# PROJECT DESIGN PHASE-II SOLUTION REQUIREMENTS

**(FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS)**

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| Date | 14 October 2022 |
| Team ID | PNT2022TMID12665 |
| 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.

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| **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 |

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| 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-8 | Server | * 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 | * 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.

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| NFR 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. |

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| 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'. |
| NFR-8 | Dynamicity | * IoT devices may have the capability to adapt dynamically and change based on their conditions. |
| NFR-9 | Desirability | * Navigation should be made easy. * The user should be able to search and find the information he needs without much hassle. |