Project Design Phase-I
Solution Architecture

Date	18 October 2022
Team ID	PNT2022TMID02743
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	4 Marks

Solution Architecture:
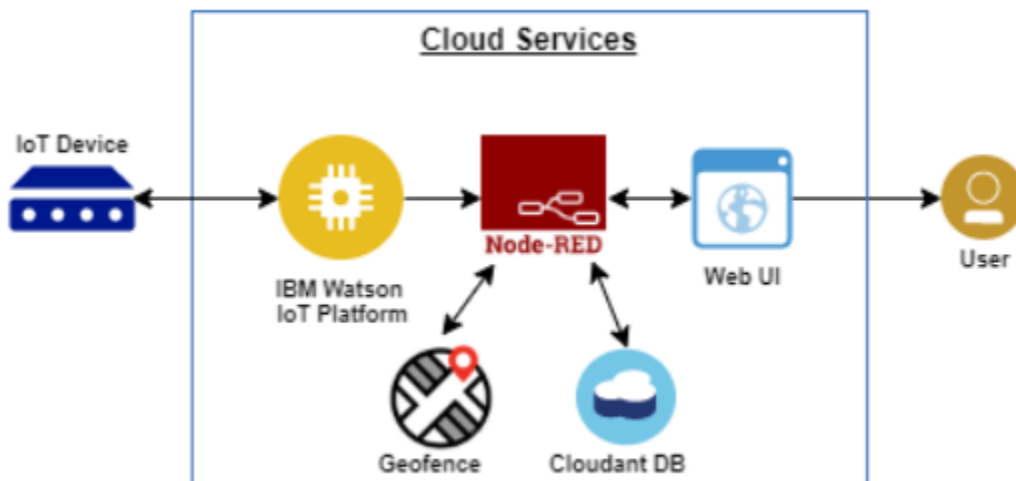
IoT Device :

      IoT devices are the non standard computing devices that connect wirelessly to a network and have the ability to transmit data. Here we use IoT devices like microcontroller , sensors for input and buzzers , LED light for output.

IBM Watson IoT Platform :

      Clean and simple UI where you can simply add and manage the devices and control access to the IoT devices and monitor the usage of the devices. Here we add up all the devices that our application need , monitor them and connect with api calls to the node - red platform.

Node - RED :

      Node - RED is a programming tool for wiring the hardware , API and online services in new and interesting ways. It is a low code platform where you can easily create the application by just drag and drop . We can keep on adding features to our application without worrying about the internal

operations. In our application , node red helps to interact with the db (Cloudant db) , store and manage data in the cloud db.

Geofence :

A geofence is a virtual perimeter of a real world - geographical area . A geo world can be dynamically created or match a predefined set of boundaries. In our application , the geo fence is created by the parents using node - red.

Cloudant DB :

Cloudant is an IBM software product, which is primarily delivered as a cloud-based service. Cloudant is a non-relational, distributed database service of the same name. Cloudant db is the datastore where we store every data of this application.

Web UI :

Web is a place where every device in the internet can communicate with each other. Web UI is the application layer for our application where users can interact with their devices , monitor their child , check the location history and check the future and current weather conditions of the child location.

User :

User can be parents or guardians who are responsible to monitor the chlid.