

Capstone Step 2: Project Proposal

Project Title: LocalLens – Community Event Finder

Tech Stack

Frontend:

- React.js – for a responsive and interactive web interface
- Tailwind CSS – for modern, mobile-friendly styling
- Axios or Fetch API – for connecting to backend and external APIs

Backend:

- Node.js with Express.js – to handle server-side logic and routing
- JWT Authentication – to secure user login sessions
- RESTful API – to manage CRUD operations for users, events, and favorites

Database:

- MongoDB (Mongoose) – for storing user data, preferences, and saved events

Hosting & Deployment:

- Render or Heroku – for backend hosting
- Vercel or Netlify – for frontend deployment

External APIs:

- Ticketmaster Discovery API or Eventbrite API – to fetch real event data

- Google Maps API (*optional*) – to display nearby event locations
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Focus of the Project

LocalLens will be an **evenly focused full-stack application**, with an emphasis on both a smooth, engaging user interface and a reliable backend for data and authentication. The balance ensures strong coverage of both frontend and backend development skills.

Project Type

A **responsive web application**, accessible on both desktop and mobile browsers.

Project Goal

LocalLens aims to connect users with **local events** happening in their area. By entering a city or enabling geolocation, users can find concerts, workshops, volunteer opportunities, and social gatherings tailored to their interests.

The goal is to promote **real-world community engagement** through an intuitive digital platform for event discovery.

Target Users

- **Young professionals and students** seeking entertainment or networking opportunities
- **Community members** looking for local events or volunteer opportunities
- **Event organizers** who want to reach a broader local audience

Demographic: Adults aged **18–45**, tech-comfortable, socially active, and engaged in their communities.

Data and API Usage

LocalLens will use both **external and custom APIs**:

- **External API:** Ticketmaster or Eventbrite API for event listings (title, venue, category, location, date, and link).
- **Custom API:** Built with Express.js to handle user authentication, preferences, and saved favorites.

If the external API has data limitations, supplementary or mock data will be stored in MongoDB.

Project Approach

1. Database Schema

- **Users:** name, email, password, preferences, saved events
- **Events:** eventID (from external API), name, category, date, venue, location
- **Favorites:** userID, eventID

2. Potential API Issues

- **Rate limits:** May require caching or pagination to avoid hitting API limits
- **Inconsistent data structures:** Different APIs may format event data differently
- **Location precision:** Minor variations in geolocation data between sources

3. Sensitive Information

- Passwords will be encrypted using **bcrypt**, and sessions will use **JWT authentication**.
- No sensitive personal or financial data will be collected.

4. Core Functionality

- User registration and login
- Search events by location or category

- Filter by event type (music, art, sports, etc.)
- Save or remove favorite events
- View detailed event information with ticket purchase links

5. User Flow

1. **Home Page:** User searches or enables geolocation
2. **Results Page:** Displays events sorted by distance or category
3. **Event Details:** Shows full event information and link to external source
4. **Profile Page:** Displays saved events and user preferences

6. Stretch Goals

- **Map Integration:** Use Google Maps API to display events visually on a map
- **Email Notifications:** Notify users about upcoming local events in chosen categories
- **Social Sharing:** Allow users to share events to platforms like Facebook or X

Summary

LocalLens is a full-stack event discovery platform designed to make finding and attending local events easy and engaging. By integrating external APIs with a custom backend and polished frontend, it showcases end-to-end development skills while addressing a meaningful social goal — connecting people to their local communities.