or low stock and categorizes items visually.



Advantage: Offers a convenient shopping experience with interactive filters and visual cues.

Fig 3.2.2 Shop Page

3. Product Cards

- Each product card displays:
    - Product image
    - Name and short description
    - Price range
    - Category tag (e.g., dryfruits, seeds)
    - Stock availability
    - “Select Options” button for further actions
- Products like **Premium Almonds**, **Organic Dates**, and **Mixed Seeds** are listed.

Advantage: Easy browsing and purchasing without clutter; clear product info improves trust.

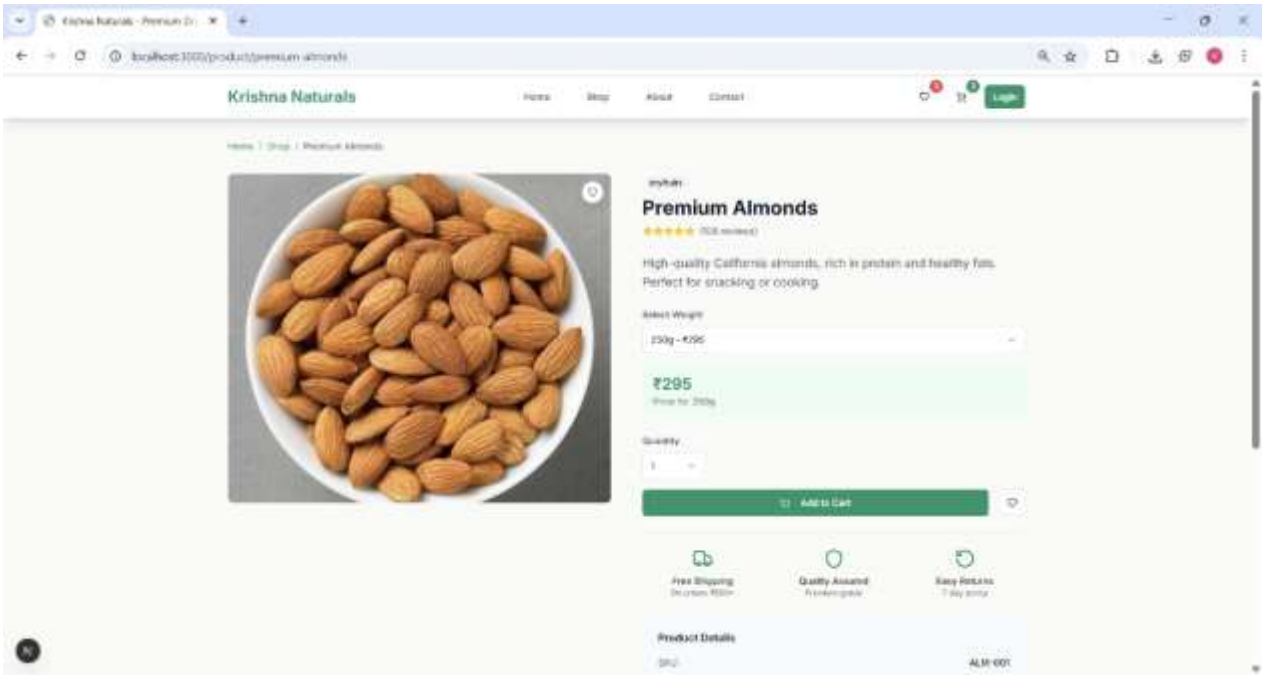


Fig 3.2.3 Product Page

4. Cart & Checkout (Coming Soon or Under Development)

- Add-to-cart and checkout buttons are available for each product.
- Product selection options such as quantity or weight can be included.
- Cart saves user choices temporarily or via backend (if implemented).

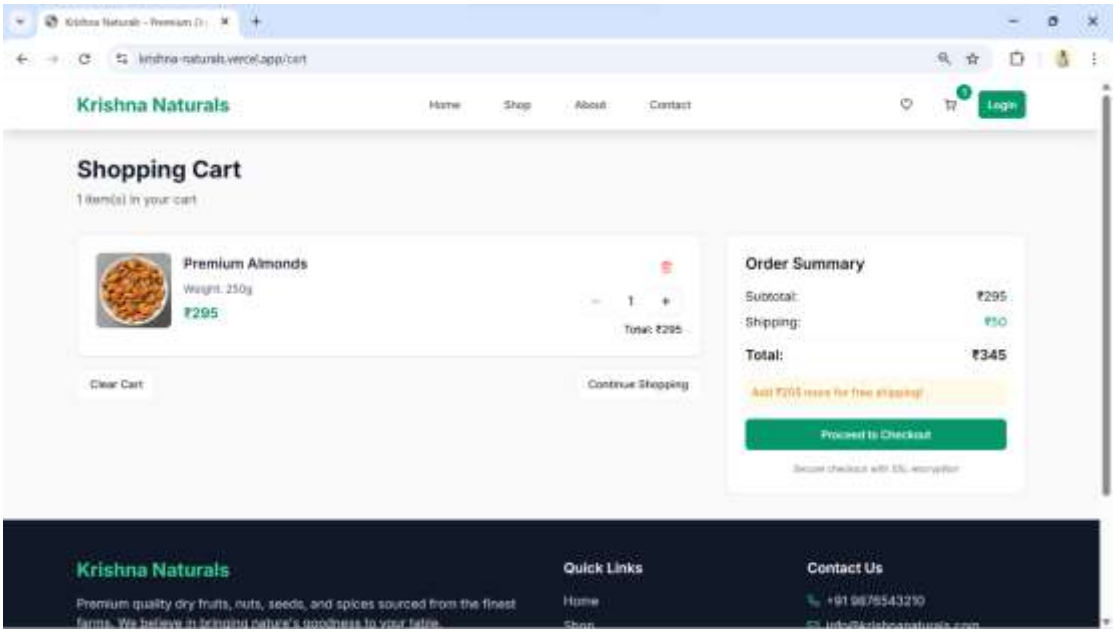


Fig 3.2.4 Cart Page

5. Contact Page

Contact Form:

- Fields: Name, Email, and Message
- Use: Allows users to send inquiries directly to the site admin

Contact Information Cards:

- Phone Number
- Email Address
- Physical Store Address

- Store Hours

Advantage: Builds trust and allows customers to reach out with questions or complaints easily.

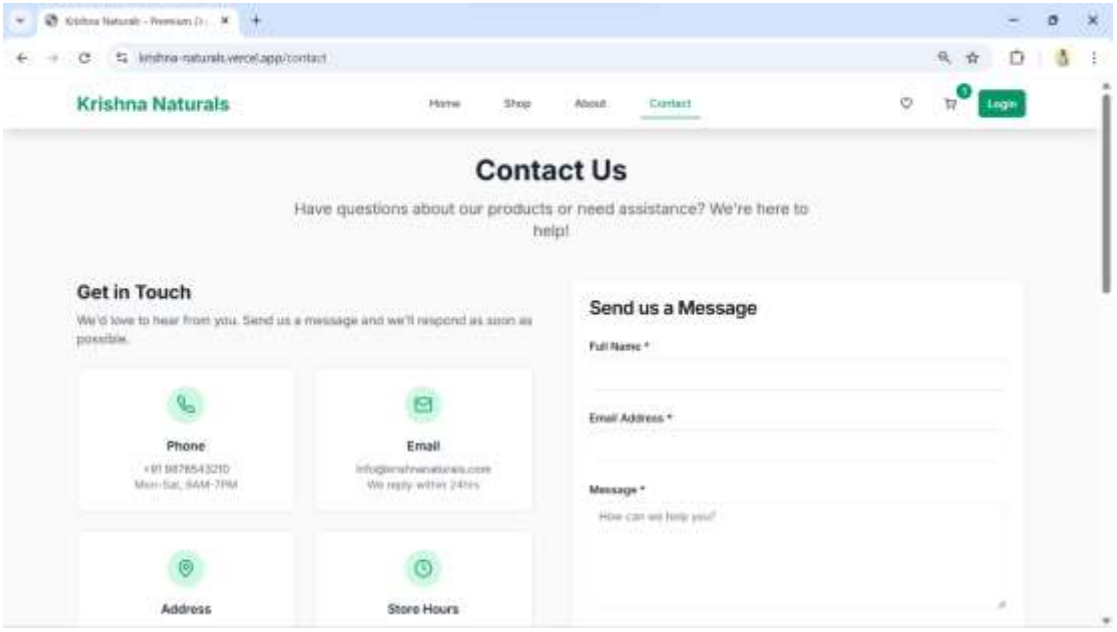


Fig 3.2.5 Contact Us

3.3 User and Admin Authentication

The website includes secure authentication mechanisms to differentiate between customers (users) and administrators (admin users). These login pages are essential to ensure role-based access to the platform.

1. **User Login Page:**

- Customers use the Login button on the main navigation bar to sign in.
- After successful login:
    - They can browse products, add to cart, place bulk orders, and send inquiries.
    - Their preferences and cart items are preserved.
    - Ensures a personalized shopping experience.

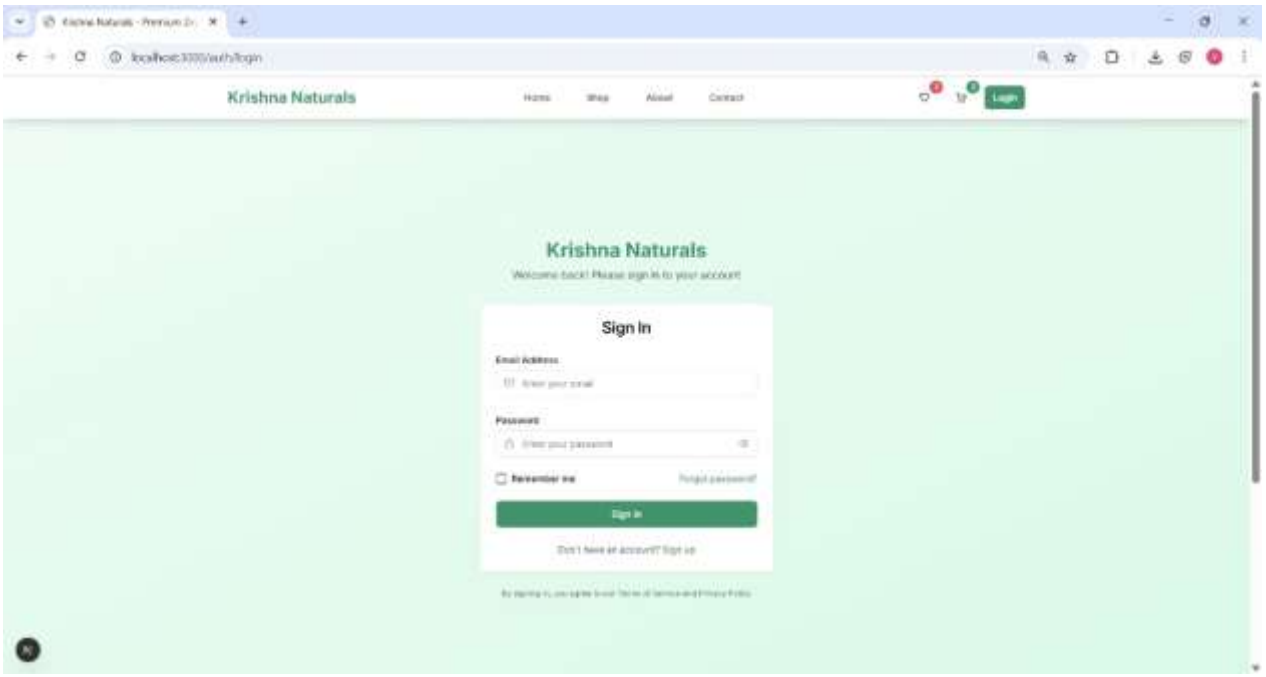


Fig 3.3.1 User Sign In

2. **Admin Dashboard Page:**

- Admins access a dedicated admin login (usually via a protected route like /admin/login).
- Once authenticated:
    - They are redirected to the Admin Dashboard.
    - Access to manage products, orders, users, and review system stats is granted.
- Ensures only authorized users can make critical changes to the backend.

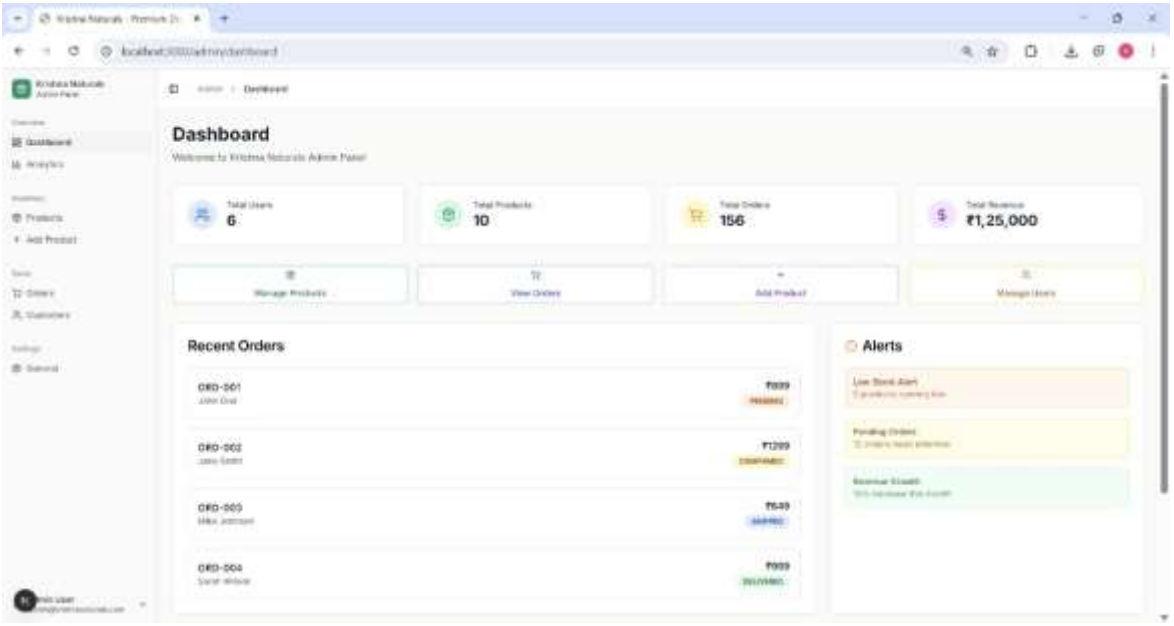


Fig 3.3.2 Admin Dashboard

Key Features of Admin Dashboard

- User Management: View and manage registered users.
- Product Control: Add, edit, or delete products.
- Order Monitoring: Track recent and past orders with status updates.
- Revenue Overview: Display of total income and monthly growth.
- Stock Alerts: Notify admin about low stock items.
- Quick Actions: Buttons for managing users, orders, and products efficiently.
- Dashboard Stats: Summary cards for total users, products, orders, and revenue.

3.4 **About Us Section**

The "About Us" section of **Krishna Naturals** provides users with insight into the brand's vision, mission, and core values. It highlights the commitment to offering premium quality dry fruits, nuts, seeds, and spices sourced directly from trusted farms. This section helps build customer trust by emphasizing freshness, purity, and ethical sourcing. It also aims to create a strong brand identity by showcasing the journey and goals of the business.

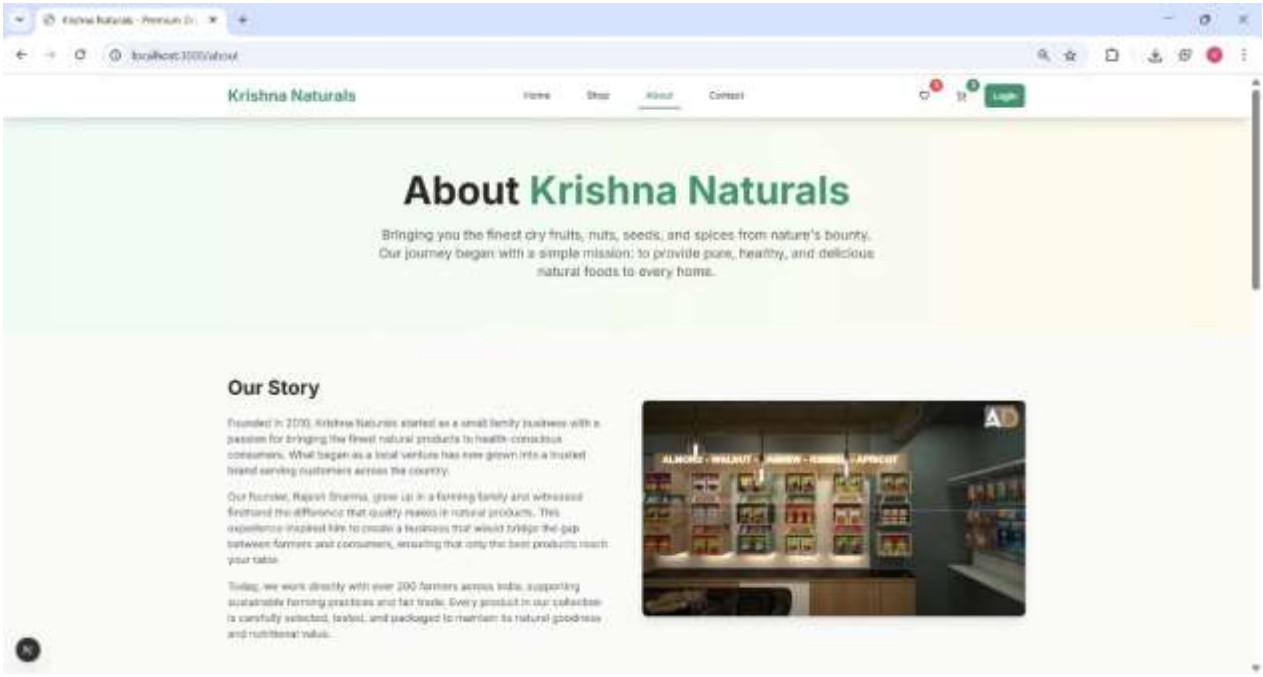


Fig 3.4 About Us Page

CHAPTER 4

BACKEND ARCHITECTURE AND DATABASE DESIGN

4.1 Backend Architecture

The backend is built using **Node.js** and **Express.js**, which form a lightweight, efficient, and scalable server environment for modern web applications. It follows a **RESTful API** architecture, enabling smooth communication between the frontend and backend.

🛠️ **Key Components:**

- **Node.js** – JavaScript runtime environment for backend development.
- **Express.js** – Framework for building fast, modular, and maintainable REST APIs.
- **MongoDB** – Cloud-hosted NoSQL database (via MongoDB Atlas).
- **Mongoose** – Object Data Modeling (ODM) tool to simplify database interaction.
- **dotenv** – Manages configuration and environment variables securely.

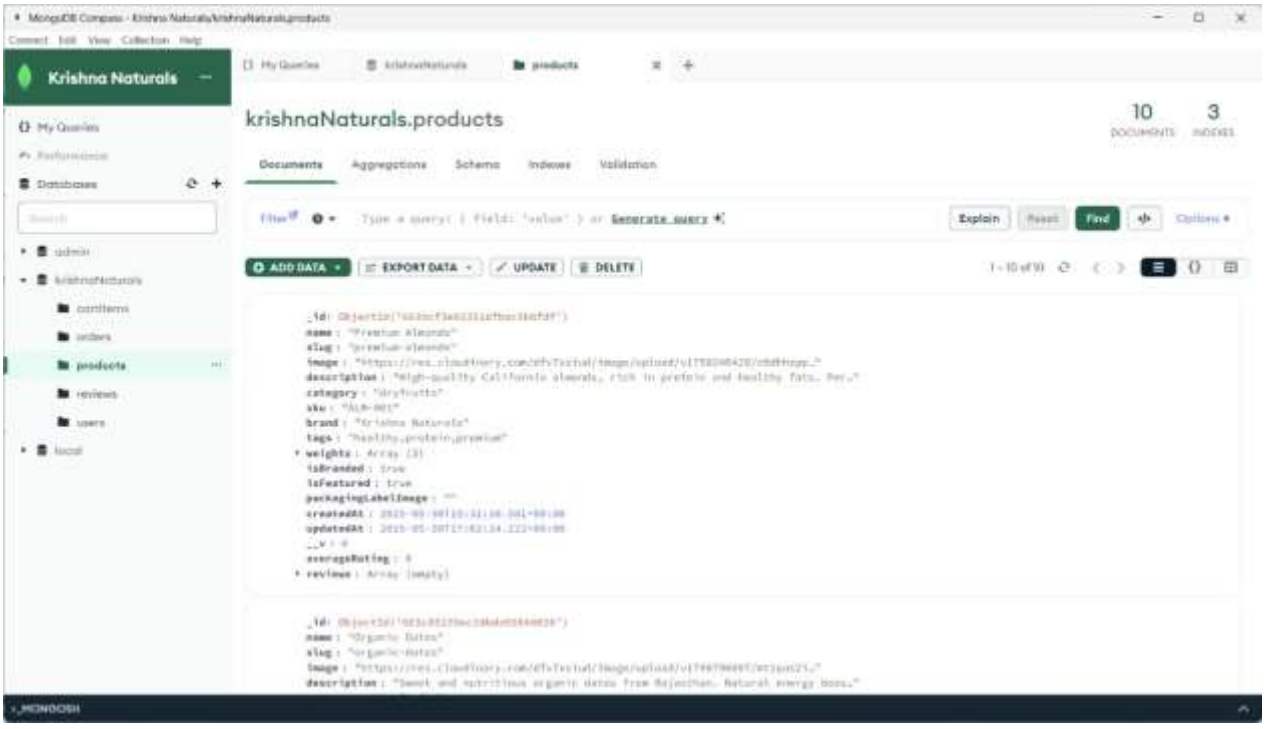


Fig 4.1 Mongodb Database

4.2 API Functionality

The backend is designed to serve multiple API routes that handle various operations:

API Route	Description
GET /api/products	Fetch all available products
POST /api/cartitems	Add items to the user cart
POST /api/enquiry	Accept bulk order form submissions
GET /api/users	Retrieve user details (for admin or auth system)
POST /api/orders	Store placed order data (future enhancement)

Each endpoint communicates securely with the MongoDB database and returns structured JSON responses to the frontend.

4.3 MongoDB Database Design

The database krishnaNaturals is hosted on **MongoDB Atlas** and contains five main collections, each serving a specific purpose:

1. products

Stores all available dry fruits, seeds, nuts, and spices for sale.

Sample Fields:

- name
- category (e.g., dryfruits, seeds)
- description
- priceRange
- stock
- availableWeights
- imageUrl

2. cartitems

Tracks the items added to cart by users.

Fields:

- productId
- selectedWeight
- quantity
- userSessionId or userId

3. users

Contains details of registered users.

Fields:

- name
- email
- passwordHash
- address
- role (e.g., customer, admin)

4. orders

Pre-configured to store complete order data. Will be used when the full order placement and checkout system is implemented.

Fields:

- userId
- items[]
- totalAmount
- paymentStatus
- orderStatus

5. reviews

Structured to allow customers to post feedback on purchased products.

Fields:

- productId

- userId
- rating
- comment

4.4 MongoDB Compass View

A snapshot of the live database shows the collections along with their document count:

Collection	Documents	Usage
products	3	Store all products for the shop
cartitems	1	Tracks cart items temporarily
orders	0	Future order records
reviews	0	Customer feedback (planned)
users	6	Registered user accounts

4.5 Security & Best Practices

- Passwords are stored in **hashed** form (using bcrypt or similar methods).
- API endpoints are protected from unauthorized access (via middleware, future JWT support).
- Sensitive credentials are stored in .env and are **never hard-coded**.
- Mongoose validation is used to maintain consistency in database entries.
- Data is sanitized before being stored to prevent injection attacks.

4.6 Scalability & Future Enhancements

- **Payment Integration:** Razorpay/Stripe for secure online transactions.
- **Admin Dashboard:** For managing products and viewing orders.
- **Search Optimization:** ElasticSearch or MongoDB text indexing.
- **Analytics:** Product views, sales tracking, and customer activity logs.

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   https://www.mongodb.com/docs/atlas/
   https://mongoosejs.com/docs/guide.html

Tools and Deployment

5. Visual Studio Code – Code Editor
   https://code.visualstudio.com
6. Vercel – Frontend Hosting Platform
   https://vercel.com
7. MongoDB Compass – GUI for Database Management
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8. Postman – API Testing Tool
   https://www.postman.com

🔗 Project Link

- Live Project URL:
  https://krishna-naturals.vercel.app

GitHub Repository

Project Source Code (GitHub):
https://github.com/vmandhani09/Krishna-Naturals

CONCLUSION

The Krishna Naturals – Online Dry Fruit Shop project marks a significant step towards digitizing traditional dry fruit and grocery retailing. The goal of this project was to develop a fully functional, responsive, and user-friendly e-commerce platform where customers can browse, filter, and order premium quality dry fruits, seeds, nuts, and spices from the comfort of their homes.

The project involved both frontend development using ReactJS and backend development using Node.js, Express.js, and MongoDB. The product filtering features, cart system (under development), bulk enquiry form, and contact page collectively contribute to a seamless user experience. The integration of a NoSQL database (MongoDB) allows for efficient data storage and retrieval, making the system highly scalable and adaptable to future needs.

Throughout the development journey, multiple technical concepts were applied and understood in-depth—ranging from RESTful API creation, component-based architecture, state management, to data modeling and secure form handling. The website is fully deployed on Vercel, and the backend APIs (where applicable) can be scaled or migrated for future integrations like payment gateways, user login systems, and admin dashboards.

In conclusion, the project not only meets the core objectives of offering an online platform for dry fruit shopping but also lays the foundation for a full-fledged business expansion in the digital domain. It has enhanced the developer's understanding of full-stack web development and opened up new possibilities for implementing real-world applications using modern web technologies.