# Location Tracker Web App - Documentation

#### 1. Introduction

The **Location Tracker Web App** is a React-based application that allows users to track their current location in real-time and view it on an interactive map. Users can also generate and share a location link for navigation purposes.

This project was developed as part of a **Front End Developer Internship assignment** at *Anslation*.

#### 2. Objectives

- To build a frontend web application using React.js.
- To utilize **HTML5 Geolocation API** for live location tracking.
- To display location on a map using Leaflet + OpenStreetMap.
- To ensure modern, responsive, and user-friendly UI.
- To maintain **clean**, **modular**, **and well-documented code**.

#### 3. Features

# 1. Live Location Tracking

 Uses the browser's Geolocation API to fetch latitude and longitude.

# 2. Interactive Map View

- Displays the user's current location using Leaflet + OpenStreetMap.
- Zoom and pan supported.

#### 3. Share Location Link

o Generates a Google Maps link for easy sharing with others.

## 4. Responsive Design

o Adjusts to different screen sizes (desktop, tablet, mobile).

### 4. System Requirements

#### **Software Requirements**

- **Node.js** (v18 or later)
- **npm** or **yarn** package manager
- Any modern browser (Chrome, Edge, Firefox)

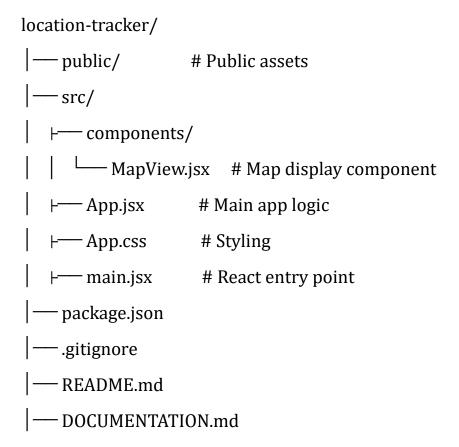
## **Hardware Requirements**

- Minimum 4 GB RAM
- 200 MB free disk space
- Internet connection (for map loading & location sharing)

#### 5. Tech Stack

- Frontend: React.js (Vite), HTML5, CSS3
- APIs Used:
  - HTML5 Geolocation API
  - Leaflet + OpenStreetMap API
- **Deployment:** Netlify / Vercel

### **6. Project Structure**



# 7. Implementation Details

#### 7.1 HTML5 Geolocation API

- Fetches the user's latitude and longitude.
- Handles error cases (permission denied, unavailable, timeout).

### 7.2 Map Integration (Leaflet)

- Renders an interactive map centered at user's location.
- Places a marker to indicate current position.

# 7.3 Location Sharing

- Generates a Google Maps link:
- https://www.google.com/maps?q=latitude,longitude

• Can be copied/shared with others.

### **7.4 UI/UX**

- Clean, minimal UI.
- Centered container layout.
- Button to **Get Location** and **Share Location**.

### 8. How to Run the Project

- 1. Clone the repository:
- 2. git clone https://github.com/your-username/location-tracker.git
- 3. cd location-tracker
- 4. Install dependencies:
- 5. npm install
- 6. Run development server:
- 7. npm run dev
- 8. Open in browser:
- 9. http://localhost:5173/

# 9. Deployment

- Deployed using **Netlify / Vercel**.
- CI/CD pipeline ensures that changes pushed to GitHub auto-deploy to live demo.

#### 10. Future Enhancements

- Add **route tracking** (recording movement path).
- Allow multiple markers for saved locations.

- Add dark mode support for map and UI.
- Show distance between two locations.

### 11. Conclusion

The **Location Tracker Web App** demonstrates the integration of React with Geolocation and mapping APIs. It showcases practical skills in frontend development, API integration, and UI design while fulfilling the requirements of a real-world mini project.