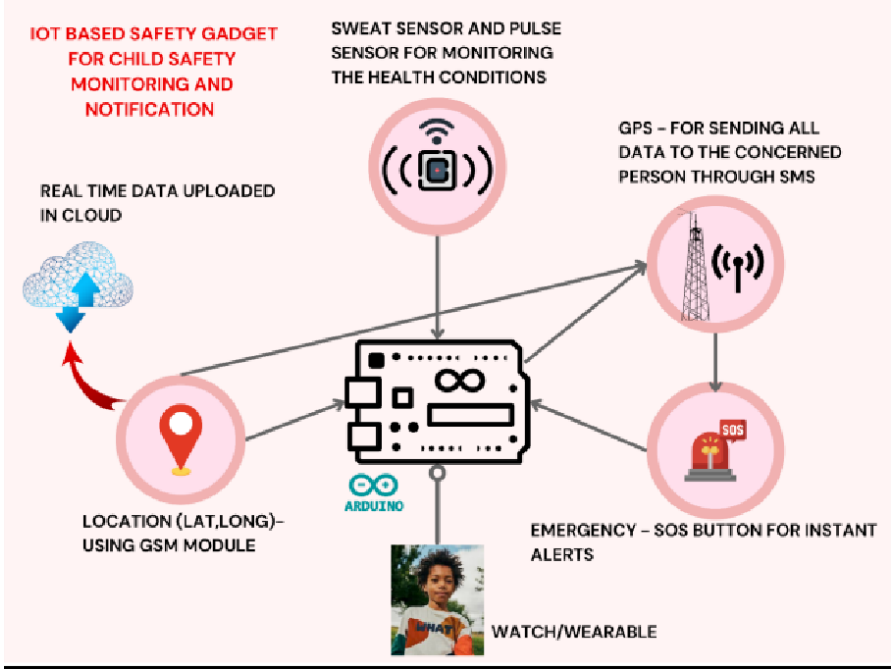
Project Design Phase-II
Technology Stack (Architecture & Stack)

Team ID	PNT2022TMID15029
Project Name	IoT Based Safety Gadget for Child Safety monitoring and navigation

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g.Web UI, Mobile App, Chat bot etc.	HTML, CSS, JavaScript /Tinker cad
2.	Application	Creating application to view the real time data received from Sensor andPeripheral devices	Tinker cad
3.	GPS NEO 6M	To Fetch the Co-Ordinates such asLongitudes and Latitudes	GPS NEO 6M
4.	GSM SIM-900A	To Send the messages to the concerned person	GSM Module-SIM900A
5.	ESP 32	To push the data to the cloud	ESP32
6.	Database	Data Type, Configurations etc.	SQL,MYSQL
7.	Sweat And Pulse Sensor	To Monitor the health conditions using Sensor andto send it to the controller for actuation	Sweat and Pulse sensor
8.	ARDUINO UNO R3	Acts as Controller where every peripheral devices are connected to	Atmega328p
9.	Cloud Database	Database Service on Cloud	IBM Cloud, Firebase
10.	File Storage	File storage requirements	IBM Block Storage or Other StorageService or Local File system
11.	External API-1	Purpose of External API used in the application	Map API
12.	Infrastructure (Server / Cloud)	Application Deployment on Local System / CloudLocal Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python Django Framework
2.	Security Implementations	List all the security / access controls implemented,use of firewalls etc.	SSL 256 , MQTT
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Load Balancer,AWS
4.	Availability	Load balancer, Cloud Services, Uptime , Low Latency	Amazon Ec2 Server, Load balancer
5.	Performance	Design consideration for the performance of theapplication	Amazon Lamda services,AmazonElastic beans