PROJECT DESIGN PHASE-II

SOLUTION REQUIREMENTS

(FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS)

Date	10 October 2022
Team ID	PNT2022TMID17380
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
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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	✓ Registration through Gmail ✓ Registration through phone number
FR-2	User Confirmation	✓ Confirmation via Email ✓ Confirmation via OTP
FR-3	App installation	✓ Installation through link ✓ Installation through play store

FR-4	Settings geofence	✓ Setting by user to find child location
FR-5	Detecting child location	✓ Detecting location via app ✓ Detecting location via SMS
FR-6	User Interface	✓ User Login Form. ✓ Admin Login Form.
FR-7	Database	✓ Stored in cloud for seamless connectivity. ✓ Parents and kids link with the distance and the location values obtained from the mobile devices are stored here. ✓ The values include parent id, kid id, distance, longitude, latitude etc.

FR No.	Functional Requirement	Sub Requirement
FR-8	Server	✓ It connects the database and the front end application. ✓ The backend server has been implemented to run as a service and is deployed in an IBM cloud instance. ✓ The backend server has been implemented to run as a service and is deployed in an IBM cloud instance.
FR-9	GPS tracking	✓ The system is implemented with a GPS module, which acquires the location information of the user and stores it to the database.
FR-10	API	✓ The value collected is sent to the database using an API.
FR-11	React JS	✓ We are using react is as front end for us project. ✓ Node JS for the back end we are using node is.
FR-12	GPS modules	✓ It receives data directly from satellites.
FR-13	Battery Life	✓ If the child or parent forgets to charge the device for a whole day then also the device will work. That's why we aim to make this device last the whole day with one charge. ✓ It should be long-lasting.
FR-14	Location History	✓ The location history will help to track the child's activity so that the aren't will be updated. Location history will be there for 30 days. ✓ For example if the child gets missing with the help of location history the aren't can track down their child's activity and also can find their child.

Non-functional Requirements:

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

FR No.	Non-functional Requirements	Description
NFR-1	Usability	✓ Device have GSM can help to inform the parents or relatives about the current situations of the child by deliver the message immediately to save the child.
NFR-2	Security	✓ Make children parents more assure about their kid's security, we have a feature in our device called Geo-Fence. ✓ Whenever your child crosses that specific area, you will get an instant notification on your phone.
NFR-3	Reliability	✓ Portable ✓ Easy to use ✓ Flexibility
NFR-4	Performance	✓ Create a Child tracker which helps the parents with continuously monitoring the child's location. ✓ The notification will be sent according to the child's location to their parents or caretakers. ✓ The entire location data will be stored in the database.
NFR-5	Availability	✓ Track your child even in a crowd ✓ Get travel details of kids at any time ✓ Know the current location
NFR-6	Scalability	✓ Gadget ensures the safety and tracking of the children. ✓ Parents need not worry about their children.

NFR-7	Evaluability	✓ The system should be able to deliver promptly to the financing authority. ✓ In the case of non-profit organizations, the solution should be 'advancing the mission'.

FR No.	Non-functional Requirements	Description
NFR-9	Dynamicity	✓ IoT devices may have the capability to adapt dynamically and change based on their conditions.
NFR-10	Desirability	✓ Navigation should be made easy. ✓ The user should be able to search and find the information he needs without much hassle.