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

Date	15 October 2022
Team ID	PNT2022TMID49507
Project Name	Project – IOT BASED SAFETY GADGETS 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	Geo-Fencing Boundary are setup	• It is used to monitor the child activity and if the child crosses the Geo-fencing boundary immediate alert notification will be send to parents mobile.
FR-2	pie camera are fixed	• Pie-cameras are used to detect the image of the child when the child in distress situation.
FR-3	Pulse Sensors	• The pulse sensor is used to detect any abnormal feelings experienced by a child like fear, anxiety, nervousness, drowsiness and several other illness which manipulates the normal heart rate.
FR-4	GSM	• If the child goes beyond that particular boundary specified, the respective guardians will receive an alert call using GSM.
FR-5	GPS	• GPS is used to track the location of a child who is wearing that device. With the help of GPS, we can feed a particular boundary to that device.
FR-6	Data acquisition and Data collection are performed	• The data can be collected from the processor and it can be detected by using the Algorithm called Random forest algorithm and SVM are simulated and analyzed for accuracy calculation and finally the report is send to the users.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	• Enable tracking of the child's location and capturing data remotely such as temperature, pulses sensor, respiratory rate and etc.
NFR-2	**Security**	• Alert notification Enabled with GPS module received in parent mobile.

		• The private security system as an emergency response device that is useful to children in crime incidents.
NFR-3	**Reliability**	• The virtual geo- fencing system will be set utilizing the GPS module. • A warning message will be delivered to the parent smart phone if the child leaves the geo-fencing boundary and pi camera will immediately turn on capture the picture of child. • Its helps to reduce security threats to the children. • Ensuring child safety and we can able to monitor the activity of a child.
NFR-4	**Performance**	• High speed data rates. • Immediate response of pie camera for capturing image. • The Alert notification is immediately send to the parents mobile when the child Crosses the Geo-Fencing boundary. • Can able to reduce the kidnapping. • Reducing the rate of incidents of child abuse.
NFR-5	**Availability**	• Smart watches has the features of tracking the location and it has the similar features like mobile phones. • Through this Geo-fencing techniques embedded in smart watches has able to track the missing and cost is also moderate in prices. • The child safety wearable device can be directly approved government and sell in the society
NFR-6	**Scalability**	• Instead of using batteries in wearable device we can use solar for power consumption and life time will be more. • Even if someone make changes in project automatic alert notification and camera will be turned on immediately without any delay and addition of other activities can be performed without interruption.