

## PROJECT DESIGN PHASE-II

### SOLUTION REQUIREMENTS

#### (FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS)

Date	10 October 2022
Team ID	PNT2022TMID17406
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"><li>✓ Registration through Gmail</li><li>✓ Registration through phone number</li></ul>
FR-2	User Confirmation	<ul style="list-style-type: none"><li>✓ Confirmation via Email</li><li>✓ Confirmation via OTP</li></ul>
FR-3	App installation	<ul style="list-style-type: none"><li>✓ Installation through link</li><li>✓ Installation through play store</li></ul>
FR-4	Settings geofence	<ul style="list-style-type: none"><li>✓ Setting by user to find child location</li></ul>
FR-5	Detecting child location	<ul style="list-style-type: none"><li>✓ Detecting location via app</li><li>✓ Detecting location via SMS</li></ul>
FR-6	User Interface	<ul style="list-style-type: none"><li>✓ User Login Form.</li><li>✓ Admin Login Form.</li></ul>

FR-7	Database	<ul style="list-style-type: none"> <li>✓ Stored in cloud for seamless connectivity. ✓</li> <li>Parents and kids link with the distance and the location values obtained from the mobile devices are stored here.</li> <li>✓ The values include parent id, kid id, distance, longitude, latitude etc.</li> </ul>
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#### 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.
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FR-9	GPS tracking	<input type="checkbox"/> 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	<input type="checkbox"/> The value collected is sent to the database using an API.
FR-11	React JS	<ul style="list-style-type: none"> <li><input type="checkbox"/> We are using react is as front end for us project.</li> <li><input type="checkbox"/> Node JS for the back end we are using node is.</li> </ul>
FR-12	GPS modules	<input type="checkbox"/> It receives data directly from satellites.
FR-13	Battery Life	<ul style="list-style-type: none"> <li><input type="checkbox"/> 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.</li> <li><input type="checkbox"/> It should be long-lasting.</li> </ul>
FR-14	Location History	<ul style="list-style-type: none"> <li><input type="checkbox"/> 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.</li> <li><input type="checkbox"/> 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.</li> </ul>

## Non-functional Requirements:

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

### FR No. Non-functional Requirements Description

NFR-1	Usability	<input type="checkbox"/> 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	<input type="checkbox"/> Make children parents more assure about their kid's security, we have a feature in our device called Geo-Fence. <input type="checkbox"/> Whenever your child crosses that specific area, you will get an instant notification on your phone.
NFR-3	Reliability	<input type="checkbox"/> Portable <input type="checkbox"/> Easy to use <input type="checkbox"/> Flexibility
NFR-4	Performance	<input type="checkbox"/> Create a Child tracker which helps the parents with continuously monitoring the child's location. <input type="checkbox"/> The notification will be sent according to the child's location to their parents or caretakers. <input type="checkbox"/> The entire location data will be stored in the database.
NFR-5	Availability	<input type="checkbox"/> Track your child even in a crowd <input type="checkbox"/> Get travel details of kids at any time <input type="checkbox"/> Know the current location
NFR-6	Scalability	<input type="checkbox"/> Gadget ensures the safety and tracking of the children. <input type="checkbox"/> Parents need not worry about their children.

NFR-7	Evaluability	<input type="checkbox"/> The system should be able to deliver promptly to the financing authority. <input type="checkbox"/> In the case of non-profit organizations, the solution should be 'advancing the mission'.
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### 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-1 0	Desirability	<input type="checkbox"/> Navigation should be made easy. <input type="checkbox"/> The user should be able to search and find the information he needs without much hassle.
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