

Project Design Phase-II
Solution Requirements
(Functional & Non-functional Requirements)

Team ID	PNT2022TMID04590
Project Name	Project - IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	4 Marks

Functional Requirements:

FR No.	Functional Requirement	Description
FR-1	User Registration	✓ Registration through Gmail or through phone number
FR-2	User Confirmation	✓ Confirmation via Email or OTP (one time password)
FR-3	App installation	✓ Installation through Playstore or Appstore ✓ It can be accessible through browser (website)
FR-4	Settings geofence	✓ Boundary of location to mark it as fence
FR-5	Detecting child location	✓ Detecting location via app or SMS or notification
FR-6	User Interface	✓ Separate panel for USER & ADMIN login
FR-7	Database	✓ The data gathered related to location, weather, longitude, latitude, parent details, child details, login credentials are stored in the database for future reference. ✓ The admin from the customer side, can access all this information with correct credentials

FR No.	Functional Requirement	Description
FR-8	Server	<ul style="list-style-type: none"> ✓ The backend server has been implemented to run as a service and is deployed in an IBM cloud instance. ✓ The data collected are automatically moved to the desired database location. Parent or a customer need not to worry about that.
FR-9	GPS tracking	<ul style="list-style-type: none"> ✓ The system has a GPS module, which gather the location, weather details of the user and stores it in database.
FR-10	API	<ul style="list-style-type: none"> ✓ The details collected are sent to the database using an API (Application Programming Interface)
FR-11	React JS	<ul style="list-style-type: none"> ✓ For Font End – REACT JS (Customer interface) ✓ For Back End – NODE JS (Data storage)
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"> ✓ The device will hold the charge nearly 24 hours long. After that, they need to charge the device again for continuous usage.
FR-14	Location History	<ul style="list-style-type: none"> ✓ The location history will help to track the child's activity. Location history will be available in server. <p>If there is any issue, the parent can use this information for future reference.</p>

Non-functional Requirements:

FR No.	Non-functional Requirements	Description
NFR-1	Usability	✓ Device have GSM can help to inform the parents or caretaker about the current location of the child. It will be very much useful in danger situation.
NFR-2	Security	✓ With the help of our designed geofence, Whenever the child crosses that specific area, the parents or guardian will get an instant notification about the current location to their specific device.
NFR-3	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-4	Availability	✓ With the help of the accurate longitude and latitude details, parents can track their child even in a crowd ✓ Get live location details of kids at anytime
NFR-5	Scalability	✓ Gadget ensures the safety and tracking of the children. ✓ Parents need not worry about their children.
NFR-6	Value	✓ Even though the parents are going for job, they need not to worry about their children. since, they can have the controllness over their child.

FR No.	Non-functional Requirements	Description
NFR-7	Dynamicity	<ul style="list-style-type: none"> ✓ IoT devices may have the capability to adapt dynamically and change based on their conditions.
NFR-8	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.