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1. INTRODUCTION

In today's digital age, e-commerce has become an essential part of businesses. To thrive in the competitive online market, it is crucial to have a robust and user-friendly e-commerce website. This project aims to develop UtsavKart (an e-commerce website) using cutting-edge technologies such as React.js, Node.js, Express.js, and MongoDB, enabling businesses to offer a seamless online shopping experience to their customers

In an increasingly digital world, where convenience, accessibility, and connectivity are paramount, the realm of electronic commerce, or e-commerce, has emerged as a transformative force in the way business is conducted. This project sets out to delve into the creation of an e-commerce platform that facilitates seamless online transactions, enhances customer experiences, and empowers businesses to tap into the vast potential of the digital marketplace.

With the rapid proliferation of internet access and the growing reliance on digital technologies, traditional business paradigms have evolved. The project at hand recognizes the need to adapt to this changing landscape by developing an e-commerce platform that bridges the gap between sellers and consumers, enabling them to engage in transactions with unprecedented ease.

The primary objectives of this e-commerce project are as follows:

- Develop a robust and user-friendly online platform where businesses can showcase their products and services.
- Provide customers with a secure and convenient medium to browse, select, and purchase products of their choice.
- Enhance customer engagement and satisfaction through personalized recommendations, user-friendly interfaces, and efficient support systems.
- Enable sellers to manage their inventory, process orders, and monitor sales through an intuitive seller dashboard.
- Implement security measures to ensure the confidentiality of user data, financial transactions, and personal information.

It provides a single source of data repository for streamlining your business processes and for all reporting purposes. It is a comprehensive project developed from ground up to full fill the needs of e-commerce.

1.1 PURPOSE

The purpose of this project is to establish a digital platform that enables businesses to sell products and services online, thereby connecting buyers and sellers in a virtual marketplace. This projects serve various purposes that contribute to business growth, customer convenience, and market expansion.

Here are some key purposes of this project:

- **Global Reach:** This project break down geographical barriers, allowing businesses to reach a global audience without the constraints of physical location. This expands market reach and potential customer base.

- **Convenience**: E-commerce platforms provide customers with the convenience of shopping from anywhere at any time, eliminating the need to visit physical stores. This convenience enhances user experience and encourages repeat business.
- **Cost Efficiency:** This project often have lower overhead costs compared to traditional brick-and-mortar stores. There's no need for physical retail space, utilities, or in-person staffing, leading to potential cost savings.
- **24/7 Availability:** E-commerce websites operate 24/7, allowing customers to shop at their convenience, even outside regular business hours. This continuous availability increases sales opportunities.
- **Product Visibility:** This project showcase products with detailed descriptions, images, and reviews. This improves product visibility and helps customers make informed purchase decisions..

1.2 PROJECT CATEGORY

This project belongs to "Computer Software Development" category which results a new computer application.

Nothing much is more in demand than the computer and things related to it. Everything is now moving towards digital platform, so it has become mandatory to know about computer and things related like this machine. Another reason for going in this kind of application has been the front-end side as we were familiar with front end, back end and wanted to get more knowledge into the React.js, Node.js, Express.js, and MongoDB.

While carrying out this project we have learnt so much of varied things like how to begin, approach and implement our project which will help in our future endeavors like if choose going for corporate jobs then things and experiences like this will definitely help. Even in that sense we fill obliged and fortunate to be carrying out this project.

2. SYSTEM REQUIREMENT SPECIFICATION

Operating System: - Microsoft Windows 11.

Front End + Back End: - HTML, CSS, JAVASCRIPT, React.js, Node.js, Express.js

Database: - MongoDB (Database plays an important role in solving the Problem of information management).

2.1 SOFTWARE

2.1.1 React.js
React.js is a JavaScript library for building user interfaces. It's often used to create dynamic and interactive web applications with reusable UI components. React allows developers to build complex UIs by breaking them down into smaller, manageable components. It follows a component-based architecture and supports a virtual DOM for efficient updates.

2.1.2 Node.js
Node.js is a JavaScript runtime built on the Chrome V8 JavaScript engine. It allows developers to execute JavaScript code on the server side, enabling the creation of server-side applications. Node.js is known for its non-blocking, event-driven architecture, which makes it well-suited for building scalable and real-time applications.

2.1.3 Express.js
Express.js is a web application framework for Node.js. It simplifies the process of building APIs and web applications by providing a set of features and tools. Express.js handles routing, middleware, and other common web application functionalities, making it easier to create robust server-side applications using Node.js.

2.1.4 HTML
HTML (Hypertext Markup Language) is the standard markup language used for creating web pages and applications.

It uses a set of tags and attributes to structure and format content on the web, defining elements such as headings, paragraphs, links, images, and tables.

HTML provides a hierarchical structure that allows browsers to interpret and render the content, ensuring proper display and accessibility across different devices and platforms.

2.1.5 CSS
CSS (Cascading Style Sheets) is a stylesheet language used for describing the presentation and visual style of HTML documents.

It enables web developers to control the layout, colours, fonts, and other design aspects of web pages, enhancing the overall appearance and user experience.

CSS works by applying styles to HTML elements using selectors and declarations, allowing for easy separation of content and presentation and enabling consistent design across multiple web pages.

2.1.6 JAVASCRIPT
JavaScript is a versatile programming language primarily used for adding interactivity and dynamic functionality to web pages.

It runs on the client side, allowing for real-time manipulation of webpage elements, handling user interactions, and performing calculations and data processing.

JavaScript can be used to create animations, validate forms, make API requests, modify the DOM (Document Object Model), and build interactive web applications.

2.1.7 MongoDB
MongoDB is a NoSQL database that uses a document-oriented data model. It stores data in flexible, JSON-like documents, which makes it particularly suitable for applications with rapidly changing or

unpredictable data structures. MongoDB is often used in scenarios where high scalability, flexibility, and performance are required.

2.2 HARDWARE

Minimum requirements will be as follows:

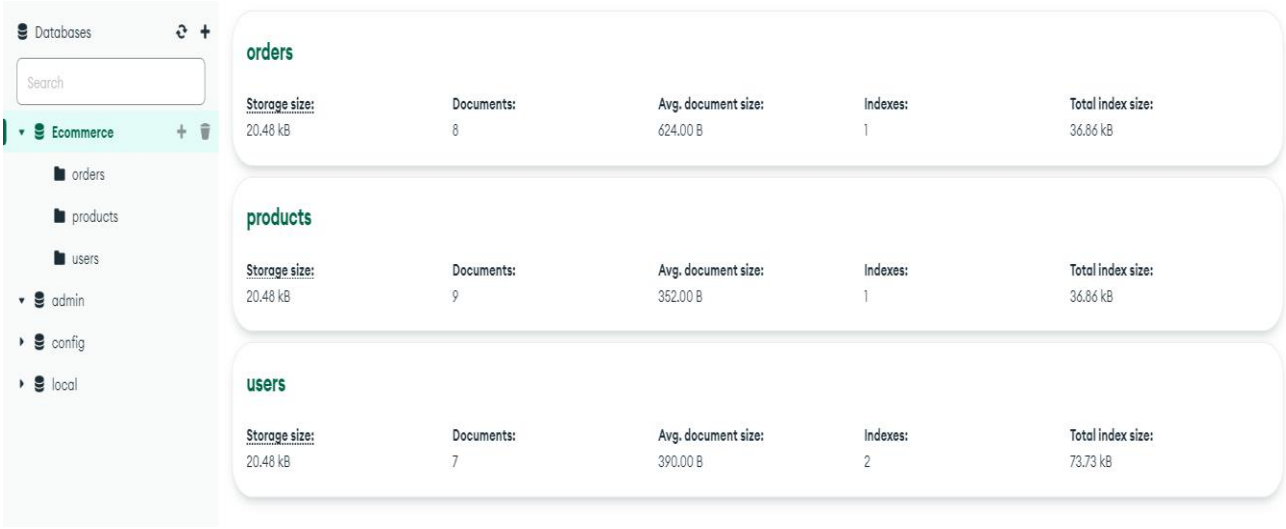
- 128MB RAM
- Processor with speed of 500MH

3. PROJECT DESCRIPTION

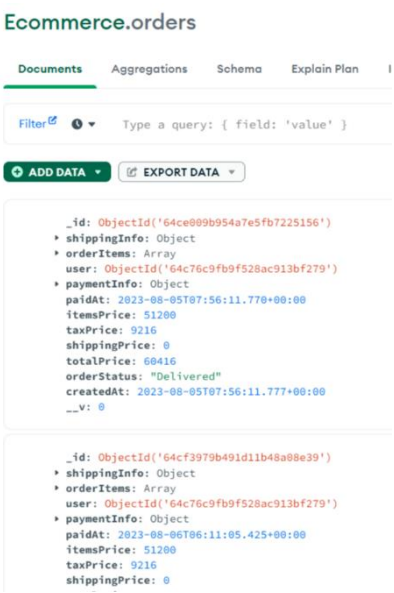
Creating an e-commerce project involves developing a comprehensive online platform that facilitates the buying and selling of products and services over the internet. This project encompasses all aspects necessary to establish a successful online marketplace that meets the needs of users, sellers, and administrators while adhering to industry best practices and legal regulations.

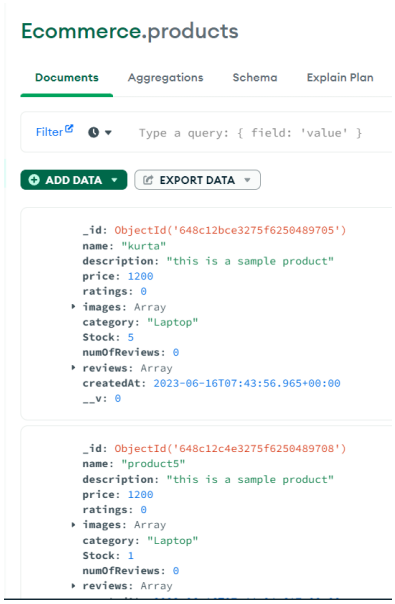
3.1. DIRECTORY STRUCTURE

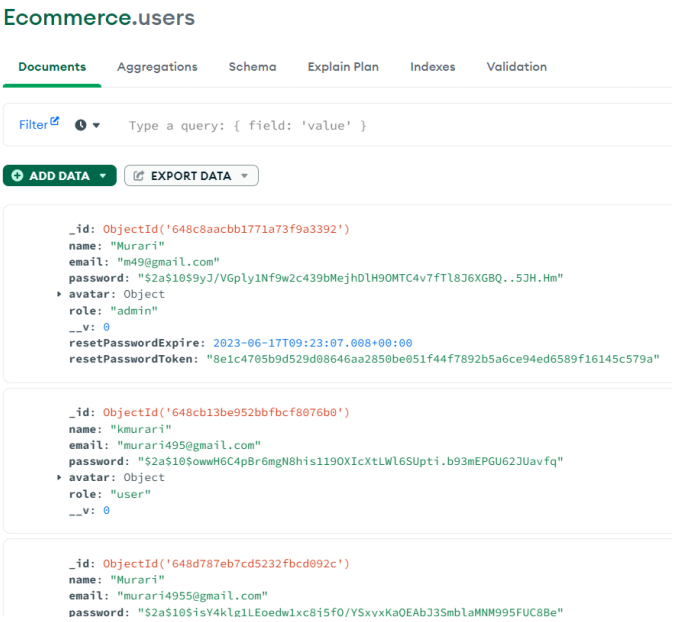
The directory structure of the project is as follows:



3.2. STRUCTURE OF DATABASE





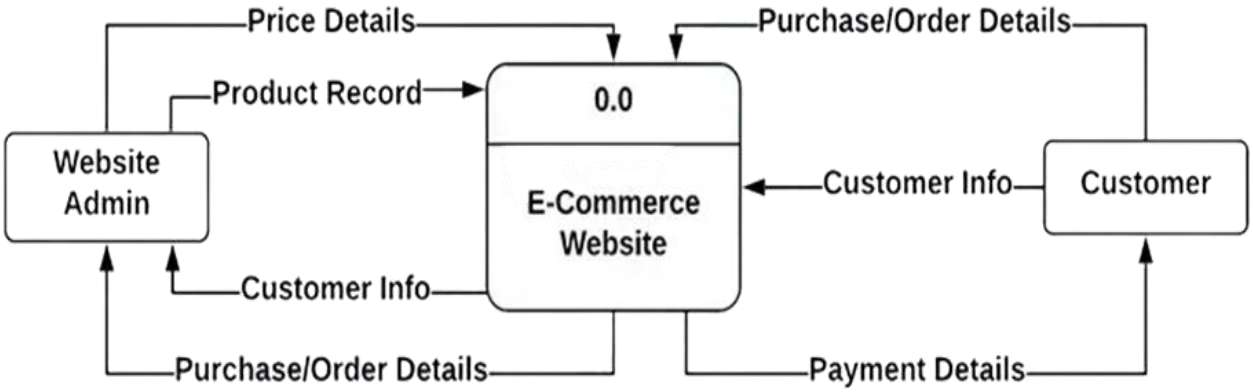


4. DATA FLOW DIAGRAM

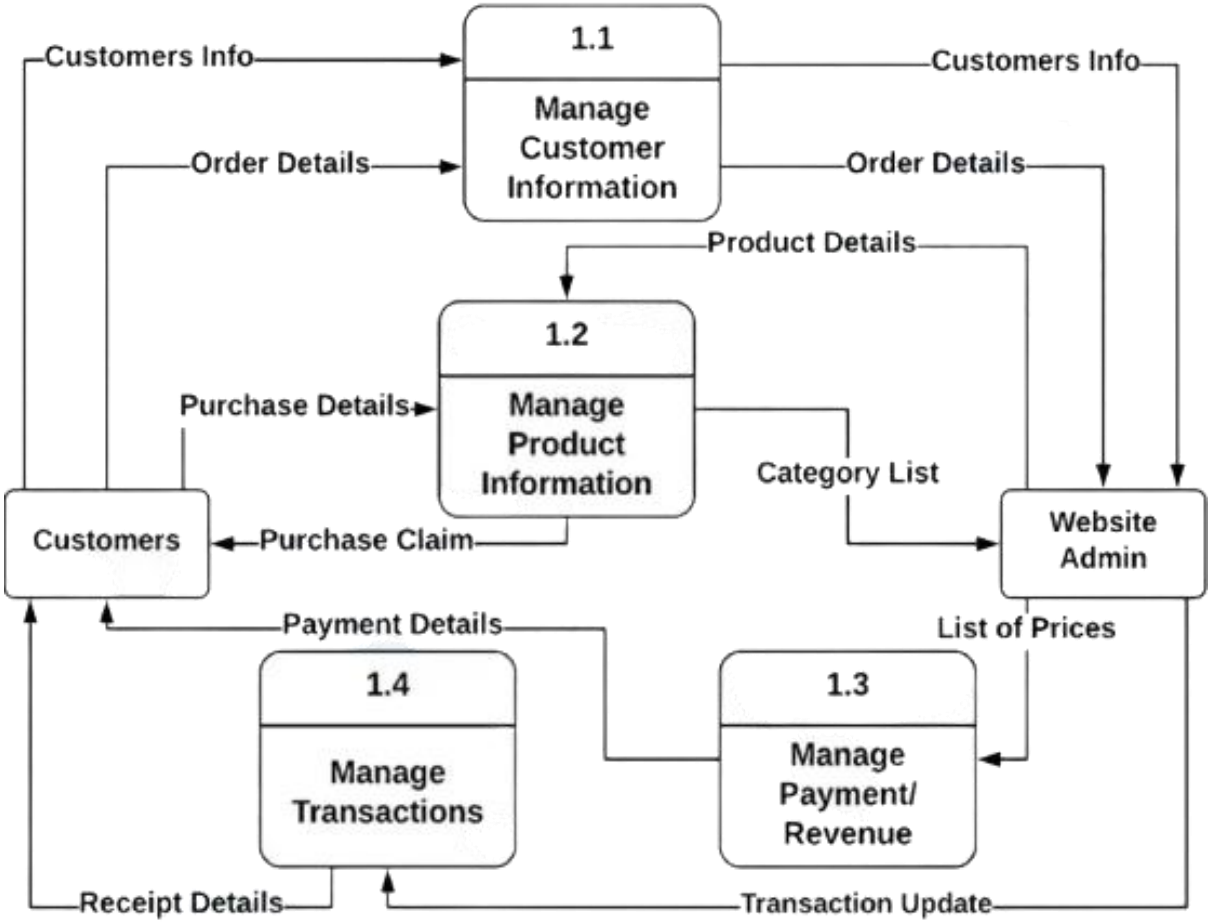
A data flow diagram is a way of representing a flow of data of a process or a system. The DFD also provides information about output and input of each entity and process itself. It has no control flow, there are no decision rules and no loops. Specific operation based on the data can be represented by a flowchart.

The data flow diagram is a part of a structured analysis modelling tools. When using UML, the activity diagram takes over the role of the data flow diagram. A special form of data flow plan is a site-oriented data flow plan.

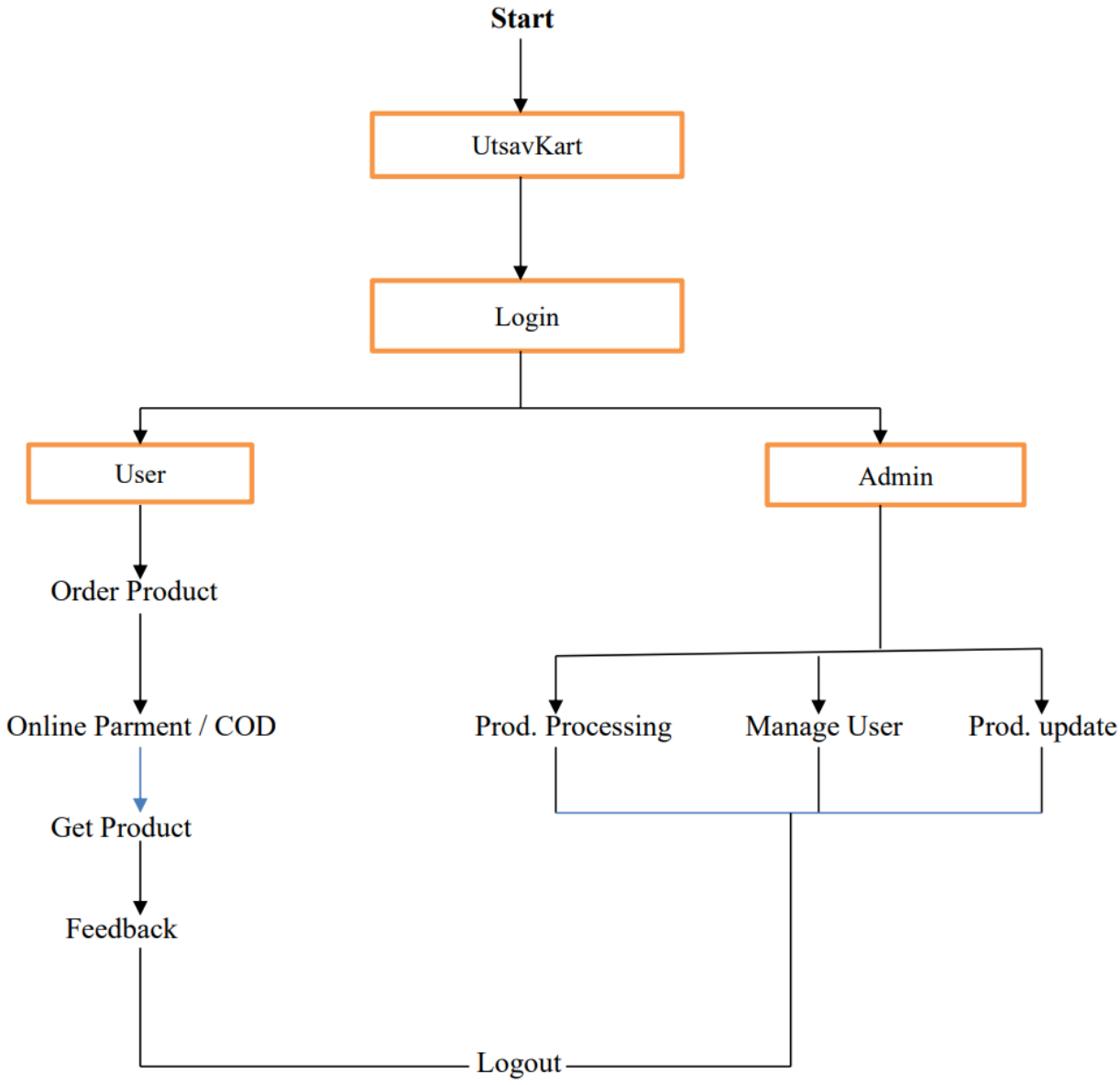
4.1. ZERO LEVEL DFD



4.2. FIRST LEVEL DFD



5. FLOW CHART



This flow chart explains that the **UtsavKart's** homepage portal has login and registration sections, for admin and for user. User can order products, make online payments, give feedback, contact costumer care, return product and update their profile. While admin can manage product, manage user and process the product.

6. MODULES

- **User Authentication and Management:**
  This module handles user registration, login, and profile management. It includes features like account creation, password reset, and profile updates

- **Product Management:**
  The product management module involves adding, editing, and deleting products. It includes features like product details (description, images, price), categorization, and inventory management.

- **Shopping Cart:**
  This module allows users to add products to their carts, view cart contents, update quantities, and proceed to checkout. It calculates the total cost of items in the cart.

- **Search and Filtering:**
  The search module enables users to search for products using keywords, and the filtering module allows users to refine product searches based on categories, price ranges, and other attributes.

- **Reviews and Ratings:**
  Users can leave reviews and ratings for products they have purchased, helping other users make informed decisions.

- **Order Tracking:**
  This module allows users to track the status of their orders, from confirmation to shipping and delivery.

- **Admin Dashboard:**
  Admins use this module to manage the entire platform, including user accounts, products, orders, and analytics.

- **Mobile Responsiveness:**
  Ensure the platform is responsive and accessible across various devices, including smartphones and tablets.

7. WORKING SCREENS

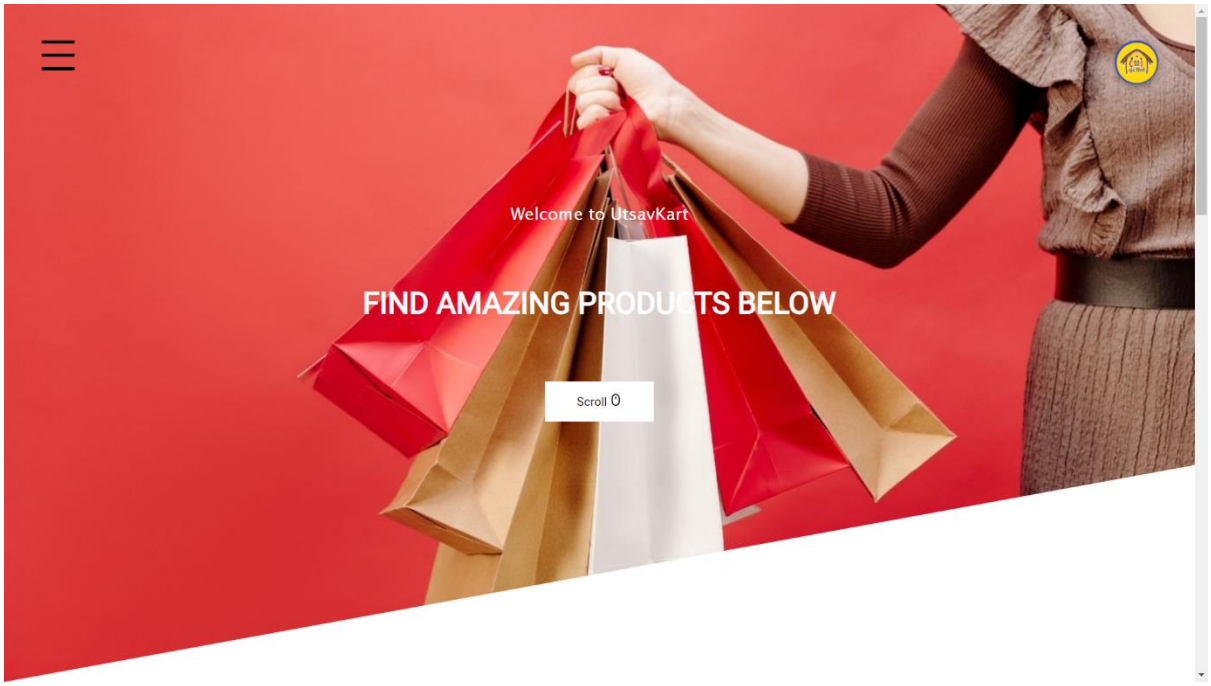


Fig.1- Home Page of our E-Commerce Website

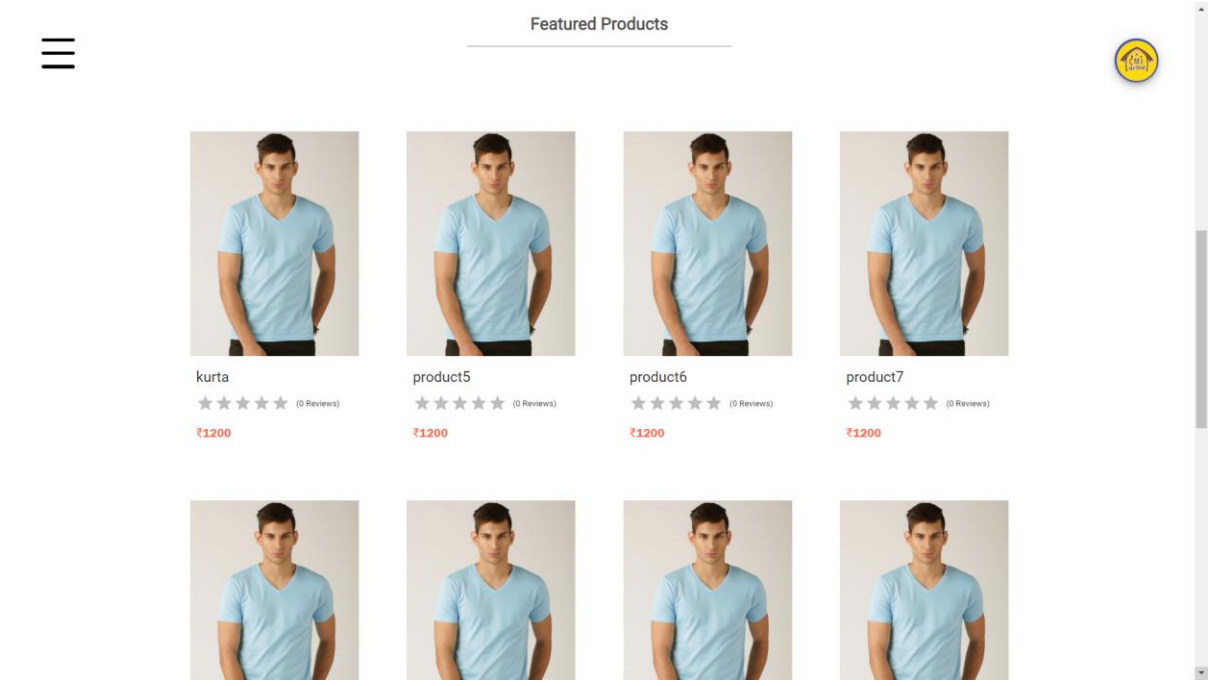


Fig.2- Feature Products List

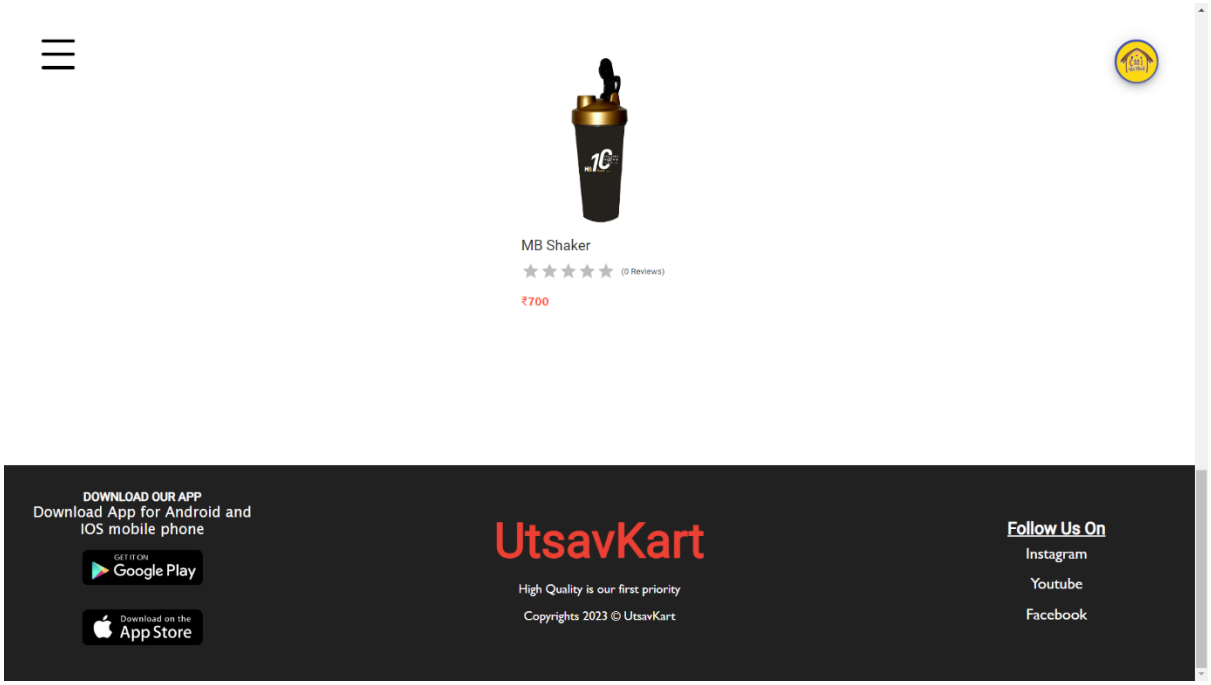


Fig.3- Footer of our website

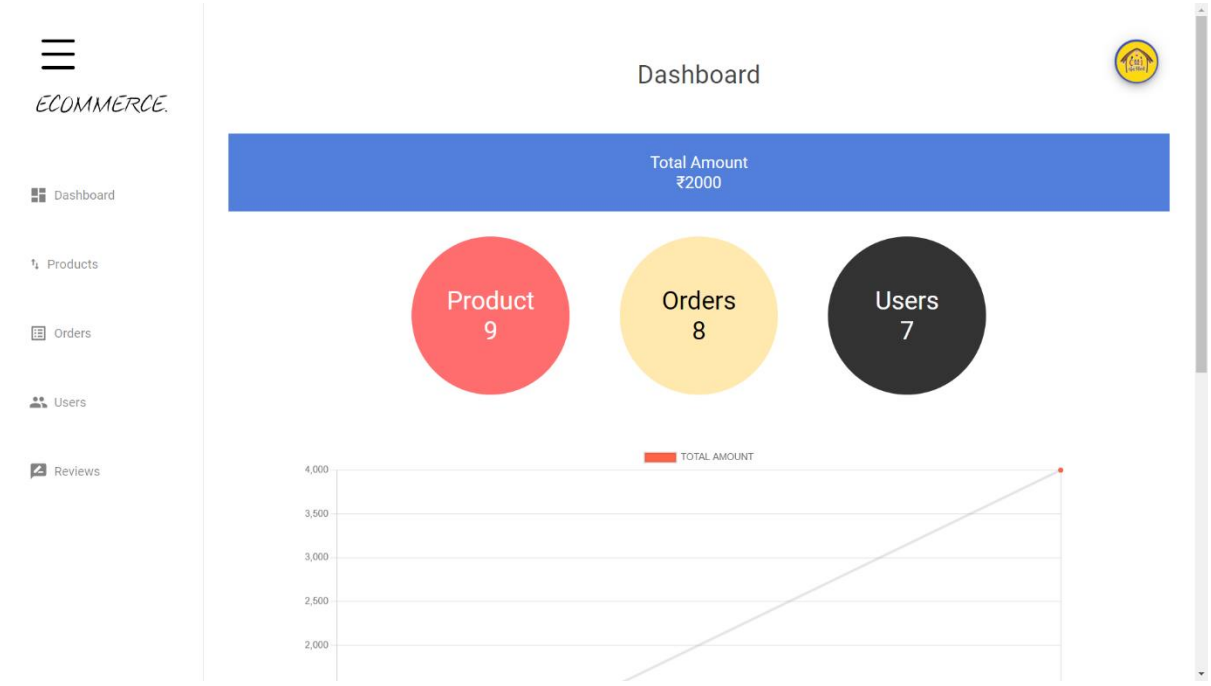


Fig.4- Admin Dashboard Page, where admin can manage all the products

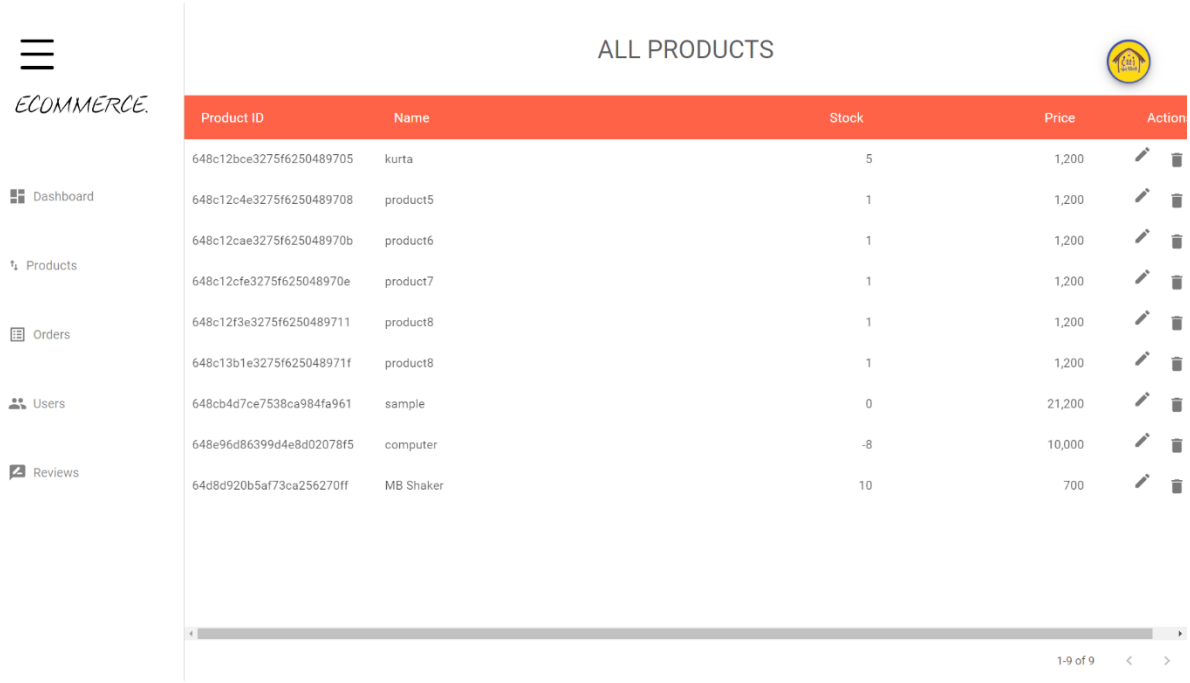


Fig.5- All Products manage list, where Admin can add, delete aur manage the products

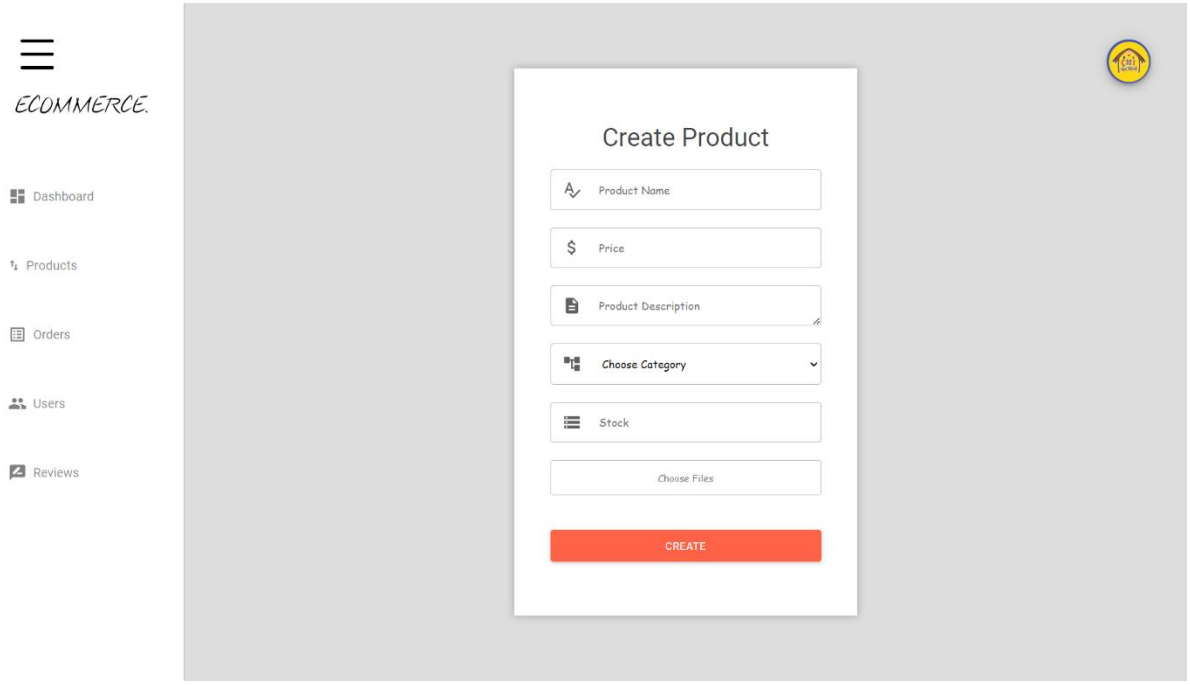


Fig.6- Admin can create products.

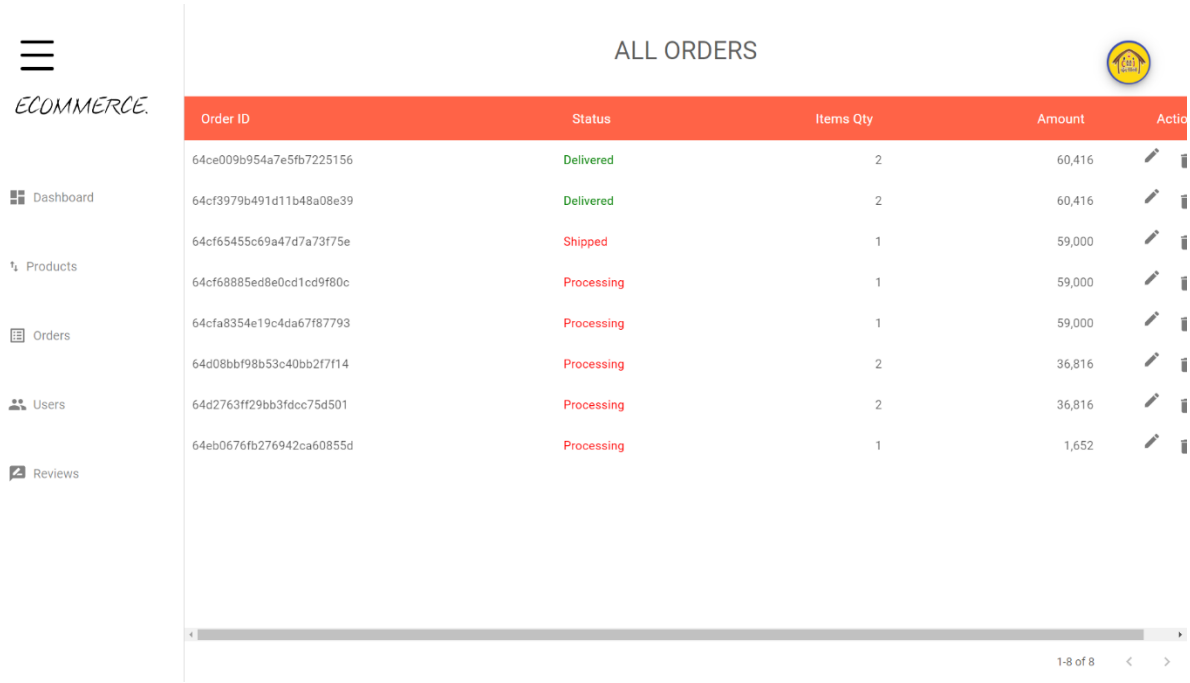


Fig.7- Admin can manage product status

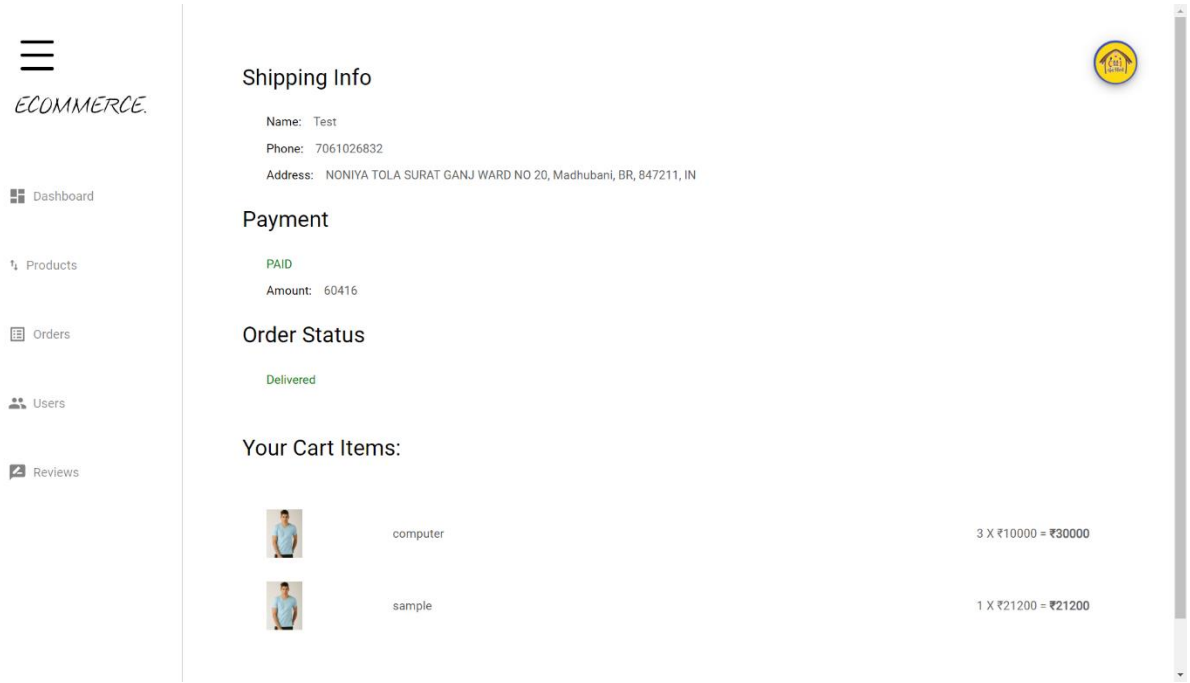


Fig.8- User see their final order status

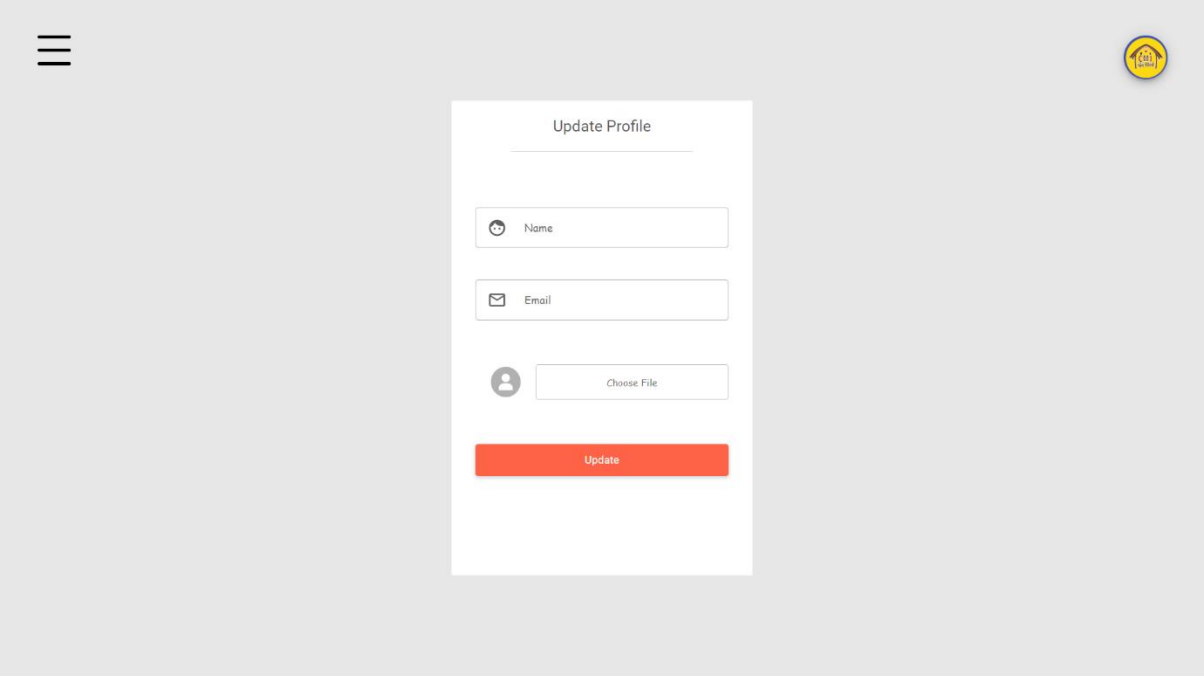


Fig.9- Update profile page, where user can edit their profile details.

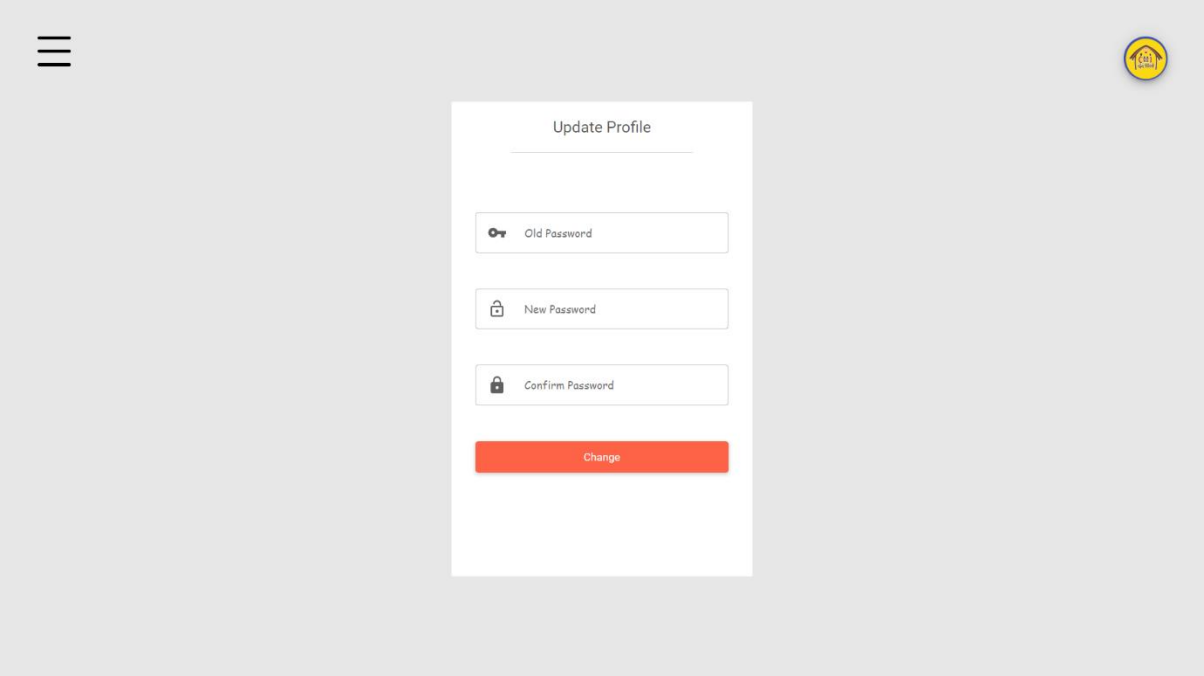


Fig.10- Update password page, where user can update their password details.

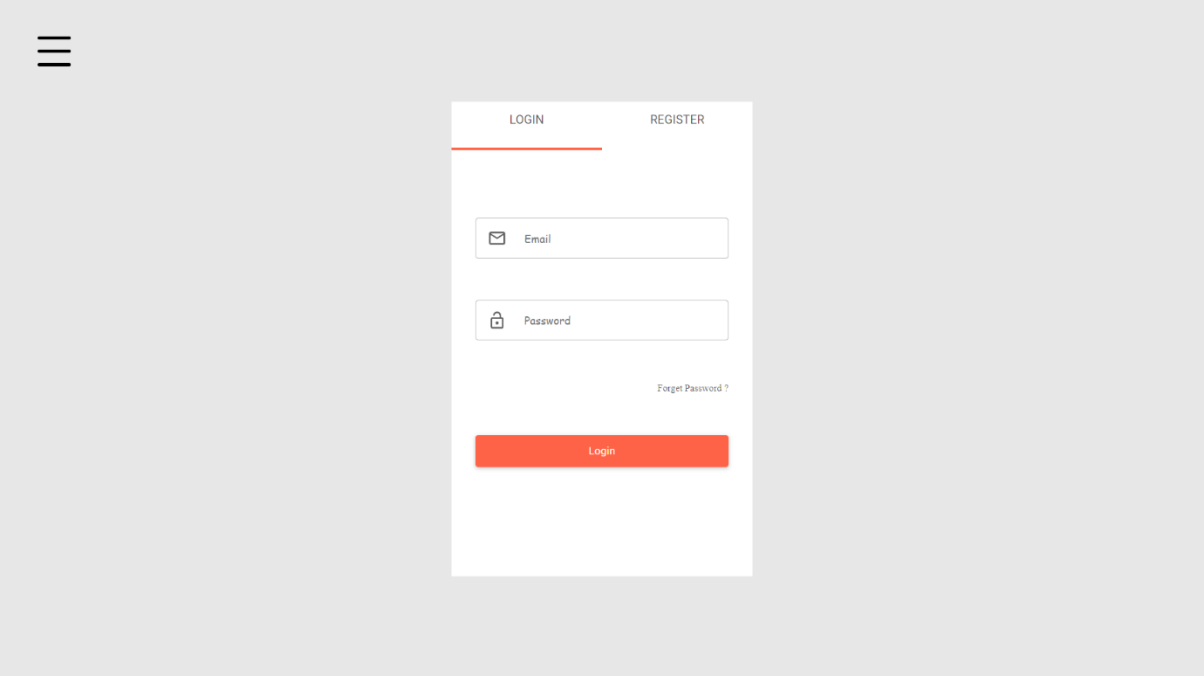


Fig.11- Login Page, where user and admin can login using their credentials

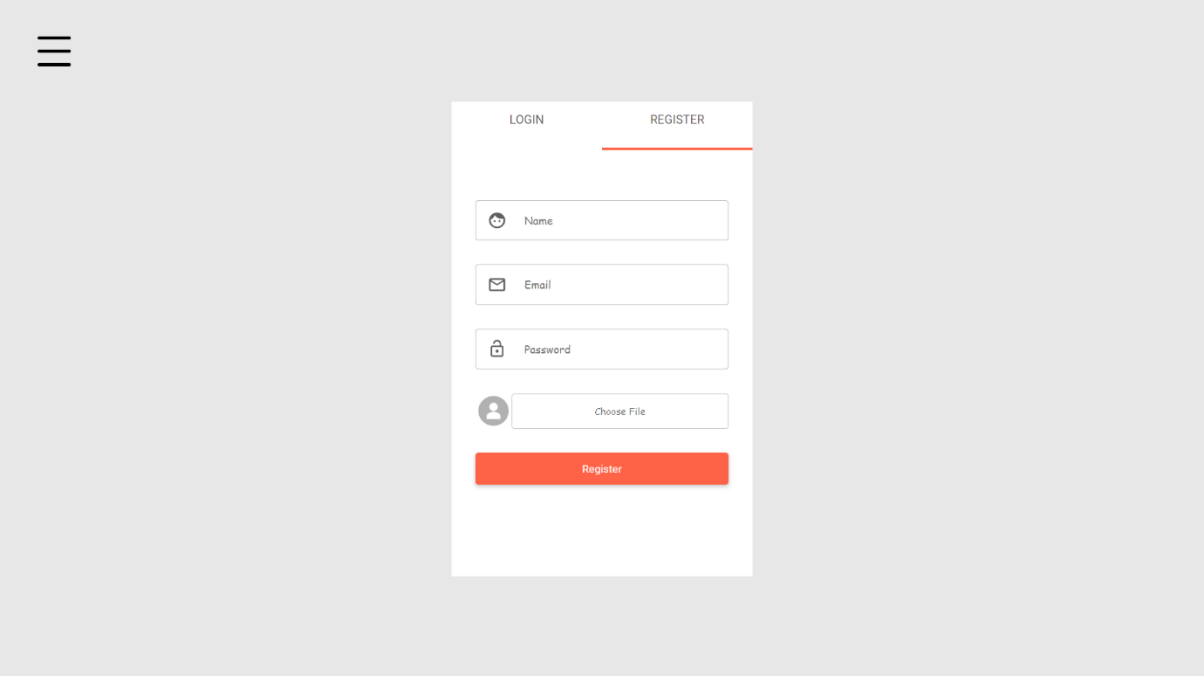


Fig.12- Registration Page, where user can register using providing these credentials

8. CONCLUSION AND FUTURE WORKS

E-commerce has revolutionized the way business is conducted, offering convenience to consumers and new opportunities for businesses. However, challenges and evolving trends emphasize the need for continuous adaptation and innovation in the e-commerce landscape.

This project fulfills partial requirements of the UTSAVKART. The future works of the project will include :

- User Experience Enhancement
- Integration with Social Commerce
- Loyalty and Reward Programs

9. REFERENCES

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