Project Design Phase-II

Solution Requirements(Functional & Non Functional)

Date	17 October 2022
Team ID	PNT2022TMID02512
Project Name	Project - IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	• Signing up with Gmail • Using a phone number to register
FR-2	User Confirmation	• Email confirmation required • Reassurance via OTP
FR-3	App installation	• Installing through link • Installing via the Play Store
FR-4	Settings geofence	• Sending by user to locate child
FR-5	Detecting child location	• App-based location detection • SMS location detection

FR-6	User Interface	• User Login Form. • Admin Login Form.
FR-7	Database	• Cloud storage for constant connectivity. • The location and distance data from children's and parents' mobile devices are linked here. • Parent ID, child ID, distance, longitude, latitude, etc. are among the values.

FR No.	**Functional Requirement**	**Sub Requirement**
FR-8	Server	• It links the front-end application and the database. • The backend server is installed on an IBM cloud instance and is designed to operate as a service. • The backend server is installed on an IBM cloud instance and is designed to operate as a service.
FR-9	GPS tracking	• The system is equipped with a GPS module that collects the user's location data and stores it in a database.
FR-10	API	• Using an API, the collected value is added to the database.
FR-11	React JS	• For our project, the front end is built using react js. • We are using node js on the back end.
FR-12	GPS modules	• It directly receives data from satellites.

FR-13	Battery Life	• The device will still function if the youngster or parent forgets to charge it for an entire day. Because of this, we want this device to operate continuously from a single battery. • It should be long-lasting.
FR-14	Location on History	• The location history will make it easier to keep tabs on the child's whereabouts so that the system can be updated. For 30 days, the location history will be available. • For instance, if a youngster goes missing, parents can use location data to trace down their child's whereabouts and activities.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-functional Requirements	Description
NFR-1	Usability	• Devices with GSM capabilities can assist in alerting parents or other family members of the child's existing circumstances and delivering the information quickly in order to save the child.
NFR-2	Security	• With the help of a function on our smartphone called Geo-Fence, parents can feel more certain about the safety of their children. • Your phone will immediately notify you whenever your youngster enters or leaves that area.
NFR-3	Reliability	• Portable • Easy to use • Flexibility

NFR-4	Performance	• Create a child tracker to assist parents in tracking the whereabouts of their children at all times. • The child's parents or other caregivers will receive the no-fication in accordance with their location. • The database will contain all of the location information.
NFR-5	Availability	• Even in a crowd, keep an eye on your child. • Get children's travel information at any time • Recognize your present location
NFR-6	Scalability	• The use of a gadget ensures the children's security and monitoring. • Parents don't need to be concerned about their kids.
NFR-7	Valuability	• The system should be able to send the finance authority a timely delivery. The answer should be "advancing the mission" in the case of nonprofit organisations.
NFR-8	Dynamicity	• IoT devices might be able to modify and adapt dynamically in response to their environment
NFR-9	Desirability	• It should be simple to navigate. • The user should be able to easily search for and find the information he needs.