Project requirements

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Project Name	SustainHub

Functional Requirements

- **Interactive Map & Visualization**
  - Implement Leaflet or Google Maps API for award location display.
  - Enable dynamic engagement with award categories and regions.
- **Award Data Management**
  - Store and manage award-related information with a structured database.
  - Allow automatic updates to award details from multiple sources.
- **Search & Filtering**
  - Users can search for awards by name, category, and location.
  - Advanced filters for refining search results.
- **User Engagement Features**
  - Commenting or discussion boards for awards.
  - User-generated feedback options.
- **Accessibility & Compatibility**
  - Mobile-responsive UI with offline access for low-bandwidth users.
  - Compliance with WCAG accessibility standards.
- **User Authentication & Profiles**
  - Allow users to create accounts to save preferences.
  - Enable personalized dashboards for frequently viewed awards.
- **Data Synchronization**
  - Automatic data updates to prevent outdated or fragmented award information.
  - Synchronization with mapping and database tools.

Technical/Performance Requirements

The project can be implemented using two different technology stacks:

Option 1: WordPress

- **Platform:** WordPress with custom plugins

- **Database:** MySQL
- **Frontend Framework:** PHP, HTML, CSS, JavaScript (jQuery)
- **Mapping API:** Leaflet or Google Maps API
- **Authentication:** WordPress user management system
- **Hosting:** Shared or managed WordPress hosting (e.g., Bluehost, SiteGround)
- **Plugins:**
    - Custom-built WordPress plugin for award data management
    - Advanced Custom Fields (ACF) for structured award metadata
    - WPForms or Gravity Forms for user feedback
    - WP Super Cache for performance optimization

Pros: 1. User-friendly and easy to manage
2. Prebuilt themes and plugins reduce development effort
3. Seamless integration with existing WordPress features

Cons: 1. Limited flexibility for custom data interactions
2. Requires performance optimization for large datasets

Option 2: MERN Stack (MongoDB, Express.js, React, Node.js)

- **Frontend:** React.js with Next.js for server-side rendering
- **Backend:** Node.js with Express.js
- **Database:** MongoDB with Mongoose ORM
- **Mapping API:** Leaflet or Google Maps API
- **Authentication:** JWT-based user authentication
- **Hosting:** Vercel (Frontend), AWS EC2/DigitalOcean (Backend)
- **Additional Tools:**
    - Redux or Context API for state management
    - WebSockets for real-time updates
    - Cloudinary for image storage

Pros: 1. Fully customizable with high flexibility
2. Scalable and supports real-time data updates
3. Modern tech stack with efficient data handling

Cons: 1. Requires more development effort and technical expertise
2. Higher hosting costs compared to WordPress