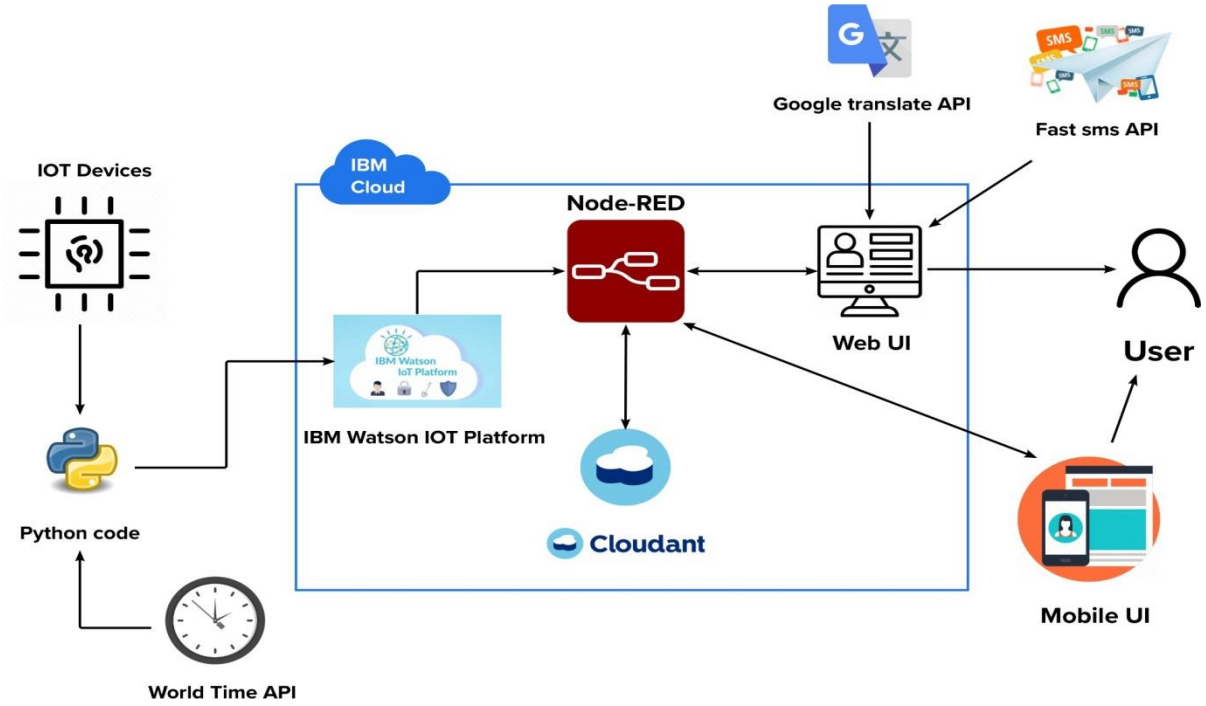
Project Design Phase-II

TechnologyStack(Architecture&Stack)

Date	14th NOVEMBER 2022
TeamID	PNT2022TMID14654
ProjectName	Hazardous area monitoring for industrial plant powered by IOT
MaximumMarks	4Marks

TechnicalArchitecture:



1:Components&Technologies:

S.No	Component	Description	Technology
1.	UserInterface	Web UI, Mobile App, SMS service and Wearabledevices	Node-RED, Fast sms and MIT Appinventor
2.	ApplicationLogic-1	Gettinginputfromsmartbeacons	EmbeddedCandPython
3.	ApplicationLogic-2	Processdataincloud	IBMWatsonIOTplatform,CloudantDBand Node-RED
4.	ApplicationLogic-3	Displaydatatotheuser	WebUI,FastsmsandMobile application
5.	Database	Realtimedatabase	CloudantDB
6.	CloudDatabase	DatabaseServiceonCloud	IBMCloudant
7.	ExternalAPI-1	Tosendsmstouser	FastsmsAPI
8.	ExternalAPI-2	Languageforthewebsiteiswrittentobedynamic	Google translateAPI
9.	ExternalAPI-3	Toaccesstime	WorldtimeAPI
10.	SmartBeacon	Tomonitortheareaandupdatethestatsinthecloud	NodeMCUandSensors
11.	Infrastructure(Server/Cloud)	ApplicationDeploymentonCloud	IBMCloud

Table-2:ApplicationCharacteristics:

S.No	Characteristics	Description	Technology
1.	Open-SourceFrameworks	TheNode-REDopensourceframeworksareusedto build the web application as well as tocommunicate with the mobile application and tohandlealertsms	Node-REDframework
2.	ScalableArchitecture	The3–tierarchitectureusedwithaseparateuserinterface, application tier and data tier makes iteasilyscalable	IBMWatsonStudio
3.	Availability	Thewebapplicationishighlyavailableasitisdeployedin cloud	IBMCloud
4.	Performance	Theperformanceofthewebsiteisimprovedwithcachin gandsecurity	IBMCloudInternetServices