Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	14 October 2022
Team ID	PNT2022TMID01197
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	✓ 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 js as front end for our project. ✓ Node JS for the back end we are using node js.
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.

FR No.	Functional Requirement	Sub Requirement

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 anytime ✓ 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	Valuability	✓ 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.