ProjectDesignPhase-II

TechnologyStack(Architecture&Stack)

Date	3 NOV 2022
TeamID	PNT2022TMID14902
Projectname	Smart solutions for railways
Maximum mark	4marks

Technicalarchitecture:

TheDeliverableshallincludethearchitecturaldiagramasbelowandtheinformationasperthe
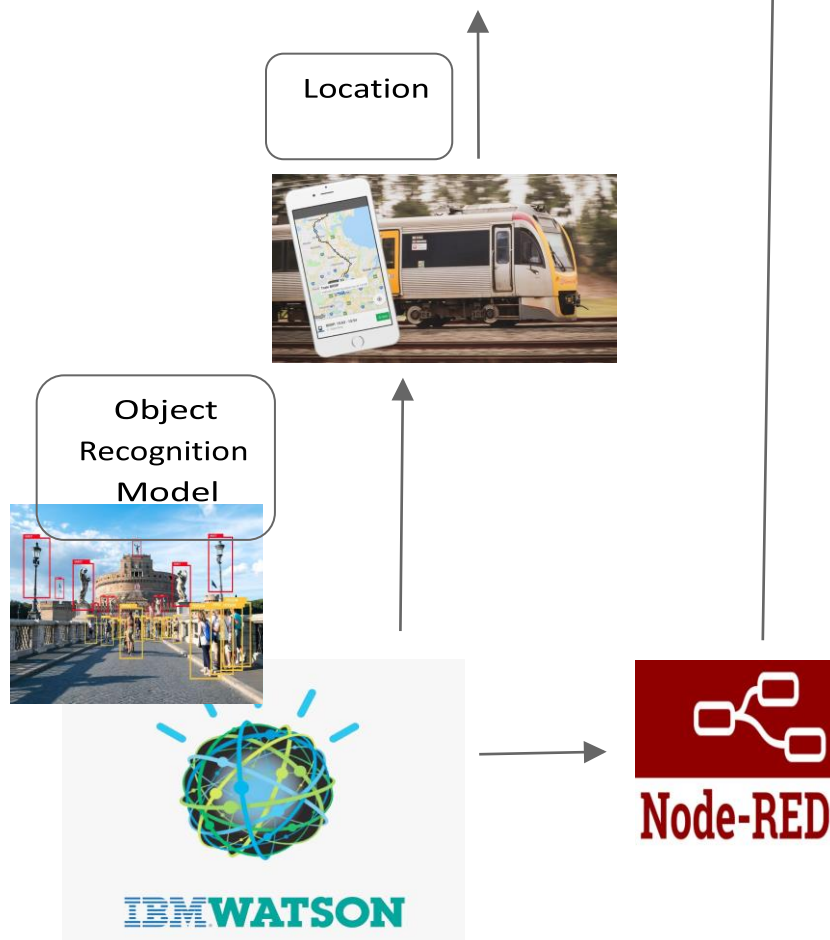
table1&table2

User

Cloudservice

QRcode scanning

Ticket booking

IBM Cloud

Cloudantdb

Railway Ticket Booking

Python

WebUI

Userticketbooking

Ibm block store

ScanQRcode.The confirmationmassagewill sendthroughtheemailid

Mobileapp

Identify userid

AADHAR CARD

Location

Object
Recognition
Model

Node-RED

IBM WATSON
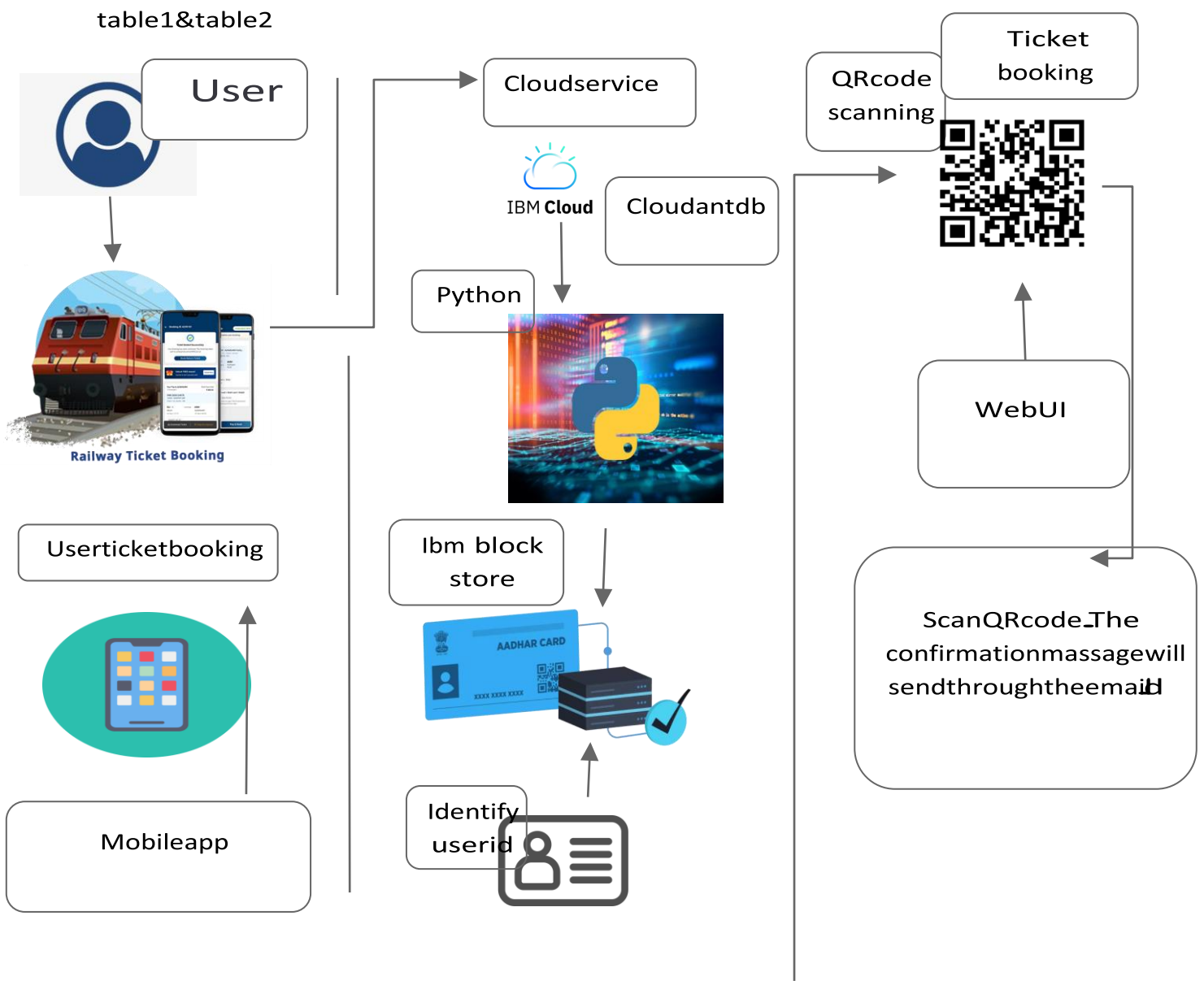
Table-1:Components&Technologies:

S.No	Components	Description	Technology
1	Userinterface	Theuserinteractwith applicationsarewebUI, mobilephone.1stuserwill beseetheapplicationlogin page.Ticketbookingon user.Theavailableintrains andseats.	HTML,CSS,Javascriptetc.
2	Application	Theapplicationwillprocess inthepythoncode.The loginpageprogrammedto usepython.Use conversationallanguage. Thinkaboutyourtarget customerandhighlight featuresthatwillappealto	Python
		thatcustomer.	

3	Clouddatabase	Usingtheclouddatabase cansavealotofstorage spaceondevices.Withthe helpofthecloudstore.User name,mobilenumber,email ID,photoonstore.	IBMCloudant
5	Filestorege	UserfilesonstoreIBM block.Manyuserfilesare stored.Peopleswill identifyingtheticket booking.Peoplewillshow thisfileonanytime.Block Storageisdesignedto protecttheintegrityofthe dataandmaintain availabilitythrough maintenanceeventsand unplannedfailures,and provideaconsistent performancebaseline.	IBMblockstore
6	ExternalAPI	customerAPIprovidesa centralsourceofaccurate customerdatathatall operationalandanalytical systemscanaccessrather thanrelyingonpoint- topointintegrationswith individualdatasources. CustomerAPIsare increasinglybeingusedto assemblenewcustomer experiencesandlaunchnew revenuemodels.	IBMweatherAPI
7	Machine learningmodel	Amachinelearningmodelis afilethathasbeentrained torecognizecertaintypesof patterns.Youtrainamodel overasetofdata,providing	ObjectRecognition

S. No	Characteristics	Description	Technology
		itanalgorithmthatitcan usetoreasonoverandlearn fromthosedata.	Model
8	Infrastructure (Server/Cloud)	UseruseofCloud configurationistheprocess ofsettinghardwareand softwaredetailsfor elementsofacloud environmenttoensurethat theycaninteroperateand communicate.	Cloudfoundary
9	GPSTracking	LiveLocationdetailsshared throughthecodetoshare thelocationinthewebsite	IBMWatsonService

S. No	Characteristics	Description	Technology
1	Open-Source Frameworks	Thecustomerusing frameworksareCSS, Backendframework,	Python,IBMcloudantDB

2	Security Implementations	Thecustomerwillentered dataisencrypted,then ContinuousLocation Tracking.Wellsecureofthis implementation.	Python,Cloudservice

Table-2:ApplicationCharacteristics:

3	Scalable Architecture	Thescannerandthecodes writtenarehighlyscalable whereanyimplementation canbedoneanytimeneeded	Python
4	Availability	Anytimeavailablesystem. Theticketcanbeverifiedby theticketcollectorfrom anywhere.thecustomereasy toreceivetheticket.	IBMLoadBalancer
5	Performance	thedetailsaregetstoredin thecloudthesystem.crash willnotaffectthedata.The datacanberetrievedfrom anywherewithascanner. AndtheGPSstatesthe exactlocationofthetrain.	DistributedServices,GPS Tracker