# Project Requirement Analysis on

# Online Shopping

**Software Engineering Lab**

**Course Code: CSE360**

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Subtitle

## Introduction

The "Online Shopping Application" is a comprehensive e-commerce platform aimed at enabling users to explore a variety of products, add items to their cart, make secure purchases, and track their orders. The application emphasizes providing a seamless user experience, ensuring device responsiveness, and integrating secure authentication mechanisms.

## Project Theme

The primary purpose of the Online Shopping Application is to create a user-friendly, secure, and efficient e-commerce platform. Users can browse products, apply filters, view detailed product descriptions, and place orders. The platform ensures scalability and includes functionalities for both customers and admins (optional).

## Key Rules and Constraints

**- GitHub Commits:**  
 - Minimum 15 notable client-side commits.  
 - Minimum 8 notable server-side commits.

- **Readme.md:**  
 - The project must include a meaningful README file containing:  
 - Project name.  
 - Live site URL.  
 - At least five key features.

**- Responsiveness:**  
 - The application must be fully responsive on mobile, tablet, and desktop views.

**- Environment Variables:**  
 - Sensitive information like Firebase credentials, API keys, and MongoDB URIs must be hidden using environment variables.

**- Design Uniqueness:**  
 - The design must be unique and should not replicate previous projects.

**- Hosting:**  
 - Use Netlify or Firebase for the client-side.  
 - Use Vercel for the server-side.  
 - Routes should not produce errors upon reloading.  
 - Private routes must maintain user sessions without redirection to the login page upon refresh.

## 4. Functional Requirements

**Core Features:**

**- Navbar:** - Contains the logo/website name.  
 - Includes links for Home, Shop, Categories, My Orders, Cart, and Login/Register (conditionally displayed).  
 - Displays user photo (when logged in) with hover options for user name and logout.

**- Footer:**  
 - Displays social media links, contact details, and quick links to key pages.

**- Home Page:**  
 - Features a banner/slider showcasing products or offers (at least 3 slides).  
 - Displays popular categories like Electronics and Fashion as clickable cards.  
 - Highlights at least 6 featured products.  
 - Additional sections such as 'Best Sellers' and 'Customer Reviews'.

**- Product Details Page:**  
 - Displays information about the product, including:  
 - Title, image, price, description, stock availability, and customer reviews.  
 - Includes 'Add to Cart' and 'Buy Now' buttons.

**- Shop Page:** - Displays all products in a grid layout with filters (price, category, rating).  
 - Includes sorting functionality (e.g., ascending/descending price).  
 - Each product card features a 'See Details' button redirecting to the Product Details page.

**- Cart Page:** - Displays products added to the cart with details like name, image, quantity, and price.  
 - Allows users to update quantities and remove items.  
 - Features a 'Proceed to Checkout' button.

**- Checkout Page:** - Collects delivery information (name, address, contact number).  
 - Displays total price and includes a 'Place Order' button.

**- My Orders Page:** - Private route displaying a user's past and ongoing orders in a list or grid format.

**Optional Features (Admin):**

**- Add Product:** - Form to add new products with fields like title, price, category, description, stock, and image URL.  
 - Displays success messages using toast notifications.

**- Manage Orders:**  
 - Allows admins to view all user orders and update their status (e.g., pending, shipped, delivered).

**Additional Features:**

- 404 Page:  
 - Custom 404 page with navigation links back to the homepage.

- Loading Spinner:  
 - Displays a spinner while data is loading (e.g., fetching products or user details).

# 5.Authentication

1. **Login Page:** When you click the login button on the navbar it redirects to the login page. You have to use a password and email-based authentication to log in. The login page will have-
   1. Email
   2. Password
   3. Google login, GitHub - implement any of one
   4. A link that will redirect to the Register page

Also here will some animation will added in login page  
such as Lottie, motion

1. **Register Page:** You have to use a password and email-based authentication to register. The Register page will have the following -
   1. Name
   2. Email
   3. photoURL
   4. password
   5. A Link that will redirect to the login page

* For password verification you need to follow this -
* Must have an Uppercase letter in the password
* Must have a Lowercase letter in the password
* Length must be at least 6 character
* If any of this isn’t fulfilled it will show an error/toast
* After successful login or Register you need to show toast/sweet alert