Project 1

Local Business Finder and Personalized Itinerary

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Objective:

Create a web application that helps users discover local businesses based on their location and preferences. Then develop a personalized itinerary planner based on three choices of the user.

Technologies:

- Frontend: React

- Backend: Node.js (Express)

- Database: MongoDB/PostgreSQL/SQL

- Additional Tools: Google Maps API, Firebase, Material-UI, Axios, React Hook Form

Requirements:

1. Use React to create a dynamic single-page application with components like SearchBar, MapDisplay, and BusinessList.
2. Backend API for CRUD operations and Google Maps API integration.
3. Database to store business details and user preferences.
4. React for creating itinerary forms, maps, and saved itineraries.
5. Node.js backend to handle CRUD for itineraries and geolocation data.
6. Database for storing travel details.
7. Multi-threaded route optimization.

Deliverables:

- A fully functional app showcasing local businesses based on user input.

- A web app for planning and visualizing travel itineraries.

Project 2

Community Events Hub and Online Marketplace

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Objective:

Create a platform for organizing and discovering local community events. The webpage should include a section that is an online marketplace. Build a platform for buying and selling products.

Technologies:

- Frontend: React

- Backend: Node.js

- Database: MongoDB, Firebase Firestore, SQL, etc.

- Additional Tools: Google Maps API, Cloudinary, Firebase Authentication, Stripe API

Requirements:

1. Users can create, RSVP, and explore events via React components.
2. Backend API for event management and notifications.
3. Map integration to visualize event locations.
4. Create product pages with dynamic filtering and sorting.
5. Implement user authentication and secure payments.
6. Backend for managing product listings and transactions.

Deliverables:

- An event hub with interactive features and Google Maps integration.

- A secure and interactive e-commerce site.

Project 3

Educational Platform with Budget Management Tool and Weather API

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Objective:

Create a platform for hosting and attending online courses.

Technologies:

- Frontend: React

- Backend: Node.js

- Database: PostgreSQL/Mongo/SQL/Firestore

- Additional Tools: Firebase, File Upload API, Firebase Authentication, Chart.js, OpenWeatherMap API

Requirements:

1. React for browsing courses and tracking progress, dynamic updates to budget and expense entries, and for displaying current weather and forecasts
2. Backend for managing course materials and user accounts, CRUD operations and budget calculations, and to fetch and cache weather data from the OpenWeatherMap API
3. Database for storing course and progress data.
4. Chart.js for expense breakdown visualization.
5. Firebase for user preferences and settings.

Deliverables:

- An interactive educational platform with user progress tracking.

- A budget management app with secure login and interactive charts

- A weather app with real-time updates and user personalization.