



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

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

4. Responsive Design

- 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

location-tracker/

```
| — public/          # Public assets
| — src/
|   └— components/
|     └— MapView.jsx  # Map display component
|   └— App.jsx        # Main app logic
|   └— App.css        # Styling
|   └— main.jsx       # React entry point
| — package.json
| — .gitignore
| — README.md
| — DOCUMENTATION.md
```

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.