These are some of the potential flutter libraries that we will be utilizing for the project:

1. UI and State Management:

> flutter\_bloc – Manages app state efficiently.

> provider – Simple and lightweight state management.

> get – Minimal and powerful state management, ideal for navigation and reactive UI updates.

1. Bluetooth & Sensor Detection

>flutter\_blue\_plus – For Bluetooth Low Energy (BLE) communication with beacons.

>flutter\_beacon – Detects Bluetooth beacon signals.

>geolocator – Retrieves user location for mapping sensor positions.

1. Cloud Integration & Database

>dio – Advanced HTTP client for API calls to cloud databases.

>firebase\_core & cloud\_firestore – We currently plan on using Firebase Firestore for storing sensor data.

1. UI Components & Visualization

>flutter\_svg – Supports SVG images for sensor icons.

>fl\_chart – For visualizing sensor data trends.

1. Accessibility & User Experience

>intl – For date formatting and localization.

>flutter\_local\_notifications – For alerting users about newly detected sensors.

1. Security & Permissions

>permission\_handler – Handles Bluetooth, location, and storage permissions.

>flutter\_secure\_storage – Encrypts and securely stores sensitive data like API keys.

These are the potential frontend libraries we will be using for our project. These libraries are subject to change based on our project requirements.