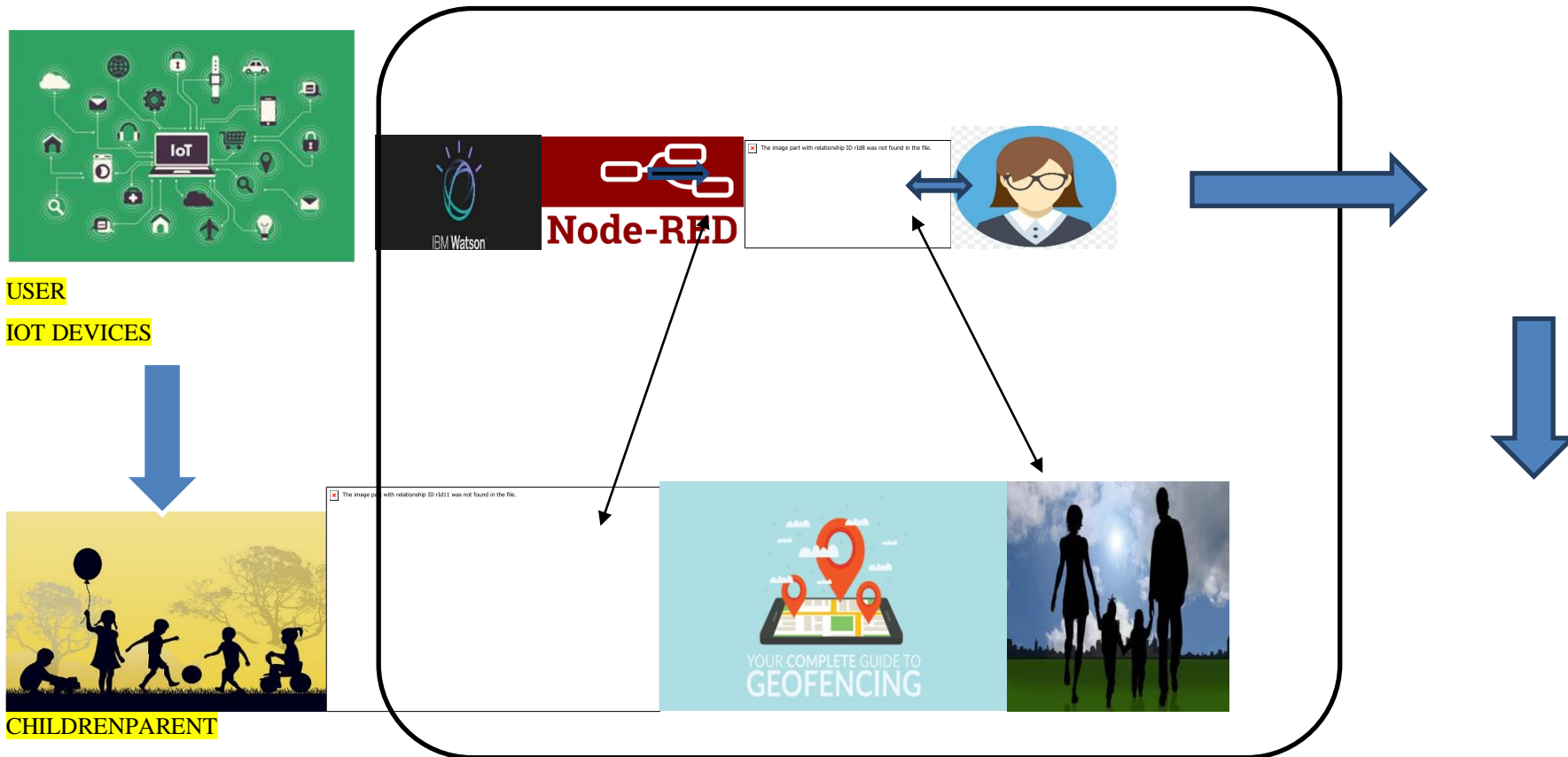


## Project Design Phase- IITechnologyStack(Architecture&Stack)

<b>Date</b>	14October2022
<b>TeamID</b>	PNT2022TMID30696
<b>ProjectName</b>	Project-IOTBased SafetyGadgetforChild SafetyMonitoringandNotification
<b>MaximumMarks</b>	4Marks

### TechnicalArchitecture:

The Deliverables shall include the architectural diagrams below and the information as per the table 1 & table 2



**Table – 1:Components&Technologies:**

<b>S.No</b>	<b>COMPONENT</b>	<b>DISCRIPTION</b>	<b>TECHNOLOGY</b>
1.	UserInterface	Userhadtoregisterandviewtheotherdevice's locatione.g.WebUI,MobileAppetc.	HTML,CSS,JavaScript
2.	IOTApplicationLogic-1	Registrationofchild'sandparent'sdeviceineachother device.	Python
3.	IOTApplicationLogic-2	Child'sGPSshouldbeinoncondition,Parent'sdeviceshouldalwa ysconnectedtoChild'sdevice.	IBMWatson Assistant
4.	IOTApplicationLogic-3	Ifchildshoutsoutofdangeritwillbenotifiedtoparent'sdevicebytra cking&convertingusing STT.	IBMWatsonSTTService
5.	Database	DataTypecanbeany formatsuchas arbitrarybinarydata,text.User- definedblobofdatasentfromCloudIOT Coretoadviceetc.	SQLite,InFluxDB
6.	CloudDatabase	Users install tracking software on a cloud infrastructuretoimplementthedatabase.	IBMDB2,IBMCloudantetc.

7.	FileStorage	Files will be labeled with what they contain and how long they should be kept.	IBM Block Storage or Local Filesystem
8.	ExternalAPI-1	Purpose of External API used in the device is to use the internet for communicating and conducting allotted operations efficiently	Aadhar API .....etc.
9.	ExternalAPI-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.	CityGeo-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 Mode etc..
11.	Infrastructure (Server/Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Wearable tech device Cloud Server Configuration: massive network that supports IOT devices and applications	Local, Cloud Foundry, Kubernetes, Underlying Infrastructure etc.

**Table-2:ApplicationCharacteristics:**

S. No	Characteristics	Description	Technology
1.	Open-SourceFrameworks	A device that automates most of the laborious labour involved in writing and configuring programming. It allows for quick development, is simple to set up, and has a large user base.	Mainflux,Thinger.io.Zettafor nonstop streaming of child condition,Openremote.
2.	SecurityImplementations	To trigger the alarm and enable automatic video recording whenever the emergency button is pressed.	e.g.SHA-256,Encryption of data regarding child condition,Firewalls,Antivirus, Data Loss Prevention.
3.	ScalableArchitecture	If problem arises parents can see all the features like location, temperature, heart beat of the child along with live view around the children without hindrance	Multiple Data Storage Technologies,Reliable Micro services, Automated Bootstrapping
4.	Availability	Child monitor, audio monitor, location monitor, video monitor	Temperature,Pulse sensor,GPS,GSM,Webcamera,Raspberry microprocessor
5.	Performance	When a child is facing an emergency situation, device button should be pressed so that the device captures the image along with the user information to the enrolled mobile numbers	GSM tracker,High Durable Device Battery