Project Design Phase-II
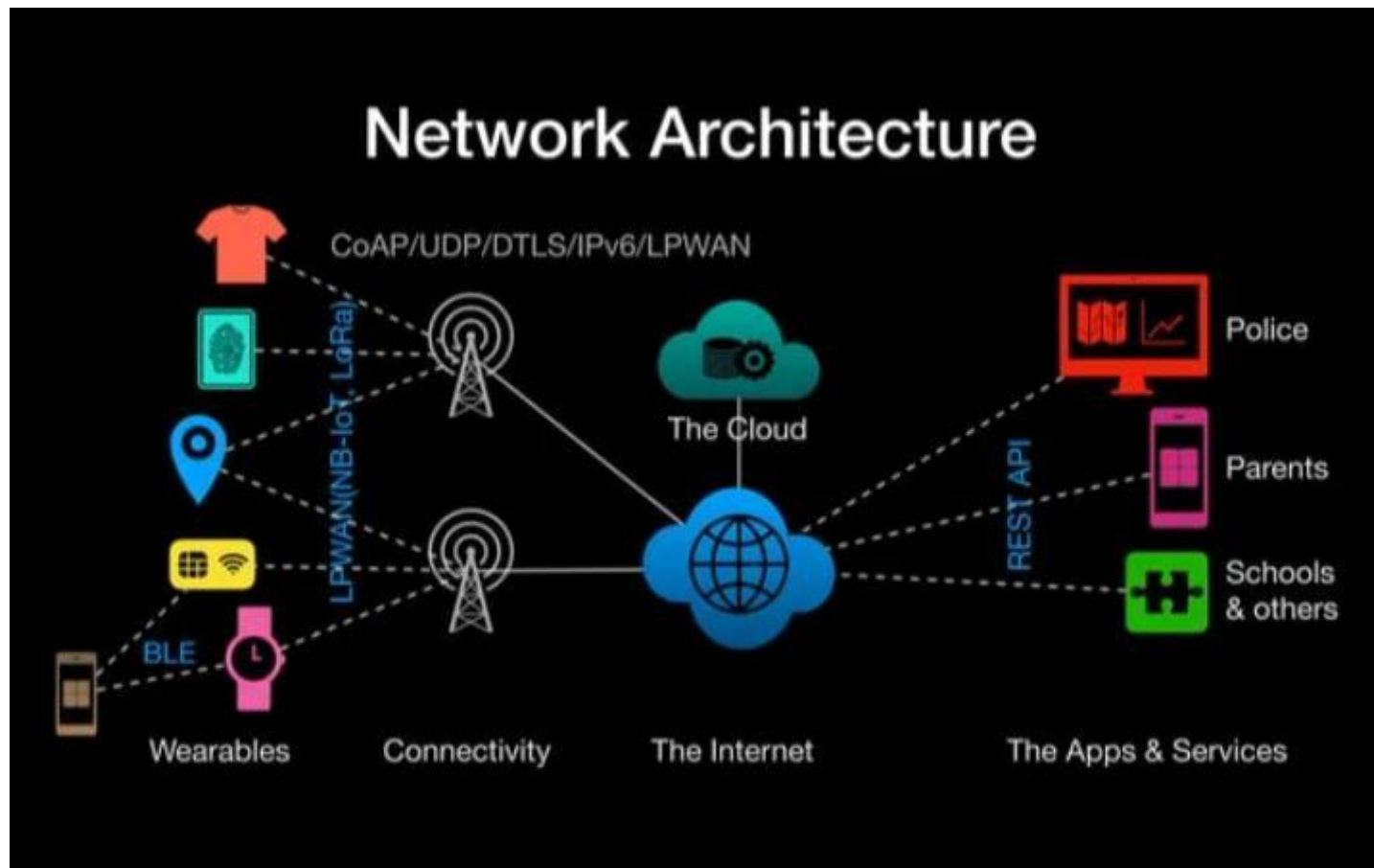## Technology Architecture

Date	11 November2022
Team ID	PNT2022TMID14548
Project Name	IOT based gadget for child safety monitoring and notification
Maximum Marks	4 Marks

Technical Architecture:

Safety of a child in a large public event is a major concern for event organizers and parents. This paper addresses this important concern and proposes an architecture model of the IoT-enable smart child safety tracking digital system. This IoT-enabled digital system architecture integrates the Cloud, Mobile and GPS technology to precisely locate the geographical location of a child on an event map. The proposed architecture model describes the people, information, process, and technology architecture elements, and their relationships for the complex IoT-enable smart child safety tracking digital system. The proposed architecture model can be used as a reference or guide to assist in the safe architecture driven development of the various child tracking digital systems for different public events.
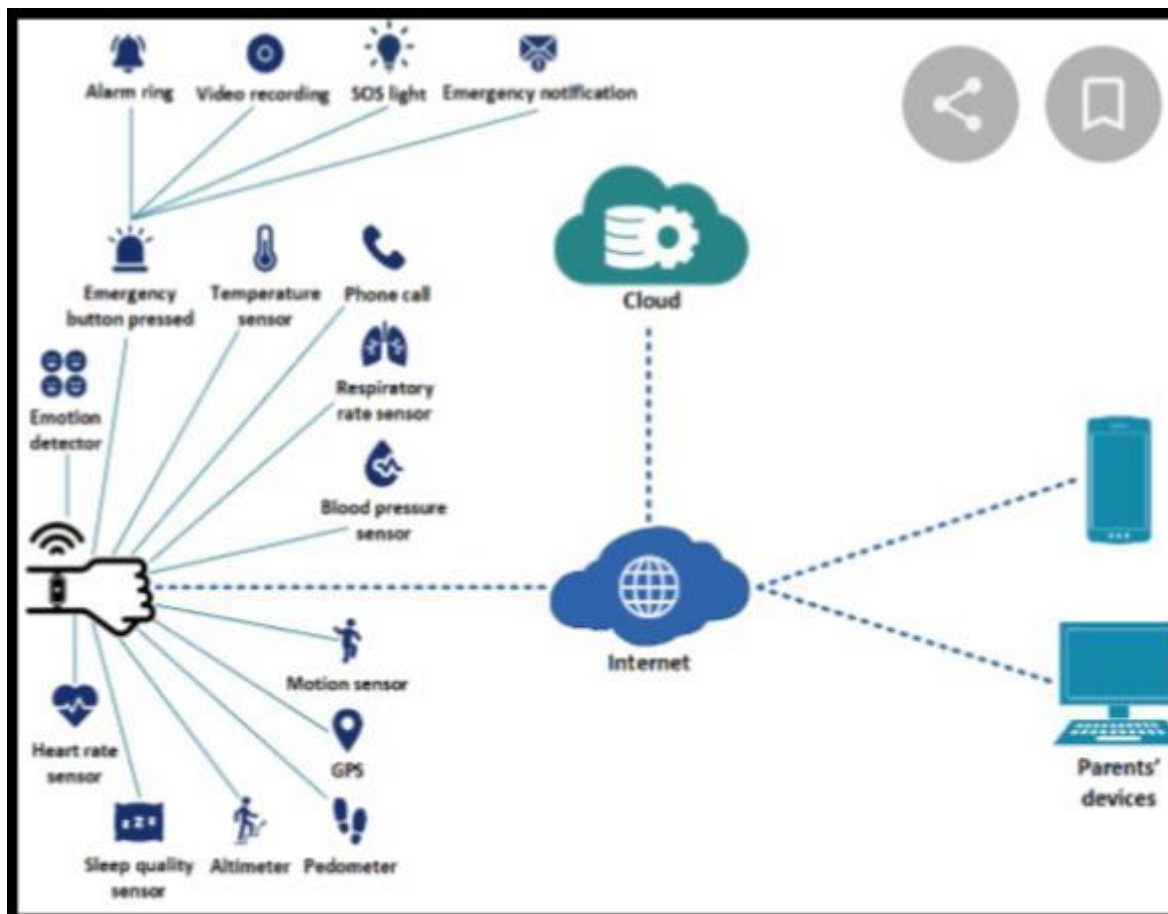
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	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-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local 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	Technology of Open source framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryption, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balances, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

Children that will serve the purpose of alerts and way of

Communicating with secure channels and it update the

Current location through IOT. Safety device with wearable's

Which help track the daily activity of children and also help

Find the child using Wi-Fi and Bluetooth services present on

The device. The child sends location coordinate by using

Sensor updates to the server and the updates saved in the

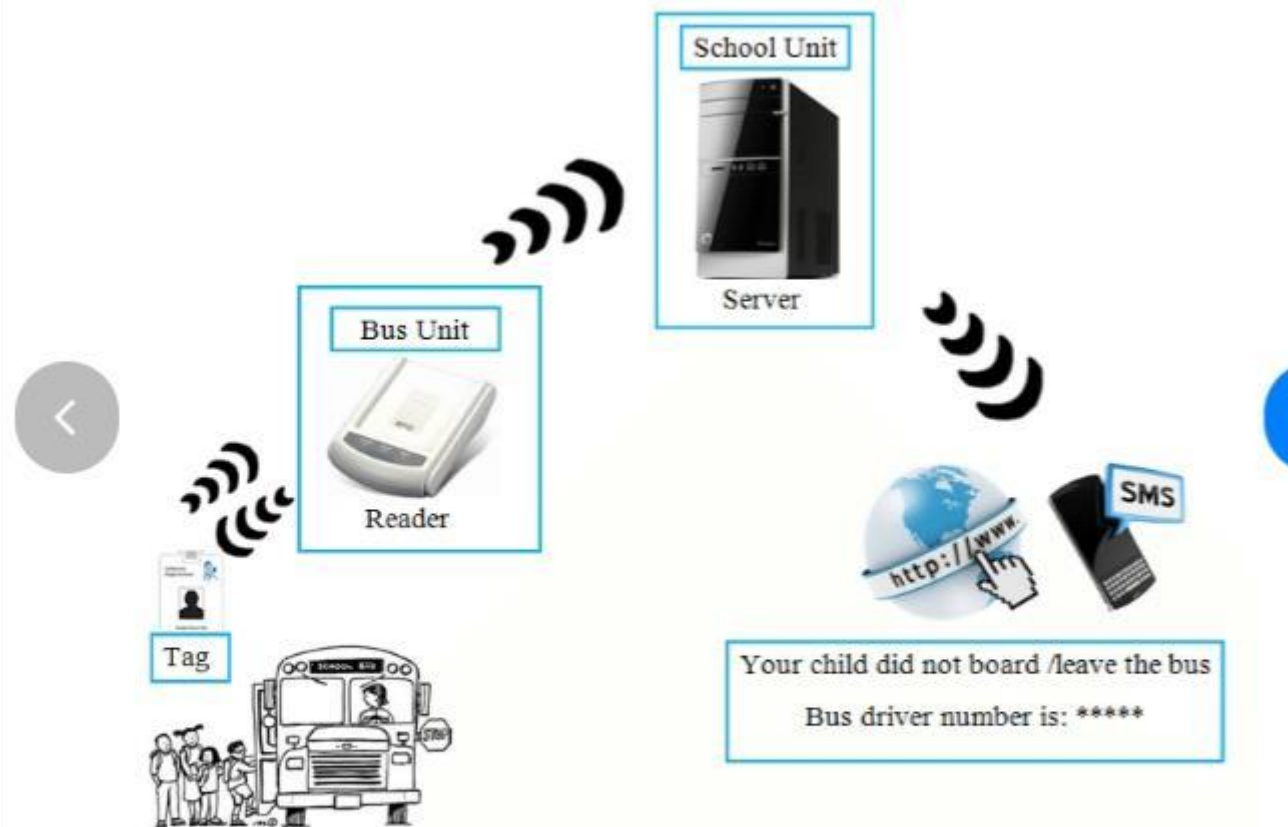**Database on the server. An ATmega328p micro-controller**

Controls the system architecture of the wearable with an

Arduino boot-loader.

The system architecture of the wearable is based

And controlled by an ATmega328p micro-controller with an

Arduino UNO boot-loader.

The Proposed System Architecture