

Software Requirement Specification

Indoor Location Tracking App For BIT Campus

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Project Name	INDOOR LOCATION TRACKING APP FOR BIT CAMPUS

Stack:

FRONT-END	React js
BACKEND	Node.js with Express.js
DATABASE	MongoDB(NOSQL Database)
API	OpenAPI

PROJECT DESCRIPTION :

Develop an innovative indoor location tracking app specifically for faculty, staff, parents, and students. This app should provide real-time navigation assistance within buildings, offer event integration, and ensure the safety of all users. The app can accurately track various locations including special labs, classrooms, seminar halls, faculty cabins, and administrative offices within buildings, despite challenges such as signal interference and multi-level structures. Furthermore, the app ensures scalability and reliability to accommodate the dynamic nature of our institution and diverse campus environments.

PLANNING :

1. USER LOGIN :

- Live Location inside bit campus
- Search for locations [block/classrooms/special labs etc..]
- Shortest path between Locations
- Shortest path from live location to a specific locations including navigations
- Provide Venue Details For external participants
- Send feedback for adding new features

2. ADMIN LOGIN :

- Add New Locations
- Deactivate the path is construction work is happening
- Change Locations Name
- Can Add User Who can Login Apart From Bit Students Who Came to Campus for Event Participations.

HOW TO ACHIEVE PLANNING :

- Front-end is done by React-js
- We use leaflet js which is a library for integrating map into our project.
- Coordinates are saved in mongodb from there locations and paths are displayed in the map the coordinates are taken by using leaflet
- For calculating shortest path we will send the polyline coordinates which is taken from the leaflet stored in db in back end shortest path is calculated then shown to the user
- For live location Api can be used from google.

