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

Date	03 October 2022
Team ID	PNT2022TMID34911
Project Name	IOT BASED SAFETY GADGET FOR CHILD SAFETY MONITORING AND NOTIFICATION.
Maximum Marks	4 Marks

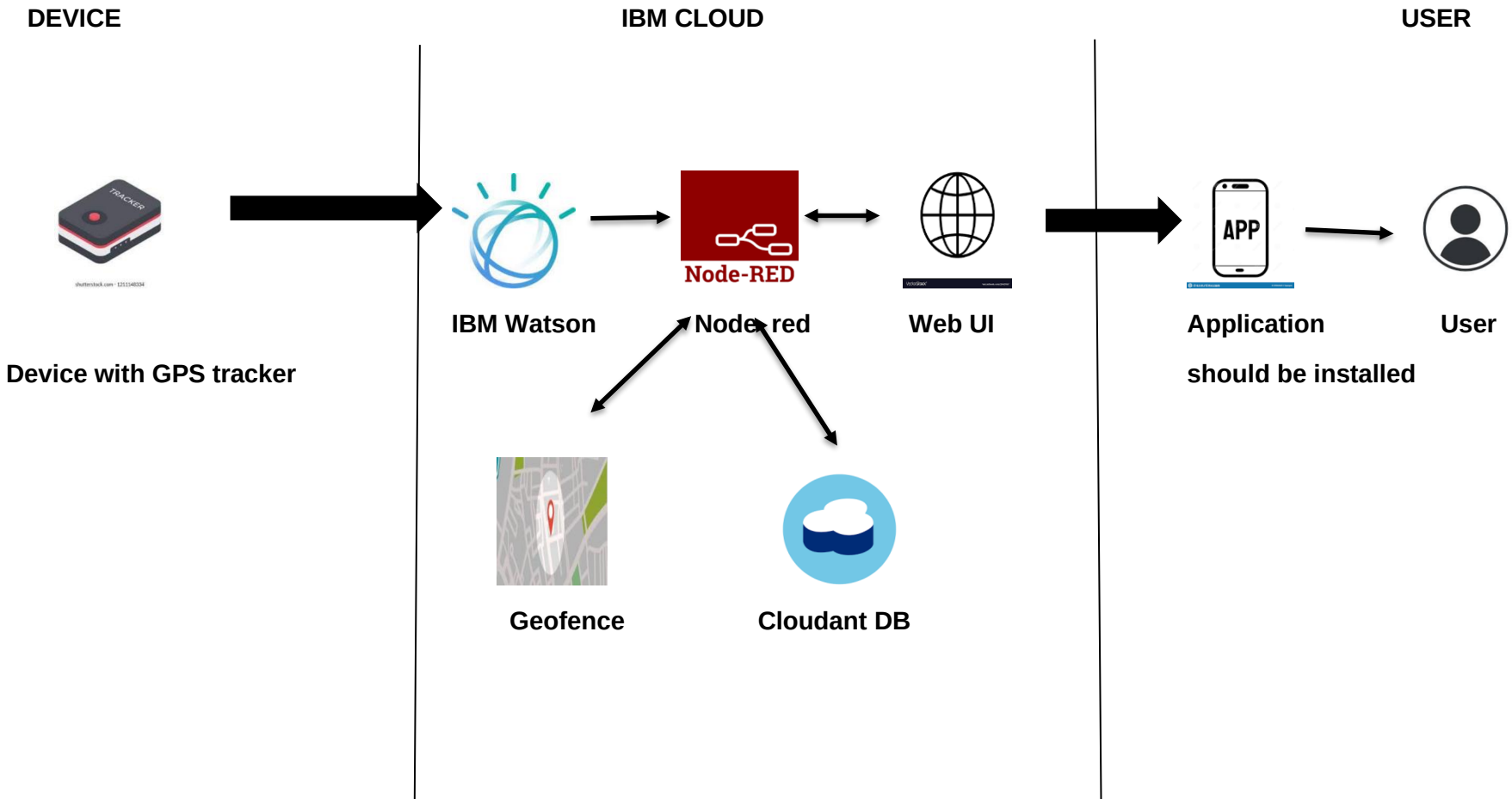

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	Application, Web UI, SMS	Python
2.	Application logic-1	To interconnect physical I/O, cloud-based systems, databases, and API's	Node-red
3.	Application logic-2	Build, run and manage AI models	IBM Watson
4.	GPS Tracker	Continuously monitor and track exact location of the child	GPS
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud which is used to store the datas.	IBM Watson, Geofence, Node Red, cloudant DB, Web UI
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	To visualise the actual location of the target	Google map API, etc.
9.	Internet Source	Internet connection is required for the process	Wi-Fi Module, Cellular data, Ethernet Cable.
10	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud system.	IBM clould
11	Arduino	Arduino is an open-source electronics platform based on easy-to-use hardware and software. It able to read the inputs and turns it into an output.	C++

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python framework	Python
2.	Security Implementations	To prevent the data from unauthorized access and prevent hacking. This device is invisible to strangers.	Encryptions
3.	Scalable Architecture	It is a 3- tier architecture. It consists of three layers they are user, cloud and device. With the help of this application the location can be tracked and the location can be viewed by the admin. The data is stored in the cloud.	Node-Red, IBM Watson, google map API and cloud services.
4.	Availability	The application is used to visualise the child location using Google map.	Node-Red, IBM Watson, google map API and cloud services.
5.	Performance	The notification will be send periodically to the customers device application.	Node-Red, IBM Watson, google map API and cloud services.