**Title OF PROJECT:** Real-Estate Web App

**GROUP NUMBER: 34**

**Sachin Chaudhary -> 2215001506**

**Dheeraj kumar -> 2215000599**

**Rajat Bhargava -> 2215001411**

**Aman Chahar -> 2215000178**

**Key Features:**

**Frontend:**

1. **Listing Management:**
   * Create and edit listings with detailed information like property type, location, price, amenities, and images.
   * Upload and manage multiple images for each listing.
   * Mark listings as featured or available.
   * Integrate social media sharing buttons for listings.
2. **User Accounts:**
   * User registration and login with secure authentication (e.g., JWT tokens).
   * User profiles with saved searches, favorite listings, and contact information.
   * Account settings for managing profile details and password.
3. **Property Search:**
   * Advanced search filters based on location, price range, property type, amenities, and other criteria.
   * Interactive map with markers showcasing available listings.
   * Detailed property pages with high-quality images, descriptions, and key features.
4. **Virtual Tours:**
   * Integrate 360° virtual tours for immersive property viewing.
5. **Agent Contact Forms:**
   * Contact forms for users to directly reach out to listing agents.

**Backend:**

1. **API Endpoints:**
   * Expose APIs for fetching and manipulating listing data.
   * APIs for user registration, login, and account management.
   * Search functionality based on user-provided filters.
2. **Database Management:**
   * Store listing information, including images, in a structured format in MongoDB.
   * Manage user accounts and their saved searches, favorite listings, and contact information.
3. **Security:**
   * Implement JWT token authentication for secure user access.
   * Validate user input and sanitize data to prevent security vulnerabilities.

**Technologies:**

* **Frontend:** React.js with libraries like React Router, Material UI, react-map-gl or Leaflet.
* **Backend:** Node.js with Express.js.
* **Database:** MongoDB.
* **Other Tools:** JWT for authentication.

**User Experience:**

We intend to create an intuitive and user-friendly experience by providing a clean and modern interface. Users will have easy access to manage listings, search properties, and contact agents. The design will be responsive and will ensure smooth navigation and interaction across all devices.

**Problem Explanation:**

Creating a real estate web app involves several challenges:

1. **Listing Management:** Efficiently manage property listings with detailed information and images.
2. **User Accounts:** Securely handle user registration, login, and profile management.
3. **Property Search:** Provide robust search functionality with advanced filters and interactive maps.
4. **Virtual Tours:** Offer immersive property viewing experiences with 360° virtual tours.
5. **Agent Contact:** Facilitate easy communication between users and agents.

**Steps to Solve the Problem (Algorithm):**

1. **Listing Management:** Develop a system for creating and editing listings, allowing image uploads, and marking listings as featured or available.
2. **User Accounts:** Implement secure user authentication with JWT tokens and manage user profiles, saved searches, and favorite listings.
3. **Property Search:** Implement advanced search filters and integrate interactive maps for showcasing listings.
4. **Virtual Tours:** Integrate 360° virtual tour functionality for property viewing.
5. **Agent Contact:** Develop contact forms for users to reach out to agents directly.

**Design Flow of the Project / Flowchart:**

[Insert flowchart here]

**Responsiveness:**

The project will adapt to different devices and screen sizes using responsive web design techniques such as flexible grids, responsive images, and CSS media queries. This will ensure a seamless user experience across desktops, tablets, and mobile devices.