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

MEMBER 1	**HARIPRASAD E**
MEMBER 2	**INBARAJ M**
MEMBER 3	**KARTHICK K**
TEAM LEAD	**GOWTHAMASARAVANAN V M**

Technical Architecture:

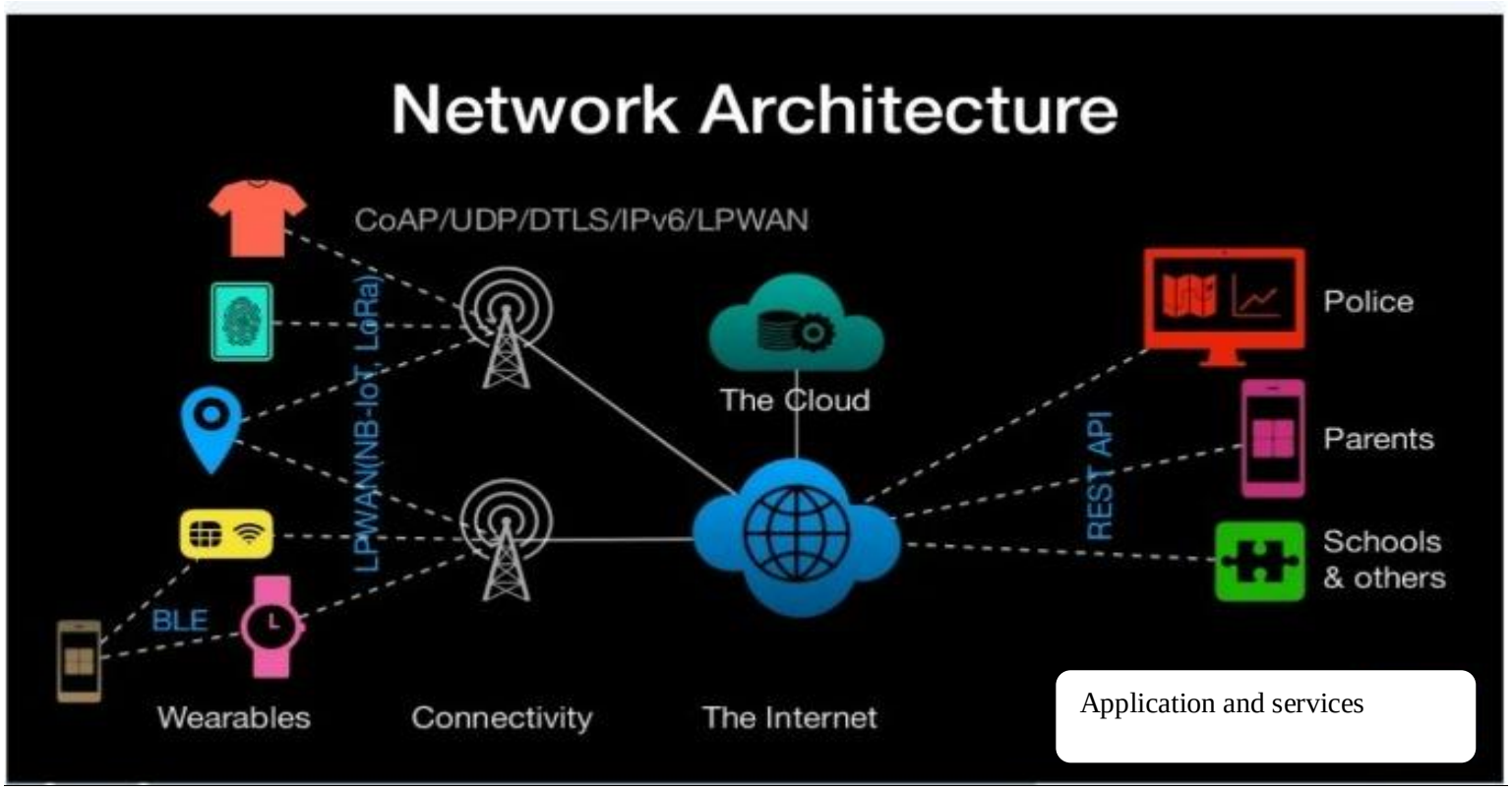

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User had to register and view the other device's location. e.g: Web UI, Mobile App etc.	HTML, CSS, JavaScript
2.	IoT Application Logic-1	Registration of child's and parent's device in each others device	Python
3.	IoT Application Logic-2	Child's GPS should be in on condition, Parent'sdevice should always connected to Child's device	IBM Watson Assistant IBM
4.	IoT Application Logic-3	If child shouts out of danger it will be notified to parent's device by tracking & converting using STT Data	Watson STT ServiceSQlite,
5.	Database	Type can be any format such as arbitrary binarydata, text. User-defined blob of data sent from CloudIoT Core to a device etc.	InFluxDB
6.	Cloud Database	Users install tracking software on a cloud infrastructure to implement the database.	IBM DB2, IBM Cloudant etc.
7.	File Storage	Files will be labeled with what they contain and howlong they should be kept.	IBM Block Storage or Local Filesystem
8.	External API-1	Purpose of External API used in the device is to usethe internet for communicating and conducting allotted operations efficiently.	Aadhar API, etc.
9.	External API-2	External API used in the device to expose data that enables those devices to transmit data to your device/mobile, acting as a data interface.	City Geo-Location Lookup API etc.
10.	Machine Learning Model	IoT and machine learning deliver insights otherwise hidden in data for rapid, automated responses and improved decision making	Object Recognition Model, Danger Prediction Model etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Wearable tech deviceCloud Server Configuration: Massive network thatsupports IoT devices and applications	Local, Cloud Foundry, Kubernetes, Underlying Infrastructure etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Device that removes much of the manual work needed to write and configure code. It provides rapid development, is easy to set up and has a strong support base	Main flux, Thinger.io, Zetta for non-stop streaming of child Condition, Open-remote
2.	Security Implementations	To trigger the alarm and enable automatic voice recording whenever the emergency button is pressed.	e.g. SHA-256, Encryption of data regarding child condition, Firewalls, Antivirus, Data Loss Prevention
3.	Scalable Architecture	If problem arises parents can see the features like location, voice recordings of the child along with live tracking around the children without hindrance	Multiple Data Storage Technologies, Reliable Micro services, Automated Bootstrapping
4.	Availability	Child monitor, audio monitor, location monitor	GPS, GSM, microphone, Raspberry pi microprocessor
5.	Performance	When the child crossed the geo-fence, the device starts record the sound and sends it to the parent(user).	GSM tracker, High Durable Device Battery