

PROJECT DESIGN PHASE-II
SOLUTION REQUIREMENTS
(FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS)

Date	14 October 2022
Team ID	PNT2022TMID30696
Project Name	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	<ul style="list-style-type: none">➤ Registration through Gmail➤ Registration through phone number
FR-2	User Confirmation	<ul style="list-style-type: none">➤ Confirmation via Email➤ Confirmation via OTP
FR-3	App installation	<ul style="list-style-type: none">➤ Installation through link➤ Installation through play store
FR-4	Settings geo fence	<ul style="list-style-type: none">➤ Setting by user to find child location
FR-5	Detecting child location	<ul style="list-style-type: none">➤ Detecting location via app➤ Detecting location via SMS
FR-6	User Interface	<ul style="list-style-type: none">➤ User Login Form.➤ Admin Login Form.

FR-7	Database	<ul style="list-style-type: none"> ➤ 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-8	Server	<ul style="list-style-type: none"> ➤ It connects the database and the frontend 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	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> ➤ The value collected is sent to the database using an API.
FR-11	React JS	<ul style="list-style-type: none"> ➤ We are using react is as front end for us project.
FR-12	GPS modules	<ul style="list-style-type: none"> ➤ It receives data directly from satellites.
FR-13	Battery Life	<ul style="list-style-type: none"> ➤ 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.
FR-14	Location History	<ul style="list-style-type: none"> ➤ 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.

NFR NO	Non-functional Requirements	DESCRIPTION
NFR-1	Usability	<ul style="list-style-type: none">➤ 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	<ul style="list-style-type: none">➤ 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	<ul style="list-style-type: none">➤ Portable➤ Easy to use➤ Flexibility
NFR-4	Performance	<ul style="list-style-type: none">➤ 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	<ul style="list-style-type: none">➤ Track your child even in a crowd➤ Get travel details of kids at any time➤ Know the current location
NFR-6	Scalability	<ul style="list-style-type: none">➤ Gadget ensures the safety and tracking of the children.➤ Parents need not worry about theirchildren.

NFR-7	Evaluability	<ul style="list-style-type: none"> ➤ 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'.
NFR-8	Dynamicity	<ul style="list-style-type: none"> ➤ IOT devices may have the capability to adapt dynamically and change based on their conditions.
NFR-9	Desirability	<ul style="list-style-type: none"> ➤ Navigation should be made easy. ➤ The user should be able to search and find the information he needs without much hassle.