

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

Date	03 November 2022
Team ID	PNT2022TMID45386
Project Name	Project – IoT based safety gadget for child safety and monitoring
Maximum Marks	4 Marks

Technical Architecture:

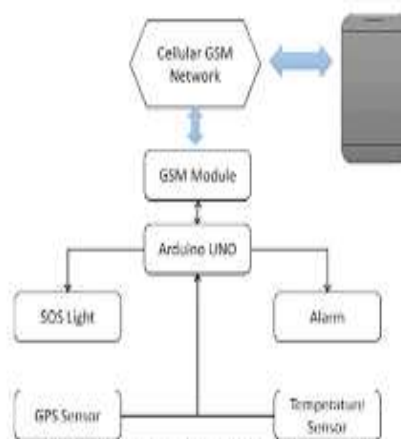


Fig. 1 System overview of the wearable device.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Data is collected by sensor Devices. Eg. Web UI ,Mobile app	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	sensor	Temperature sensor	MEMS sensor
3.	Arduino	IoT cloud applications	IBM Watson STT service
4.	Gps	To transmit data remotely and connect to other system and sensor.	IBM Watson Assistant
5.	Database	Python , Natural language processing.	MySQL, NoSQL, etc.
6.	Cloud Database	Analysis Database Service on Cloud	IBM DB2, IBM Cloudant etc.

7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API	Notification is send to mobile when child is kidnapped.	IBM API, etc.
9.	Gsm	It is used to make portable and movable iot based devices	Digital cellular
10.	Machine Learning Model	Iot devices are used to track child location from harassment.	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: operating system Cloud Server Configuration : cloud hosting services.	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	It is available for commercial and non commercial use	Tensorflow
2.	Security Implementations	Use of alarm and sensor for security purpose	Wireless sensor system
3.	Scalable Architecture	Well monitoring system	Internet of things
4.	Availability	Use of Arduino	MEMS
5.	Performance	Simulate the devices from different location	3G,4G