**📘 Project Documentation: Dosthulu – Friends Map**

**🧾 1. Project Overview**

**Dosthulu** is a web-based interactive map application that allows users to mark locations where they have met their friends. Users can enter details such as the friend's name, meeting notes, a usefulness score (how valuable the meeting was), and optionally upload a photo. The application uses the **Leaflet.js** library for rendering interactive maps and leverages the browser's **Geolocation API** for detecting the user's location with high accuracy.

**🔧 2. Technologies Used**

| **Technology** | **Purpose** |
| --- | --- |
| HTML5 & CSS3 | Structure and styling of the interface |
| JavaScript | Interactivity and logic |
| Leaflet.js | Map rendering and marker placement |
| OpenStreetMap | Free map tile provider |
| FileReader API | Reading image data locally without uploading |
| Geolocation API | To get the user’s current location |

**🌍 3. Features**

* 📌 **Interactive map** with click-to-place markers
* 🧑 Add **friend’s name**
* 📝 Optional **meeting notes/reminders**
* ⭐ **Usefulness rating** from 1 to 5
* 🖼️ **Photo upload** for visual memory
* 📍 **Auto-detects user's location** with high accuracy
* 💬 Friendly and styled **popup on each marker**
* 🔄 Clean **form reset and cancel** functionality

**🧭 4. Functional Workflow**

**📊 Flowchart:**

User Opens App

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Browser Requests Location

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Location Detected or Denied

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User Clicks on Map

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Friend Form Appears

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User Fills Form (Name, Notes, Usefulness, Photo)

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User Submits Form

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Marker Added to Map with Popup

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Form Resets and Hides

**📂 5. Project Structure**

Dosthulu/

├── index.html # Main HTML file

├── style.css # Application styles

├── script.js # Application logic (map + form)

└── assets/ # (optional) for storing icons or images

**📄 6. Code Details**

**a. Geolocation Handling**

map.locate({

setView: true,

maxZoom: 18,

enableHighAccuracy: true,

timeout: 10000,

maximumAge: 0

});

* Ensures precise detection using GPS/Wi-Fi.
* Alerts the user upon success or failure.

**b. User Map Interaction**

* On map click, stores coordinates temporarily.
* Displays the input form (#friend-form).

**c. Form Submission**

* Validates inputs.
* Reads photo as Base64 if uploaded.
* Adds marker with a popup containing all friend info.

**d. Marker Content**

Popup includes:

* Friend's name
* Usefulness rating
* Notes
* Embedded photo (if provided)

**e. Styling**

* The app uses custom **CSS for cards, map, and forms**.
* Popups and forms are styled for readability and aesthetic.

**🎨 7. UI Snapshot**

[ MAP AREA - Fullscreen, click-enabled ]

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[ FRIEND FORM ]

Name: \_\_\_\_\_\_\_\_\_\_\_

Notes: \_\_\_\_\_\_\_\_\_\_

Usefulness: [1-5]

Photo: [Browse]

[Add Friend] [Cancel]

Popups on marker hover/click show friend details and photo.

**🚫 8. Limitations & Future Enhancements**

| **Current Limitation** | **Planned Enhancement** |
| --- | --- |
| No database – data is lost on refresh | Use localStorage or Firebase |
| No clustering for multiple markers | Implement Leaflet MarkerCluster plugin |
| No edit/delete options for existing markers | Add contextual popup controls (Edit/Delete) |
| Works only online (OpenStreetMap tiles) | Add offline tile caching for mobile version |

**✅ 9. How to Run**

1. Clone or download the project folder.
2. Open index.html in any modern browser.
3. Allow **location access** when prompted.
4. Click on the map to begin adding friends.

**📌 10. Conclusion**

**Dosthulu - Friends Map** is a lightweight, engaging, and visually appealing web application designed for mapping memories with friends. It combines real-world geolocation, interactivity, and media input into a personalized experience that’s easy to use and extend.

**🧑‍💻 Author**

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*“This app is a tribute to all the valuable moments with friends — mapped, stored, and remembered.”*