# PROJECT DESIGN PHASE-II SOLUTION REQUIREMENTS

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

DATE TEAM ID

PROJECT NAME

TEAM LEADER

TEAM MEMBERS

10 OCTOBER 2022 PNT2022TMID20466

IOT BASED SAFETY GADGET FOR CHILD SAFETY MONITORING

AND NOTIFICATION

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FUNCTIONAL REQUIREMENTS:

**FOLLOWING ARE THE FUNCTIONAL REQUIREMENTS OF THE PROPOSED SOLUTION**.

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| FR.NO | FUNCTIONAL REQUIREMENT | 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 | Location settings | Through this setting the location of child can be found. |
| FR-5 | Detecting child location | Detects the child location through app.  Detects the child location through SMS. |
| FR-6 | User Interface | User credentials  Admin credentials |
| FR-7 | Database | The tracked data are stored in cloud which gives uninterrupted connection.  The tracked details on the kids for the parents are stored in this section. Location details and other parameters are stored.  The parameters include user credentials, distance, longitude, latitude etc. |
| FR-8 | Server | It connects the database and the front-end section (user interface).  The backend server does the job on running the processing work which is designed and the entire process is made to run and the data are stored in an IBM cloud instance. |
| FR-9 | GPS tracking | The system is built with a GPS module, which gives the location of the child to the user. |
| FR-10 | API | The value collected is sent to the database using an API. |
| FR-11 | React JS | React is used as front end.  Node Js is used as back-end node. |
| FR-12 | GPS modules | It receives data directly from satellites. |
| FR-13 | Battery Life | Even if the using person failed to charge it, the device will run without any error.  It is designed with long lasting battery life.  Solar method is also used in it. |
| FR-14 | Location History | Location history will help to find the child’s activity. Location history will be there for 30 days.  Even if the child is missing using this feature the child can be found with this analysis. |

NON-FUNCTIONAL REQUIREMENTS

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

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| **FR NO:** | **NON-FUNCTIONAL REQUIREMENTS** | **DESCRIPTION** |
| NFR-1 | Usability | Device has a GSM feature which helps in providing the tracking details about the child to the parent or guardian of the particular child. |
| NFR-2 | Security | Makes sure that the parents more assured about their kid’s security, in order to provide it, there is a feature in the device called Geo-Fence. When the child goes beyond a particular range the user will be alerted and send a notification alert through SMS. |
| NFR-3 | Reliability | Easy to carry.  User friendly.  Flexible. |
| NFR-4 | Availability | Child can be easily tracked in the crowded place.  Get travel details of kids at any time  Know the current location |
| NFR-5 | Performance | This Child tracker device helps the parents in real time monitoring of their kids.  The notification will be sent to the child’s parent on the monitored parameter.  These data will be stored in the database. |
| NFR-6 | Scalability | Gadget ensures the safety and tracking of the children. Parents need not worry about their children. |
| NFR-7 | Evaluability | The system should 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 | Operating the device should be easy. The device should be user friendly. The device should be flexible to use. |