Online Shopping System with Sentiment Analysis

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Project overview

Online shopping platforms are plagued by issues such as fraudulent product reviews, irrelevant suggestions, and poor customer service. Customers struggle to verify whether a product is authentic or not, resulting in poor purchasing decisions. Businesses also lack tools to determine how customers feel instantly. The system employs Sentiment Analysis in order to make more appropriate product recommendations, comprehend customers better, and facilitate simpler shopping.

Key Features

- **Personalized Product Recommendations** – Suggests products based on previous purchases and sentiment trends.
- **Sentiment Analysis on Reviews** – Classifies customer feedback as positive, neutral, or negative in real time.
- **Customer Support Automation** – Uses sentiment-based responses for better service.
- **User-Friendly Interface** – Allows easy browsing, reviewing, and purchasing of products.
- **Admin Dashboard for Product Monitoring** – Provides insights into customer sentiment trends and product performance.

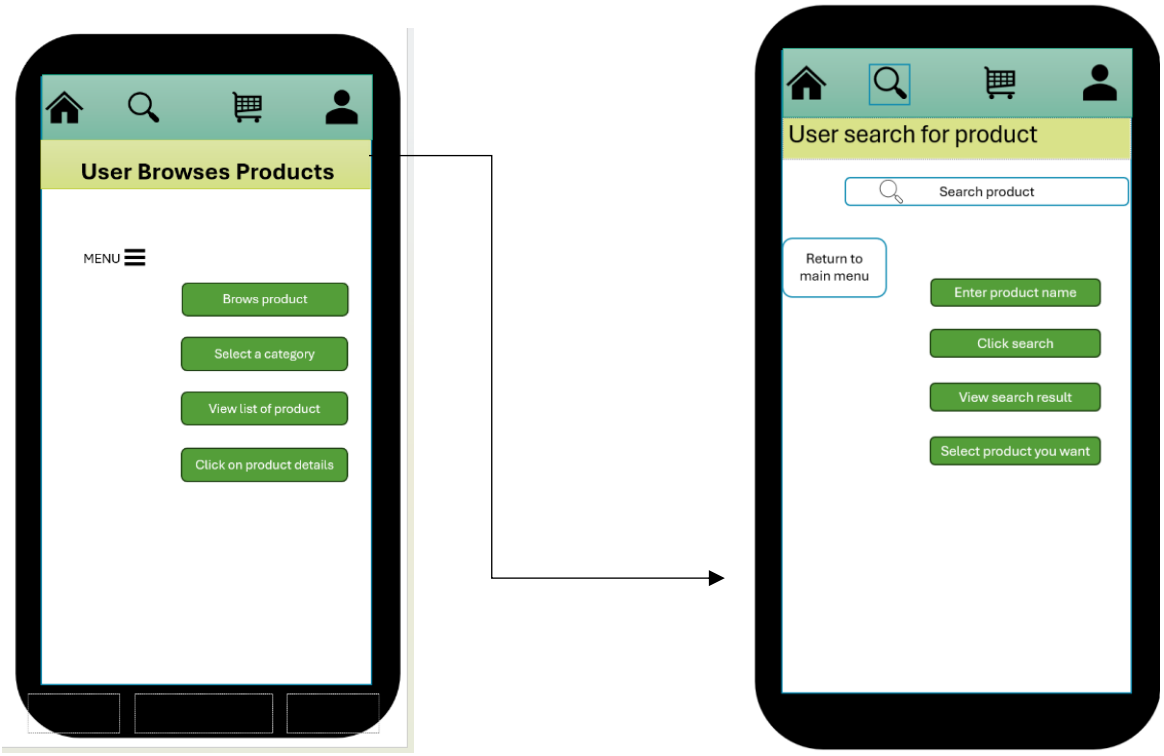
System Requirements

- Frontend: Visual studio code with ReactJS
- Backend: python with flask
- Database: MySQL
- Hardware: A cloud service or Standard PC
- Network: any internet connection will work

System Architecture

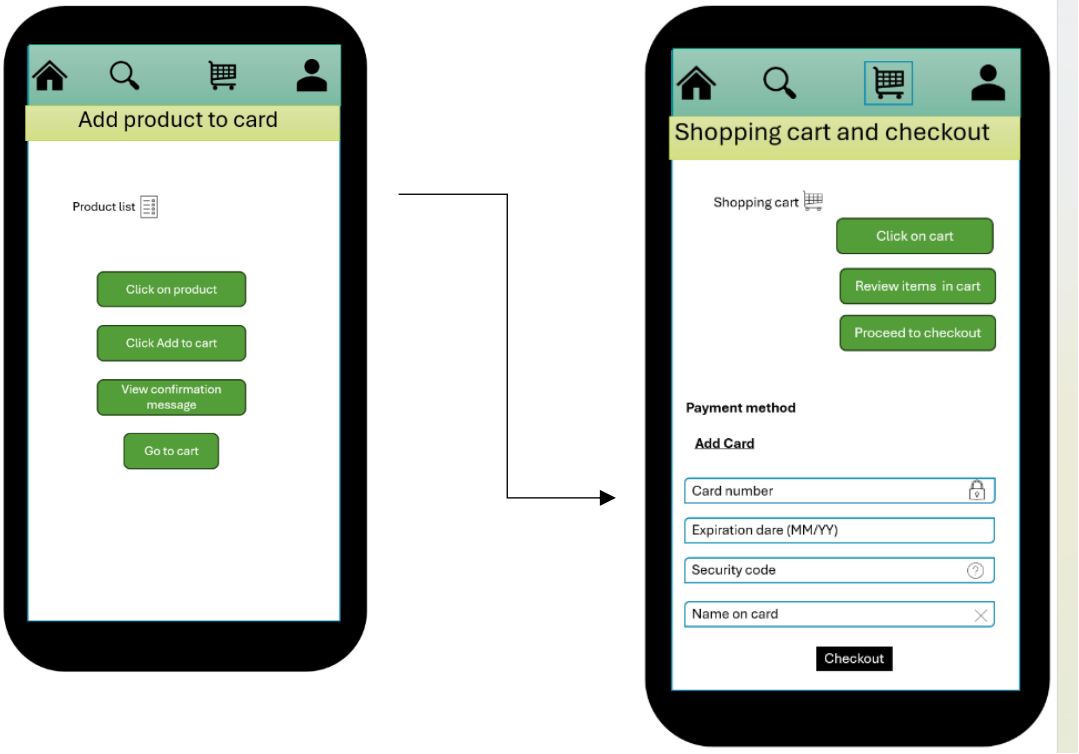
Below is a high-level representation of how the system works:

- **User Interaction** → Browse & Review Products
- **sentiment Analysis Engine** → Processes feedback & determines sentiment
- **Recommendation System** → Tunes product recommendations according to user sentiment
- **Admin Dashboard** → Monitors product performance & customer sentiments



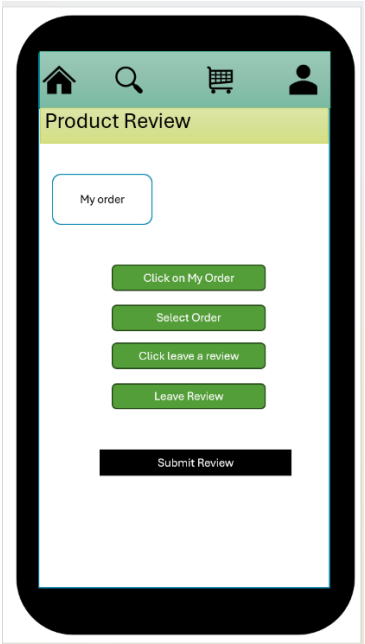
A User Browses Products by Category for a Product

A User Searches



A User Adds a Product to the Cart

A User Checks Out



A User Leaves a Product Review