Project Title: Price Compare – Smart Shopping Assistant

GROUP MEMBERS

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PROBLEM STATEMENT

Online shoppers often jump between multiple e-commerce websites to compare prices for the same product. This process is time-consuming and confusing. Users need a single platform that gathers prices from different stores and instantly shows where they can buy at the lowest price.

PROPOSED SOLUTION

- **Price Compare – Smart Shopping Assistant** is a full-stack **web application** that allows users to search any product and instantly view price comparisons from popular online stores like **Daraz, Telemart, and iShopping**.
- The system uses a **Node.js** + **Express** backend to fetch real-time product data through APIs or web scraping and stores information in **MongoDB**. The **React-based frontend** presents results in a clean, responsive interface, highlighting the cheapest store and providing a direct purchase link.
- This app saves users time, effort, and money while improving their overall online shopping experience.

OBJECTIVES

- Simplify price comparison across multiple e-commerce platforms.
- Provide a fast and responsive UI with React JS.
- Implement a scalable backend with Node, Express, and MongoDB.
- Enable user personalization (price alerts, favorites, history).
- Build a startup-ready platform for affiliate marketing and partnerships.

KEY FEATURES

- **Smart Product Search:** Users can search or paste product names to find real-time comparisons.
- **Live Price Comparison:** Fetches data dynamically using APIs or scraping logic.
- **Modern React UI:** Responsive and minimal interface for desktop and mobile.
- **User Accounts:** Save favorite products and track price history.
- **Price Alerts:** Notify users when a product drops below a desired price.
- **Secure Backend:** Node + Express handle API requests and MongoDB stores all product and user data.

KEY FEATURES

Target Market

- Frequent online shoppers and bargain hunters.
- Students and young adults who prefer budget shopping.
- Budget-conscious users who want convenient and money-saving tools.

Business Model

- **Affiliate Marketing:** Earn commission through partner site purchases.
- **Freemium Model:** Free access for basic use, paid plans for features like alerts and price history.
- **B2B Partnerships:** Collaborate with e-commerce stores to highlight their products or deals.

TECHNOLOGY STACK

- **Frontend:** React JS and Tailwind CSS
- **Backend:** Node JS, Express JS
- **Database:** MongoDB
- **APIs:** Web scraping or third-party e-commerce APIs
- **Hosting Platform:** Render / Vercel for frontend, and Railway / Render for backend

IMPLEMENTATION PLAN

Phase	Duration	Tasks
Phase 1: Research & Setup	Week 1	Study product APIs, define architecture, and connect React with Node backend

Phase 2: UI Design	Week 2	Design web pages (Home, Search, Results, Profile) using React + Tailwind
Phase 3: Backend Development	Week 3–4	Build REST APIs, set up MongoDB schema, and implement price fetching logic
Phase 4: Integration & Core Features	Week 5	Connect frontend with backend and test data flow
Phase 5: Testing & Deployment	Week 6	Conduct testing, host app online, and prepare final demo

EXPECTED OUTCOMES

- A functional web application with real-time price comparison.
- An intuitive UI and smooth user experience.
- A strong foundation for future business expansion.

FUTURE SCOPE

- Add AI-based product recommendations.
- Expand to include global platforms (Amazon, eBay, Alibaba).
- Launch mobile app versions using React Native.
- Introduce browser extension integration for one-click comparison.
- Grow as a startup with local and international affiliate partners.