Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	10 October 2022
Team ID	PNT2022TMID47674
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	4 Marks

Technical Architecture:

Technical Architecture (TA) is a form of IT architecture that is used to design computer systems. It involves the development of a technical blueprint with regard to the arrangement, interaction, and interdependence of all elements so that system-relevant requirements are met.

Example: Monitoring and Notification to parents for Child Safety.

Reference:

https://www.ibm.com/blogs/cloud-computing/2017/12/21/ibm-cloud-parents.

Architecture

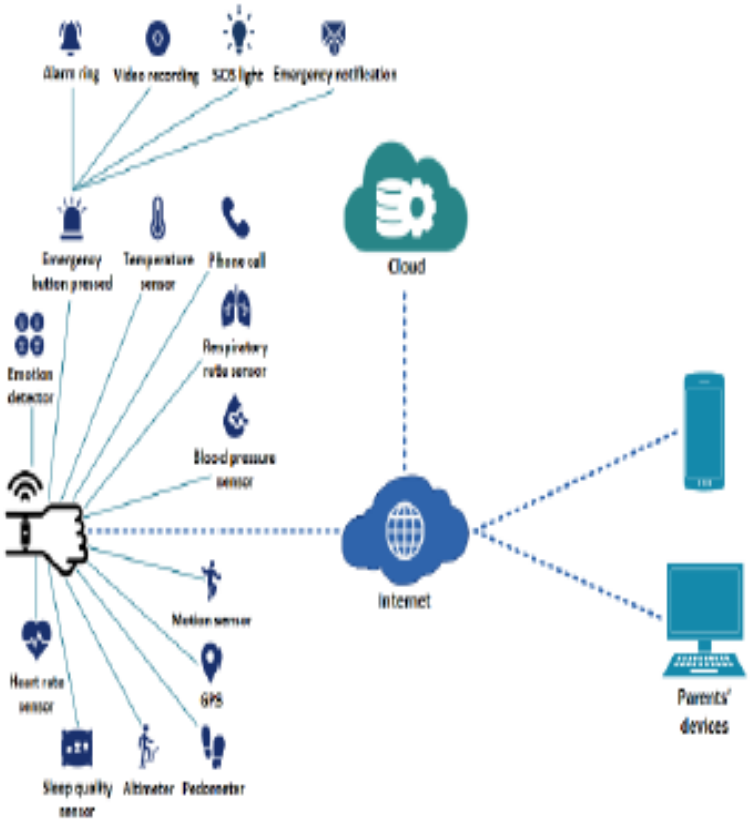

Figure 1: Architecture for child safety System

Guide Lines:

- Enable tracking of the child's location and capturing of data remotely such as temperature, pulse, respiratory rate, quality of sleep and many more.
- To show the child's actual data with reference values.

- Enable sending of notification if the child is out of location or when the device realizes abnormal conditions/situations.
- To trigger the alarm and enable automatic video recording whenever the emergency button is pressed. Then, emergency notification along with real-time video will be sent to and display in the parents' mobile apps.
- Develop a prototype of IoT wearable smart band connected to parents' mobile apps so that they can **monitor the actual condition of children at anytime and anyplace.**

Software tools required

Software tools used for this system development are all free as stated below.

Table 1 software tools required

List no	SW Tools required	specification	price
1	Operating system	Window 10	Free
2	IDE	Arduino 1.8.5	Free

Table 1:SW specification

Hardware Tools Required

Table 2 Hard ware tools

List no	HW Tools required	specification	price
1	Arduino Board	UNO R3 board	500
2	GPS Module	NEO-6M-O-001	400
3	GSM/GPRS MODULE	SIM A6 pro	700
4	RAM	4GB	
5	Hard disk	500GB	

References:

[1].H. Times, 30 August 2019. [Online]. Available: https://www.hindustantimes.com/india-news/with-60-000-children-going-missing-in-india-every-year-social-media-has-propelled-child-lifting-fear/story-AvL4yvASeN4fgXQPoAkBKP.html. [Accessed August 2021].

[2]. N. Projects, August 2012. [Online]. Available: https://nevonprojects.com/child-monitoring-system-app/. [Accessed August 2021].

[3]. Ijesc, 2019. [Online]. Available: https://ijesc.org/upload/4ae0fee98320daeb099ea96feea47ab0.Child%20Monitoring%20System%20(1).pdf. [Accessed November 2021].

[4]. Citeseerx, June 2009. [Online]. Available: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.332.9054&rep=rep1&type=pdf. [Accessed October 2021].

[5]. IRJET, June 2020. [Online]. Available: https://www.irjet.net/archives/V7/i6/IRJET-V7I6756.pdf. [Accessed August 2021].

[6]. R. Gate, January 2019. [Online]. Available: https://www.researchgate.net/publication/337309815_Child_Safety_Monitoring_System_Based_on_IoT. [Accessed September 2021].