Personal AssistanceforSeniorswhoareSelf-Reliant

A PROJECT REPORT

SubmittedBy

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1. INTRODUCTION

1.1. PROJECTOVERVIEW

- An app is built for the user (caretaker) which enables him to set thedesired time and medicine. These details will be stored in the IBMCloudantDB.
- If the medicine time arrives the web application will send themedicinenametotheIoTDevicethroughtheIBMIoTplatform.
- Thedevicewillreceive themedicinenameandnotifytheuserwithvoicecommands.

1.2. PURPOSE

- Sometimeselderlypeopleforgettotaketheirmedicineatthecorrect time.
- TheyalsoforgetwhichmedicineHe/Sheshould takeatthatparticulartime.
- And it is difficult for doctors/caretakers to monitor the patientsaroundtheclock.Toavoidthisproblem,thismedicinereminder systemisdeveloped.

2. LITERATURESURVEY

2.1. EXISTINGPROBLEM

Elderly people let slip the medications at the correct time and theexistingsolutionsforthisproblemissettingremindersorusingpillboxes,calendars, Personal Assistance. Though the solutions give reminders, thevoicecommandsorassistancegivenbythis systemismore efficient.

2.2. REFERENCES

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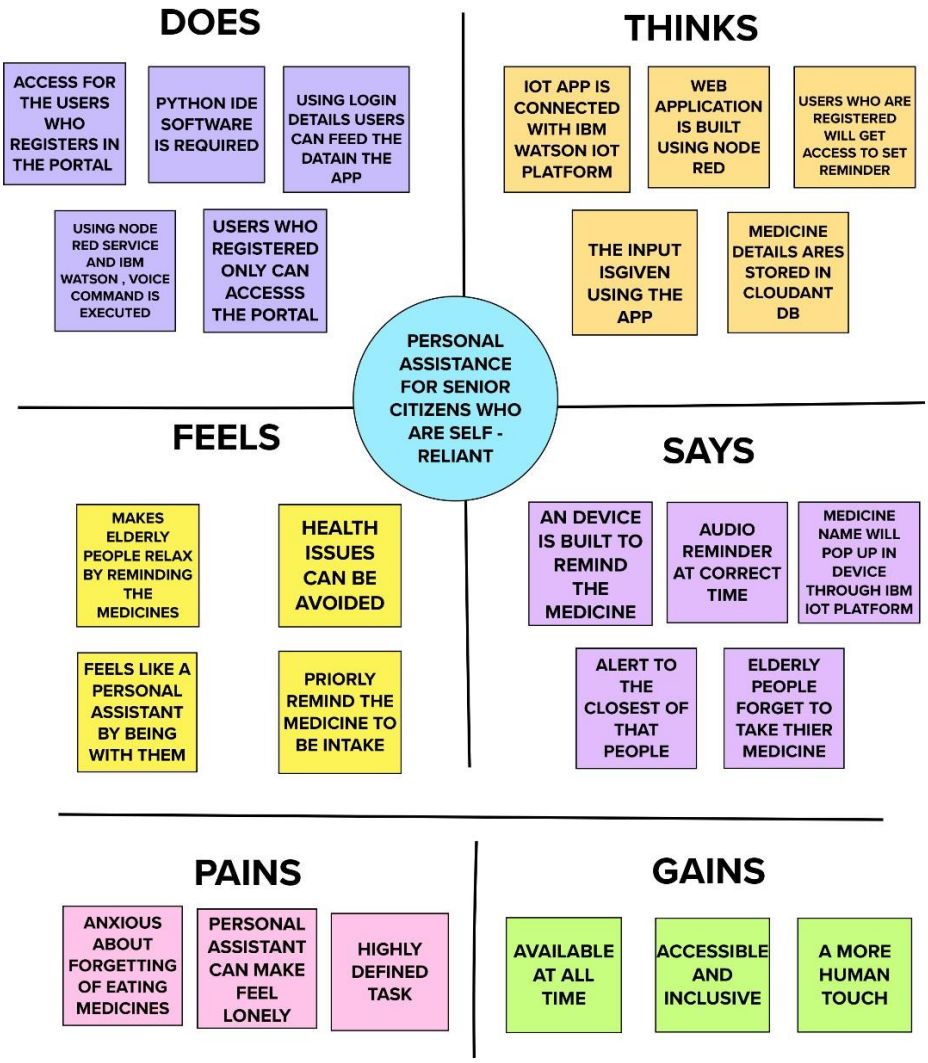
2.3. PROBLEMSTATEMENTDEFINITION

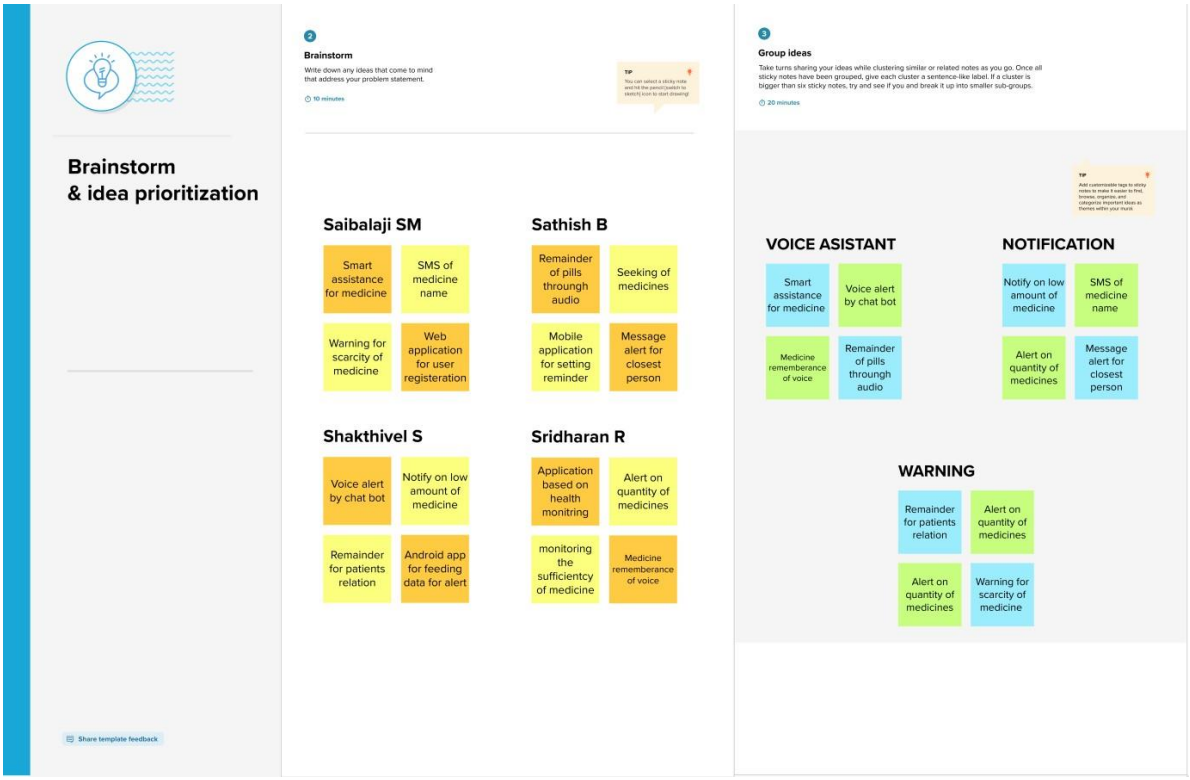
It is very difficult for the senior citizens (elder people) to remembertheir medicines. To avoid the skipping up the medicines,they can beremembered by using the voice commands of the medicine names atcorrect time specified. If the voice commands on the medicine nameisnotavailable,theyaregiventhereminderofthemedicinebySMSontheirphoneor totheirclosestperson.

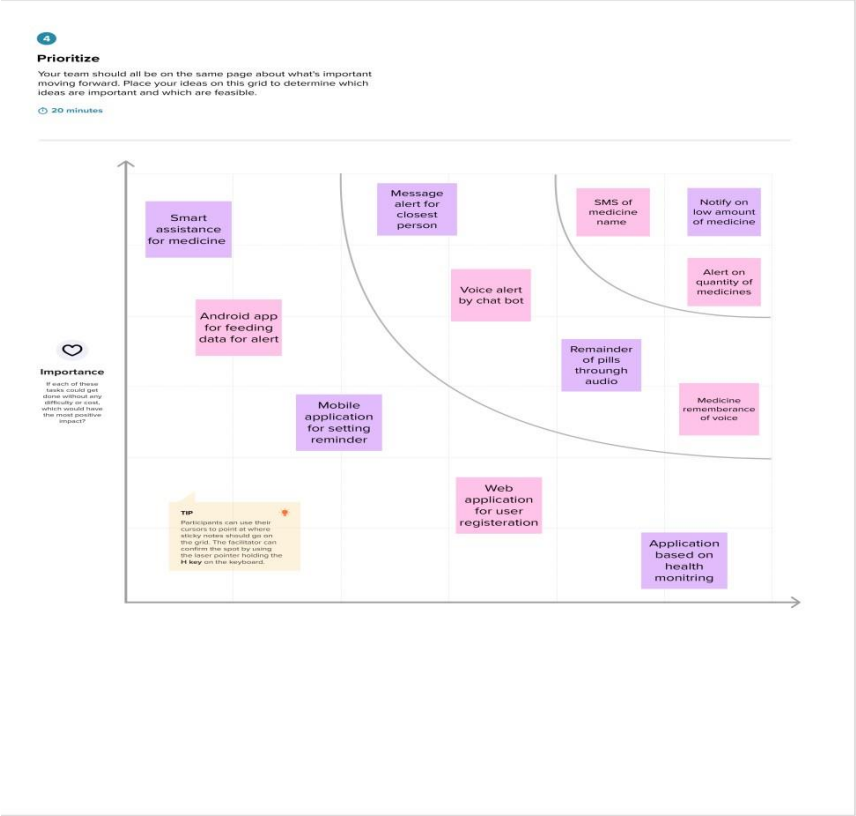
3. IDEATION& PROPOSEDSOLUTION

3.1. EMPATHYMAPCANVAS



3.2. IDEATIONANDBRAINSTORMING



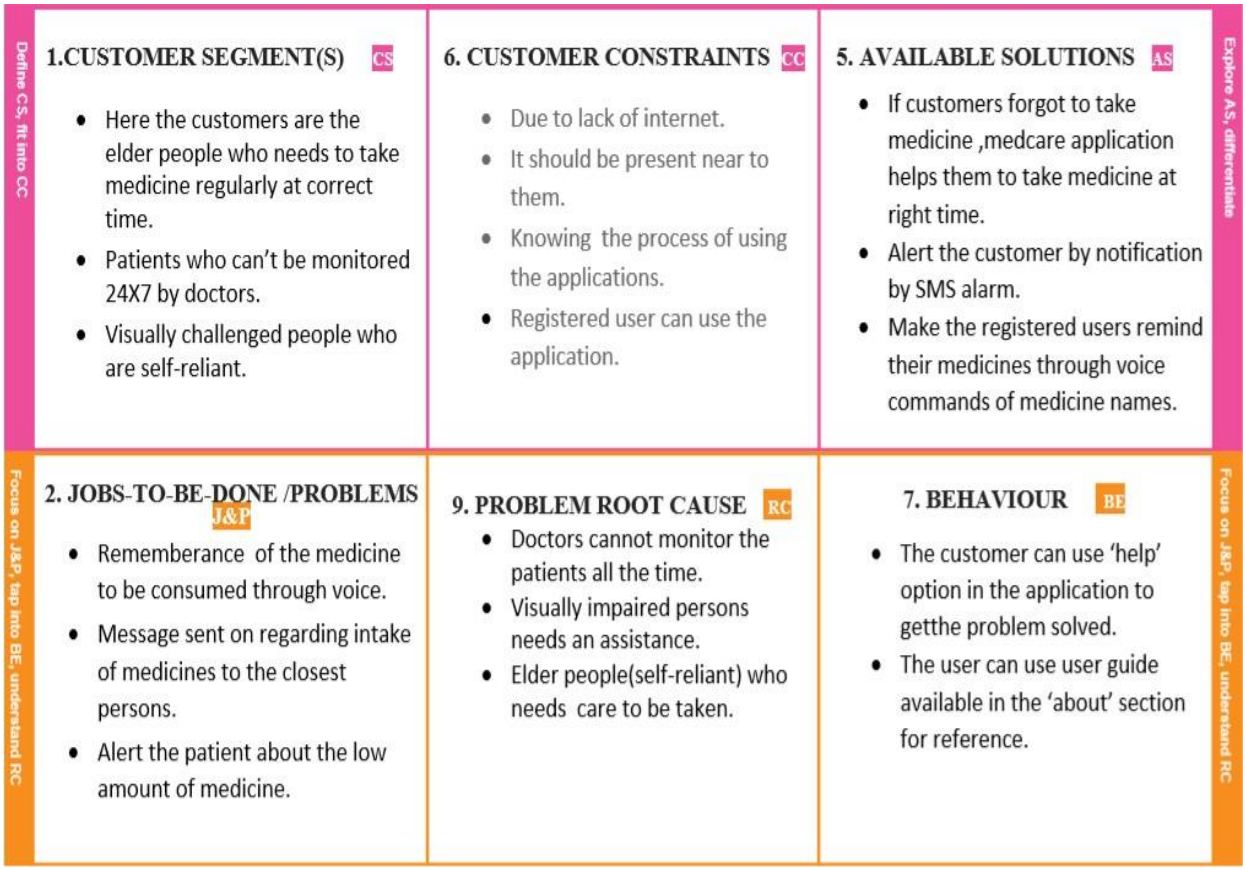


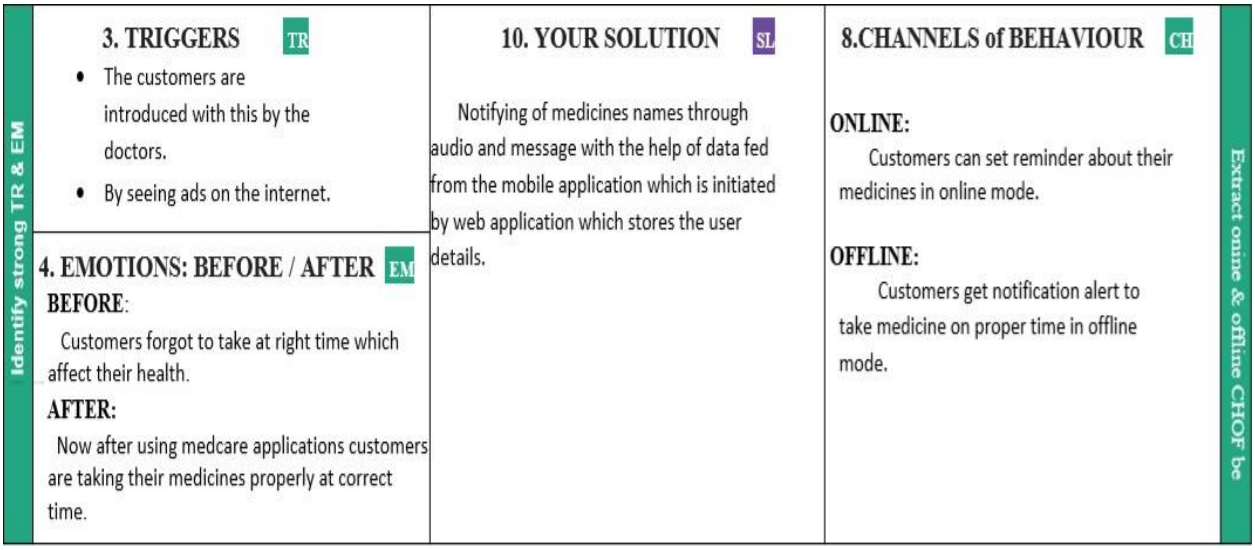
3.3. PROPOSEDSOLUTION

S.No	Parameter	Description
1	Problem Statement(Problemtob esolved)	Senior citizens who are in needof medicinereminder and self-assistancebecausetheydon'twant toskiptheirintakeofmedicine
2	Idea / Solutiondescri ption	Creationofthewebapplicationw hichremindthemedicinename andtimethroughavoicealert
3	Novelty/Uniqueness	Blindpeoplecangettoknow theirtimeof takingpills
4	SocialImpact/ CustomerSatisfaction	Theusersaresatisfiedwiththe properreminderandintakeofpills
5	Business Model(Revenue Model)	Byourwebapplicationthe revenuecanbemadeintheformofpop pingupofadvertisementsorby

		overlayingaddfromthirdparty services
6	Scalability of theSolution	Vast number of people who areaged can be provided with portabledevices to ensuretheirhealth conditions by consuming medicinesatcorrecttimeusingwebapplication

3.4. PROBLEMSOLUTIONFIT





4. REQUIREMENTANALYSIS

4.1. FUNCTIONALREQUIREMENTS

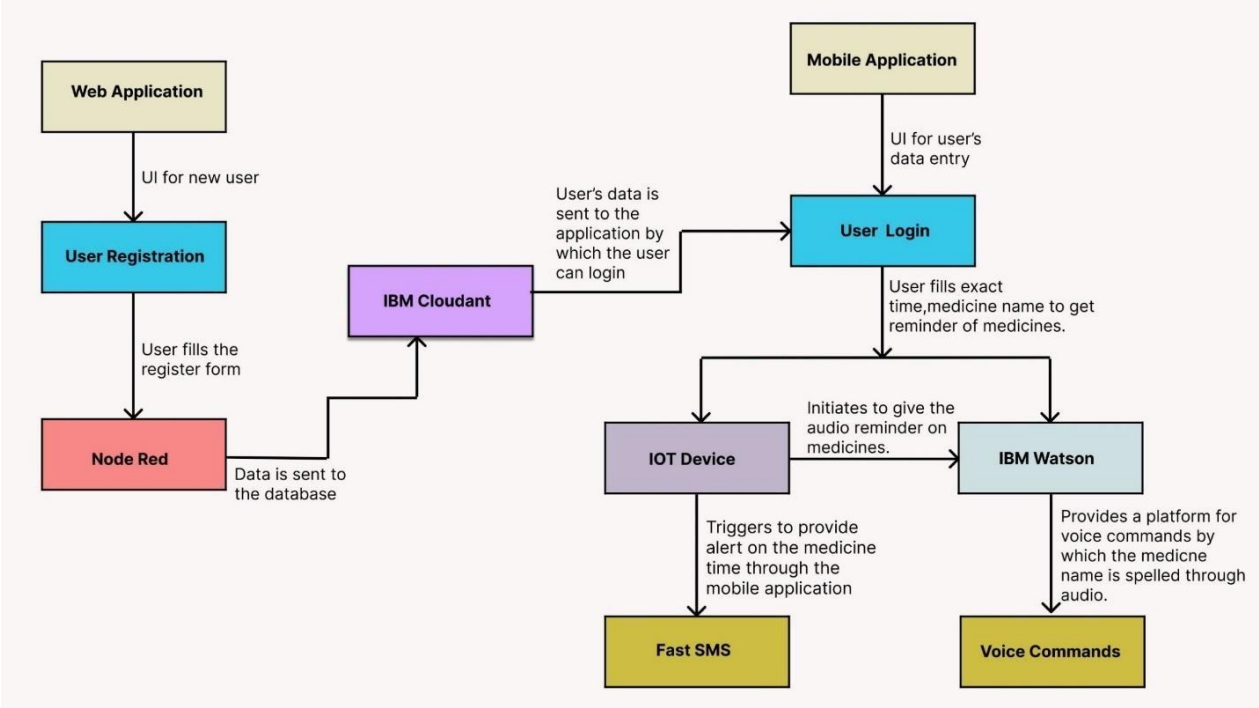
FR No.	Functional Requirement(Epic)	SubRequirement(Story/Sub-Task)
FR-1	UserRegistration	RegistrationthroughGmail Registrationbyphonenumber
FR-2	UserConfirmation	ConfirmationviaEmail ConfirmationthroughSMS/Messages
FR-3	UserLogin(Web)	Loginwithregisteredmailidand password
FR-4	User Login(mobileapp)	Loginwithregisteredmobilenumberand password
FR-5	User'sMedical Information	Intheapp,enteryourmedicine detailswithdate.Thensetthetimeint heapp.

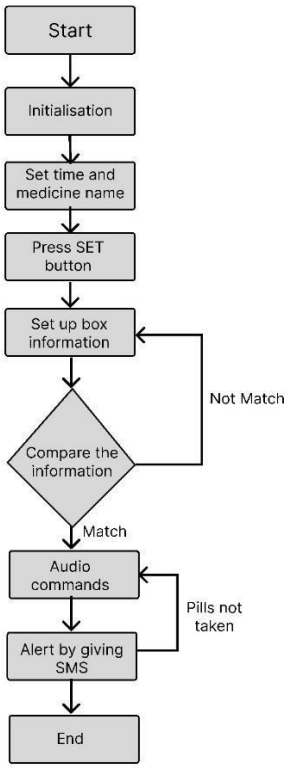
4.2. NON-FUNCTIONALREQUIREMENTS

FR No.	Non-FunctionalRequirement	Description
NFR-1	**Usability**	The system should be user-friendlyfortheusers.Itisusedtoremaindthemedicinenames. Italertstheusersthroughvoicecommands.
NFR-2	**Security**	Thelogininformationshouldnotbeaccessedby anyotherusersthantherespective. The dataofthe usersshould be keptconfidential.
NFR-3	**Reliability**	Remindsoncorrecttime Theuserdatashouldbeupdatedandexaminedafter certain periodof time.
NFR-4	**Performance**	Thevoicemessagewillbedeliveredaccuratelytothegiventime. It works without any connectioninterruption
NFR-5	**Availability**	Thesystemshouldbemonitored24X7forthealertofmedicines. Itcanbeusedbyanyregisteredusersfromanyplace.
NFR-6	**Scalability**	Itiseasilyadaptable Thedeviceiscompatibleandportable Theapplicationcanhandleanynumberofregistration.

5.PROJECTDESIGN

5.1. DATAFLOWDIAGRAMS





5.2. SOLUTION&TECHNICALARCHITECTURE

IOTDevice:

- Gettingtheinformationfromtheapplicationaboutthetimeandnameofthe medicines.
- SendinganSMStothepersons.
- Gatheringtheuserinformationfromthewebapplicationinwhichtheuserr egisters.

Toaccomplish this,wehavetocompleteallltheactivitieslistedbelow:

CreateandConfigureIBMCloudServices:

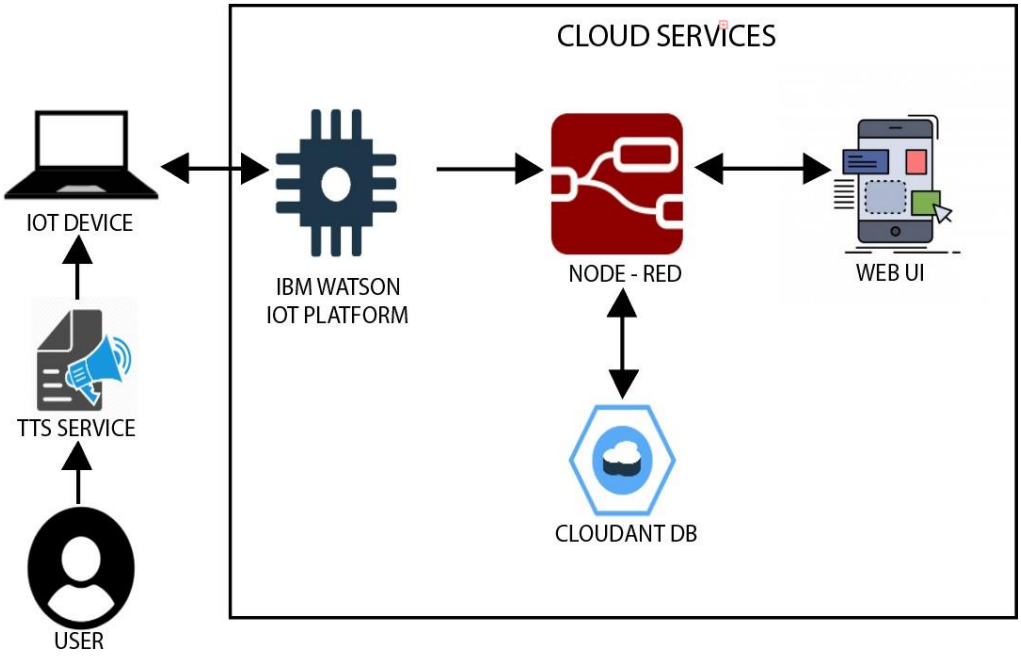
- CreateIBMWatson IOTplatform
- Create adevice&configuretheIBMIOTPlatform
- CreateNode-Redservice
- CreateadatabaseinIBMCloudantDBtomedicinenames andtime.

DevelopawebapplicationusingNode-REDservice:

- DevelopthewebapplicationusingNode-RED.
- Developapythonscripttopublishthemedicinenamesandtimetoremindd etails totheIBMIOT Platform.

Developanapplication:

- Developanapplicationinwhichtheusercanfeedthedataonthemedicinen ame and time.
- Developanapplicationwhichcantransmitthesignalontherminderofthe medicines at thetimespecified.



5.3. USERSTORIES

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Senior citizen)	Caretaker	USN-1	As a user, I want to take medicines on time so that I can my health.	I want to take medicine on time.	High	Sprint-1
Customer (Mentally idled patient)	Janitor	USN-2	As a user, my patient should maintain good health by consuming medicines on time.	My patient needs to take medicines at proper time.	High	Sprint-2
Customer (Disabled person)	Smart medicine box	USN-3	As a user, I need to take my medicines at correct time through nearby person via SMS.	I need to take medicines at accurate time by notification.	Medium	Sprint-4
Customer (Coma patient)	Virtual medikit	USN-4	As a user, my patient medication time and name should be loaded in database.	My patient's medicine name and time should be in database list.	High	Sprint-2
Customer (Alzheimer patient)	Digital medicare	USN-5	As a user, I want to take medicines on time by voice commands.	I want to take medicines on time by voice assist. .	Medium	Sprint-3

6. PROJECTPLANNING&SCHEDULING

6.1. SPRINTPLANNING&ESTIMATION

Sprint	Functional Requirement (Epic)	User StoryNumber	User Story /Task	Story Points	Priority	TeamMembers
Sprint-1	Login	USN-1	As a admin, Ican log intotheapplicationby enteringusername& password	5	Medium	Susritha. N. R
Sprint-1		USN-2	When theadmin doesn’tenter theusername itdisplays anerrormessage group	3	Medium	Susritha. N. R
Sprint-1		USN-3	When theadmin doesn’tenter thepasswordit displays anerrormessage popup	4	Medium	Susritha. N. R
Sprint-1		USN-4	When theadmin entersthe invalidcredentials itdisplays anerrorpopu	5	Medium	Deepika. R

			p			

Sprint	FunctionalRequirement(Epic)	UserStoryNumber	User Story /Task	Story Points	Priority	TeamMembers
Sprint-1		USN-5	When theadmin enterthe correctusername andpassword itredirectstothe dashboard	3	High	Deepika. R
Sprint-2	Dashboard	USN-1	Creatinga Node-Reddashboard	5	Medium	Lekha Kamaleshwari. J
Sprint-2		USN-2	Devoloping aNode-Redto publish data toIBMcloud	8	High	Lekha Kamaleshwari. J
Sprint-2		USN-3	Create aregisterform inNode-Red	7	Medium	Lekha Kamaleshwari. J
Sprint-3	Creating device	USN-1	Creating adevice in IBMWatsonIOT platform	10	High	Susritha. N. R.
Sprint-3	Python	USN-2	Connectthedevicecreatedinwokwitothe devicecreatedinIBM Watson IOTplatform.	10	High	Lekha Kamaleshwari. J
Sprint-4	MITapp inventor	USN-1	Create aInterfacefor login	5	Low	Lekha Kamaleshwari. J

			pageandDashboard			

Sprint	FunctionalRequirement(Epic)	UserStoryNumber	User Story /Task	Story Points	Priority	TeamMembers
Sprint-4		USN-2	ConnectMITapptoNode Red	5	High	Deepika. R
Sprint-4		USN-3	As a user, Icankeeptrack of the medicinetime	6	Medium	Deepika. R
Sprint-4	Alert	USN-4	Retrieving thetime fromcloudant andalert the userthroughvoice command	4	High	Susritha. N. R

6.2. SPRINTDELIVERYSCHEDULE

Sprint	Total Story Points	Duration	Sprint Start Date	SprintEnd Date(Planned)	StoryPointsCompleted(asonPlannedEndDate)	SprintReleaseDate(Actual)
Sprint-1	20	4Days	31Oct 2022	3Nov 2022	20	2Nov 2022
Sprint-2	20	5Days	04 Nov2022	8Nov 2022	20	8Nov 2022
Sprint-3	20	5Days	09Nov 2022	13Nov 2022	20	12Nov 2022
Sprint-4	20	4Days	14Nov 2022	17Nov 2022	20	18Nov 2022

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is20 (points per sprint). Let's calculate the team's average velocity (AV) periterationunit (storypointsper day)

AV=Sprintduration/Velocity

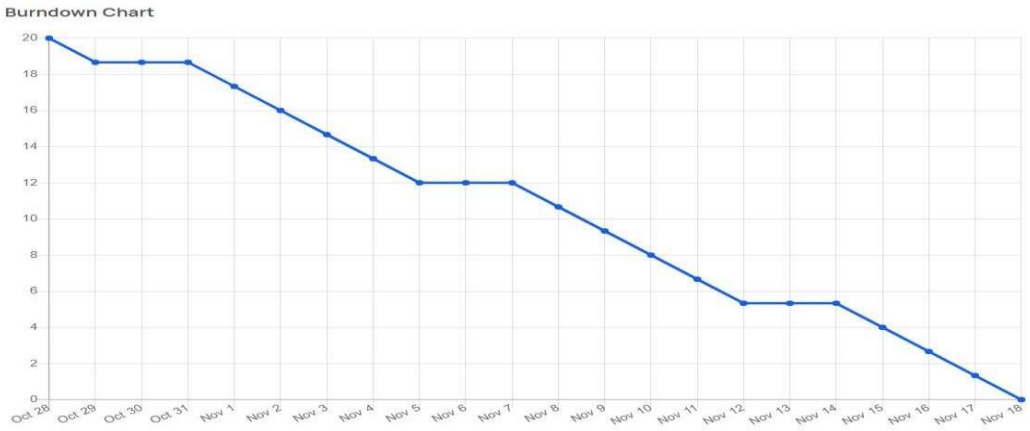
=20/ 18

AV=1.11

BurndownChart:

A burn down chart is a graphical representation of work left to do versustime. It is often used in agile software development methodologies such asScrum.However,burndownchartscanbeappliedtoanyprojectcontainingmeasurableprogress over time.

https://www.visual-paradigm.com/scrum/scrum-burndown-chart/https://www.atlassian.com/agile/tutorials/burndown-charts



REPORTS FROM JIRA

PAFSWASR-1:

[PAFSWASR-1]Loginpage*Created:13/Nov/22Updated:13/Nov/22Resolved:13/Nov/22*			
Status:	Done		
Project:	Personalassistanceforseniorswo areself-reliant		
Components:	HTML,CSS,Javascript		
Affects versions:	5.0		
Fixversions:	5.0		
Type:	Task	**Priority:**	Medium
Reporter:	LekhaJai	**Assignee:**	deepika11
Resolution:	Done	**Votes:**	0
Labels:	None		
Remaining Estimate:	3 hours		
TimeSpent:	21 hours		

Original estimate:	1days
Rank:	1
Sprint:	Sprint1

Generated at Sun Nov 13 14:17:39 UTC 2022 by Saibalaji Sm using Jira 1001.0.0-SNAPSHOT#100210-sha1:583150f45e96fe66b2cb2898eb1e9ae5719d8732.

PAFSWASR-2:

[PAFSWASR-2]createanodereddashboard*Created:13/Nov/22Updated:13/Nov/22Resolved:13/Nov/22*

Status:	Done		
Project:	Personalassistanceforseniorswo areself-reliant		
Type:	Task	**Priority:**	Medium
Reporter:	LekhaJai	**Assignee:**	deepika11
Resolution:	Done	**Votes:**	0
Labels:	None		
Remaining Estimate:	5 hours		
TimeSpent:	28 hours		

Original estimate:	2days
Rank:	2
Sprint:	Sprint2

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PAFSWASR-3:

[PAFSWASR-3] Create an app in MIT App Inventor for entering the details*Created:18/Nov/22Updated:18/Nov/22*

Status:	Done		
Project:	Personalassistanceforseniorswo areself-reliant		
Components:	MITAppInventor		
Affects versions:	None		
Fixversions:	None		
Type:	Task	**Priority:**	Medium
Reporter:	deepika11	**Assignee:**	Susritharaja
Resolution:	Done	**Votes:**	0

Labels:	None
Remaining Estimate:	4 hours
TimeSpent:	15 hours
Original estimate:	1 day
Rank:	2
Sprint:	Sprint-3

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PAFSWASR-4:

[PAFSWASR-4] Simulation of device for medicine remainder *Created: 18/Nov/22Updated:18/Nov/22*	
Status:	Done
Project:	Personalassistanceforseniorswo areself-reliant
Components:	WokwiSimulator
Affects versions:	None

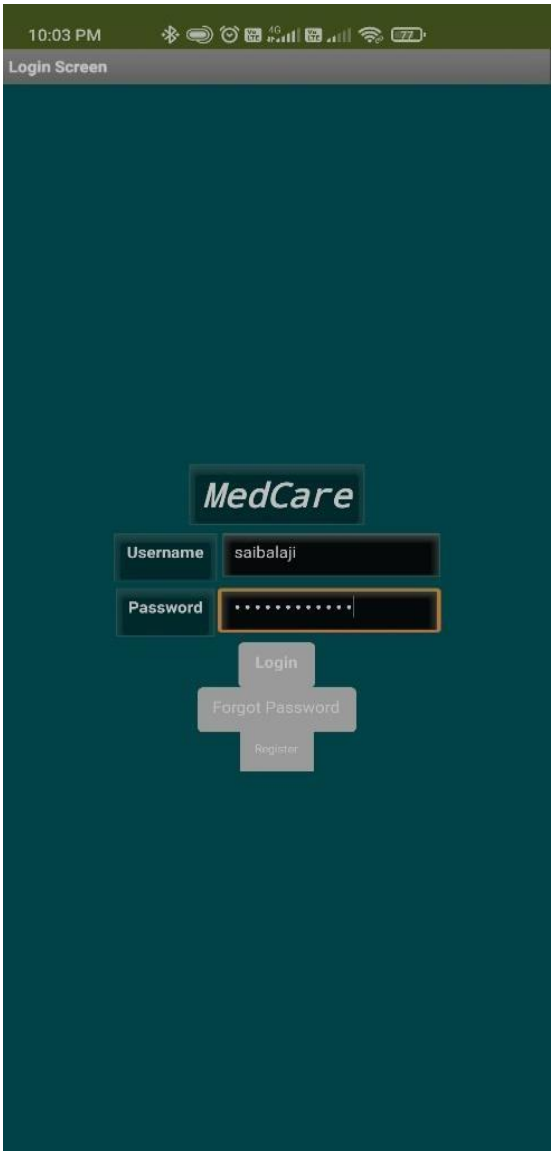
Fixversions:	None		
Type:	Task	**Priority:**	Medium
Reporter:	Susritharaja	**Assignee:**	LekhaJai
Resolution:	Done	**Votes:**	0
Labels:	None		
Remaining Estimate:	2 hours		
TimeSpent:	20 hours		
Original estimate:	22 hours		
Attachments:	Sprint-4.pdf		
Rank:	1		
Sprint:	Sprint-4		

GeneratedatFriNov1818:36:52UTC2022bySaibalajiSmusingJira1001.0.0-SNAPSHOT#100210-sha1:9b34d7cc56ccedf37042f403595483f2079121f4.

7. CODING&SOLUTIONING

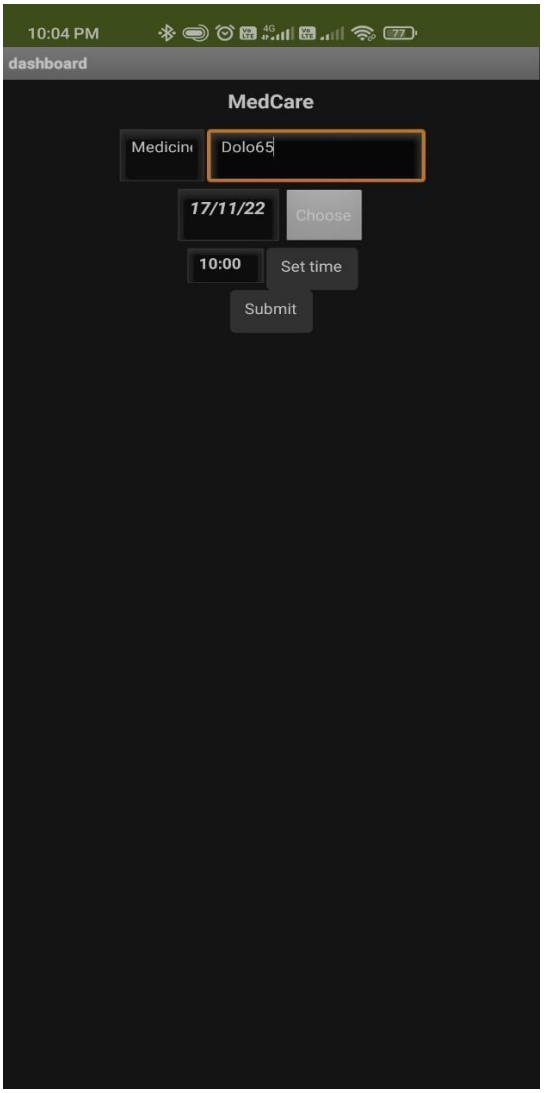
7.1. Feature1

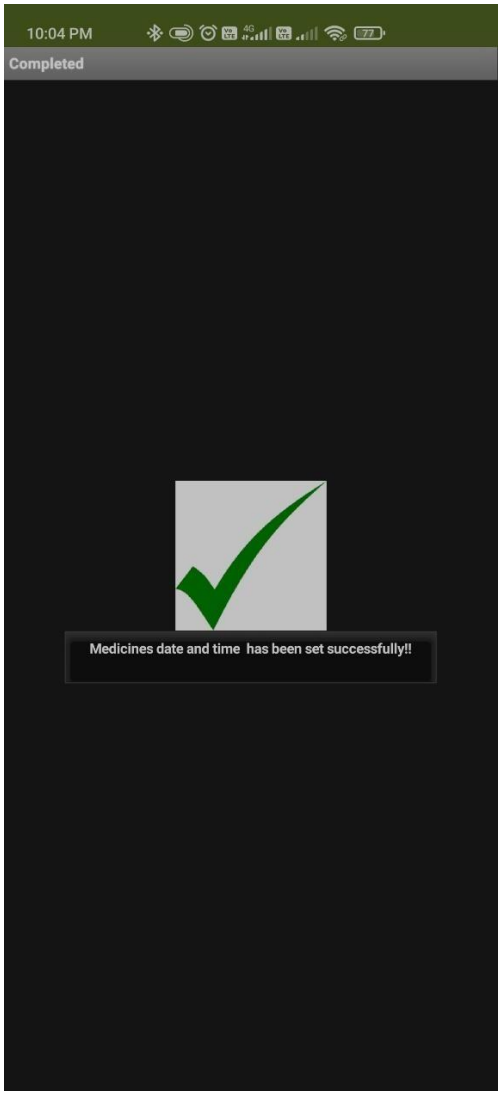
Themobileapplicationdevelopedhasafeatureofindividualloginbydifferentusers.



7.2. Feature2

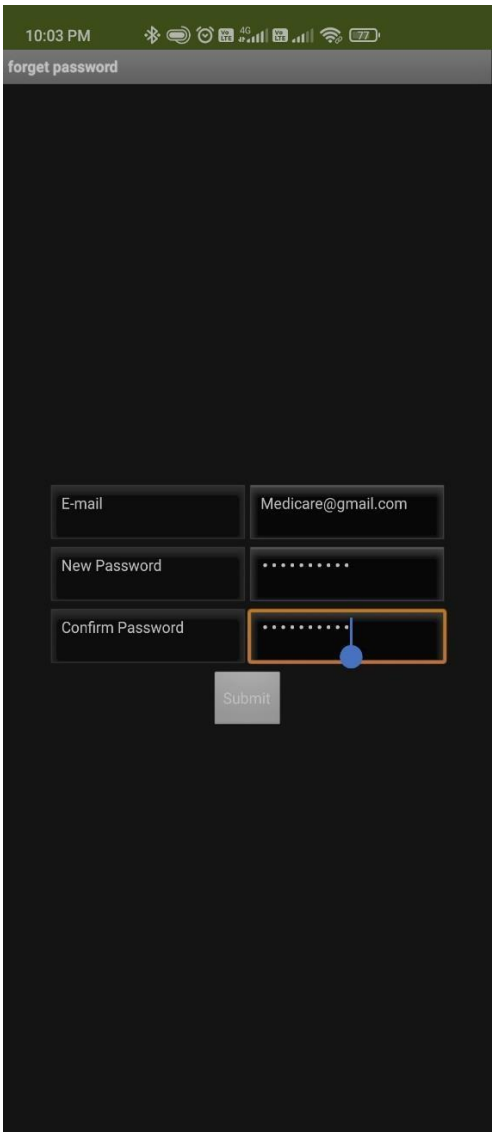
Themobileapplicationalsohasthefeatureofuploadingmedicinenamesinthecloud.





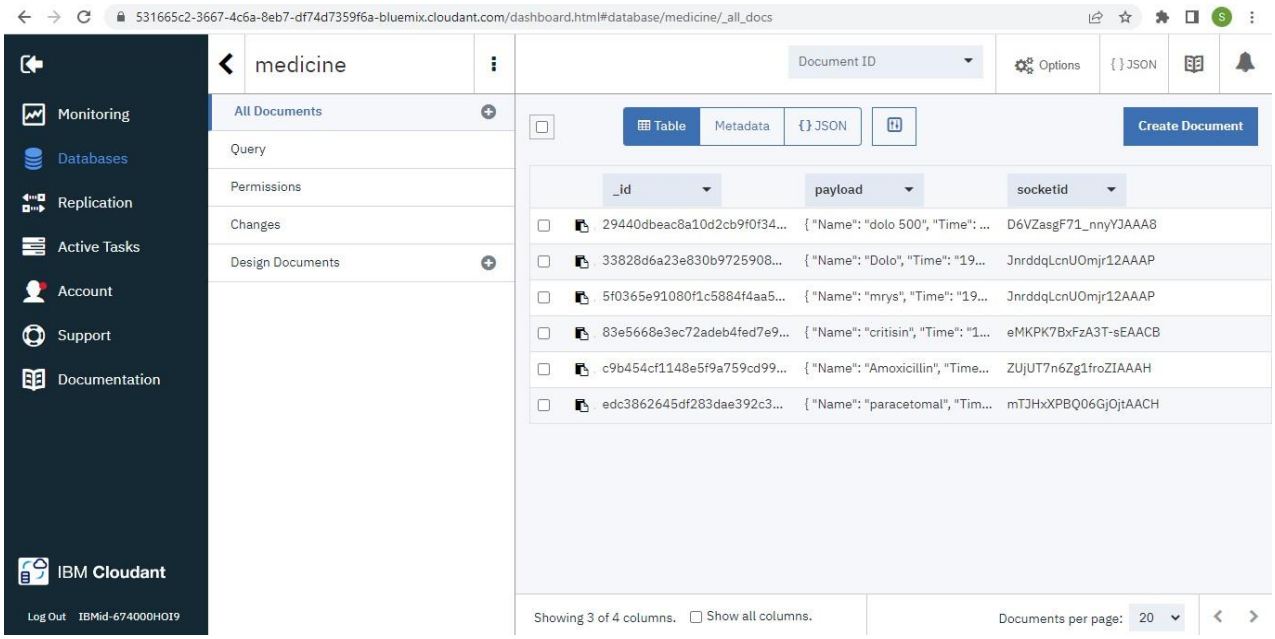
7.3. Feature3

Themobileapplicationalsohasthefeatureofregisteringusernameinthedatabaseandforgotpasswordfeature.



7.4. Feature4

Theprojectincludesaclouddatabasesystem.



8. TESTING

8.1. TESTCASES

A test case is a document which has a set of conditions or actions that are performed on thesoftware application in order to verify the expectedfunctionality of the feature.After test scripts, test cases are the second most detailed wayofdocumentingtestingwork.Theydescribeaspecificideathatistobetested ,withoutdetailingtheexactstepstobetaken ordatato beused. For example, in a test case, you document something like‘Testif coupons canbeappliedonactualprice‘.Thisdoesn’t mentionhowtoapplythe coup onsor whether therearemultiplewaystoapply.Italsodoesn’tmention ifthetester uses ali

nk to apply adiscount, or enter a code, or have a customer service apply it. Theygiveflexibility tothetesterto decidehowtheywantto executethetest.

TestCase Format

TheprimaryingredientsofatestcaseareanID,description,bunch of inputs, few actionablesteps, as well as expected and actual results. Let's learnwhateach of themis:

- **Test Case Name**:A test case should have a name or title that is selfexplanatory.
- **TestCaseDescription:**Thedescription should tellthetesterwhat they'regoingto testin brief.
- **PreConditions:**Anyassumptions thatapplytothetestandany preconditionsthat must be met prior to the test being executed should belistedhere.
- **TestCaseSteps:**Theteststepsshould includethenecessarydata and information onhowtoexecutethetest.Thestepsshould be clear andbrief, without leaving outessentialfacts.
- **Test Data:**It's important to select a data set that gives sufficientcoverage.Select a data set that specifies not only the positive scenarios butnegativeones as well.
- **Expected Result**:The expected results tell the tester what theyshould experience as aresultof thetest steps.
- **Actual Result:**They specifies how the application actually behavedwhiletest cases werebeing executed.

- **Comments:** Anyotherusefulinformationsuchasscreenshotsthat testerwant'stospecifycan beincludedhere.

8.2. USERACCEPTANCETESTING

1. PurposeofDocument

The main Purpose of UAT is to validate end to end business flow. It doesnot focus on cosmetic errors, spelling mistakes or system testing. UserAcceptance Testing is carried out in a separate testing environment withproduction-likedatasetup.Itiskindofblackboxtestingwheretwoormoreend-users will beinvolved.

UATisperformedby:

- Client
- Endusers

2. DefectAnalysis

Resolution	Severity1	Severity 2	Severity 3	Severity 4	Subtotal
ByDesign	4	3	2	1	10
Duplicate	1	0	3	0	4
External	2	2	1	1	6
Fixed	4	3	5	19	31
Not Reproduced	1	0	1	1	3
Skipped	0	0	1	1	2
Won'tFix	1	3	2	2	8
Totals	13	11	15	25	64

3. TestCaseAnalysis:

Section	TotalCases	NotTested	Fail	Pass
LoginPage	5	0	0	5
NodeRedDashboard	32	0	0	32
IBMWatsonIOTplatform	2	0	0	2
MITApp Inventor	3	0	0	3

9. RESULTS

9.1. PERFORMANCEMETRICS

Thesemetricsareusedtotrackandmeasuretheeffectivenessandprofitability of various projects. Each stage of the project istracked andmeasuredagainstthegoalsthattheprojectsetouttoachieve.Thedatacompiledfr omthemetricscanbeusedtoplanfutureprojectsandgivesinsightonhowtomakepro jectsmore efficient.

10. ADVANTAGES&DISADVANTAGES

Advantages

- Helptheelderlypeopletotaketheirmedicineatthecorrecttime.
- Avoidpersonalassistantsorcaretakersneededformedicallysickpeople.
- Costefficient.
- Canstoremultipledataand manynotificationscanbegenerated.
- Sinceitincludesvoiceassistance,evenblindpeoplecanuseourdevice.

Disadvantages

- Makespeoplelethargicandmakesthemdependentalwaysonothers.
- Requiresastableinternetconnection.

11. CONCLUSION

Theprojectofferstheelderlyormedicallysickpeopleapersonalassistantwhichremindsthemofthemedicinestobeconsumedatttheparticulartime. Skipping tablets may lead to serious problems if the person has a severeillness and this can be avoided. Since the cloud is integrated with the mobileapplication, numerous data can be fed into the database and notifications canbe generated. The mobile application developed is highly customisable by theuserand easy to use.

12. FUTURESCOPE

The project can be further developed by bringing into the feature ofinforming the medicine name during the notification. The voice assistancewhichisgivencanbecustomizedbyaddingtheuser'svoiceorthecaretaker’svoice. Further the mobile application can update medicines by taking voicecommandsas an input fromtheuser.

13. APPENDIXSource Code

DeviceSimulation:

```
#include<WiFi.h>//libraryforwifi
#include<PubSubClient.h>//libraryforMQtt#include<LiquidCrystal_I2C.h>
#include"DHT.h"//Libraryfordht11
```

```
#defineDHTPIN15
                        //whatpinwe'reconnectedto#defineD
HTTYPEDHT11         // define type of sensor DHT
11#defineLED2
DHTdht(DHTPIN,DHTTYPE);//creatingtheinstancebypassingpinandtyp
r ofdht connected
void callback(char* subscribetopic, byte* payload, unsigned
intpayloadLength);

//-------credentialsofIBMAccounts------

#defineORG"kizp10"//IBMORGANITIONID
#defineDEVICE_TYPE"IOTdevice"//DevicetypementionedinibmwatsonI
OTPlatform
#defineDEVICE_ID"1234567890"//DeviceIDmentionedinibmwatsonIOTP
latform
#defineTOKEN"1234567890"
                                    //Token
Stringdata3="";
intbuzz=13;
//--------Customisetheabovevalues--------
charserver[]=ORG".messaging.internetofthings.ibmcloud.com";//Server
Name
charpublishTopic[]="iot-
2/evt/Data/fmt/json";//topicnameandtypeofeventperformand formatinwhich
datato besend
```

```
    charsubscribetopic[]="iot-2/cmd/command/fmt/String";//
cmdREPRESENT
commandtypeANDCOMMANDISTESTOFFORMATSTRING
    char authMethod[] = "use-token-auth";// authentication
    methodchartoken[]=TOKEN;
    char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client
    idLiquidCrystal_I2Clcd(0x27,16,2);
     //_____
    WiFiClient wifiClient; // creating the instance for
    wificlientPubSubClientclient(server,1883,callback,wifiClient);//callingth
    e
predefinedclientidbypassingparameterlikeserverid,portandwificredentialvoids
    etup()// configureing theESP32
    {
      Serial.begin(115200);pinMod
      e(LED,OUTPUT);delay(10);
      Serial.println();
      wificonnect();
      mqttconnect();
    }
     voidloop()//RecursiveFunction
    {
      if (!client.loop())
        {mqttconnect();
      }
```

```
}
/*.....retrievingtoCloud ..... */
 voidmqttconnect(){
  if (!client.connected())
    {Serial.print("Reconnecting client to
    ");Serial.println(server);
    while (!!!client.connect(clientId, authMethod, token))
      {Serial.print(".");
      delay(500);
    }

     initManagedDevice();Serial.
     println();
  }
}
voidwificonnect()//functiondefinationforwificonnect
{
  Serial.println();Serial.print("C
  onnectingto");

  WiFi.begin("Wokwi-
GUEST","",6);//passingthewificredentialstoestablishtheconnection
  while(WiFi.status()!=WL_CONNECTED){de
    lay(500);
    Serial.print(".");
```

```
  }
  Serial.println("");Serial.println("
  WiFi
  connected");Serial.println("IP
  address:
  ");Serial.println(WiFi.localIP());
}

voidinitManagedDevice(){
  if (client.subscribe(subscribetopic))
    {Serial.println((subscribetopic));Serial
    .println("subscribetocmdOK");
  }else{
    Serial.println("subscribetocmdFAILED");
  }
}

voidcallback(char*subscribetopic,byte*payload,unsignedintpayloadLength
)
{

  Serial.print("callbackinvokedfortopic:");Serial.println(subscribet
  opic);
  for(inti=0;i<payloadLength;i++){
    //Serial.print((char)payload[i]);d
    ata3+=(char)payload[i];
```

```
  }

  Serial.println("Pleasetakeyourmedicines”);if(d
  ata3 !="")
  {
    lcd.init();
    lcd.print("Itstimeforyourmedicine”);

digitalWrite(LED,HIGH);delay
(20000);digitalWrite(LED,LO
W);

  }

  else
  {
digitalWrite(LED,LOW);

  }
data3="";
}
```

Databaseconnection:

```
importtime
importsys
importibmiotf.applicationi
mport
ibmiotf.deviceimport
random

#Provide your IBM Watson Device
Credentialsorganization="kizp10"
deviceType =
"IOTdevice"deviceId =
"1234567890"authMethod
=
"token"authToken="12345
67890"

#InitializeGPIO
defmyCommandCallback(cmd):
    print("Commandreceived:%s"%cmd.data['command'])st
    atus=cmd.data['command']
    if
        status=="lighton"
        :print("ledison")
    elif status ==
        "lightoff":print("led
        isoff")
```

```
else:
    print("pleasesendpropercommand")
```

```
try:
        deviceOptions={"org":organization,"type":deviceType,"id":
deviceId, "auth-method": authMethod, "auth-token":
        authToken}deviceCli =
        ibmiotf.device.Client(deviceOptions)#.....................
        .............

exceptExceptionase:
        print("Caughtexceptionconnectingdevice:%s"%str(e))sys.exit(
        )

#Connectandsendadatapoint"hello"withvalue"world"intothecloudasanevent
of type"greeting" 10times
deviceCli.connect()

whileTrue:
       #GetSensorDatafromDHT11

       temp=random.randint(90,110)Humid=random.randint(60,
       100)

       data={'temp':temp,'Humid':Humid
       }#printdata
       defmyOnPublishCallback():
          print("PublishedTemperature=%sC"%temp,"Humidity=%s
%%"%Humid,"toIBMWatson")
```

```
        success = deviceCli.publishEvent("IoTSensor", "json", data,
qos=0,on_publish=myOnPublishCallback)
        ifnotsuccess:
            print("Not connected to
        IoTF")time.sleep(10)

        deviceCli.commandCallback=myCommandCallback

# Disconnect the device and application from the
clouddeviceCli.disconnect()
```

Text-to-Speech:

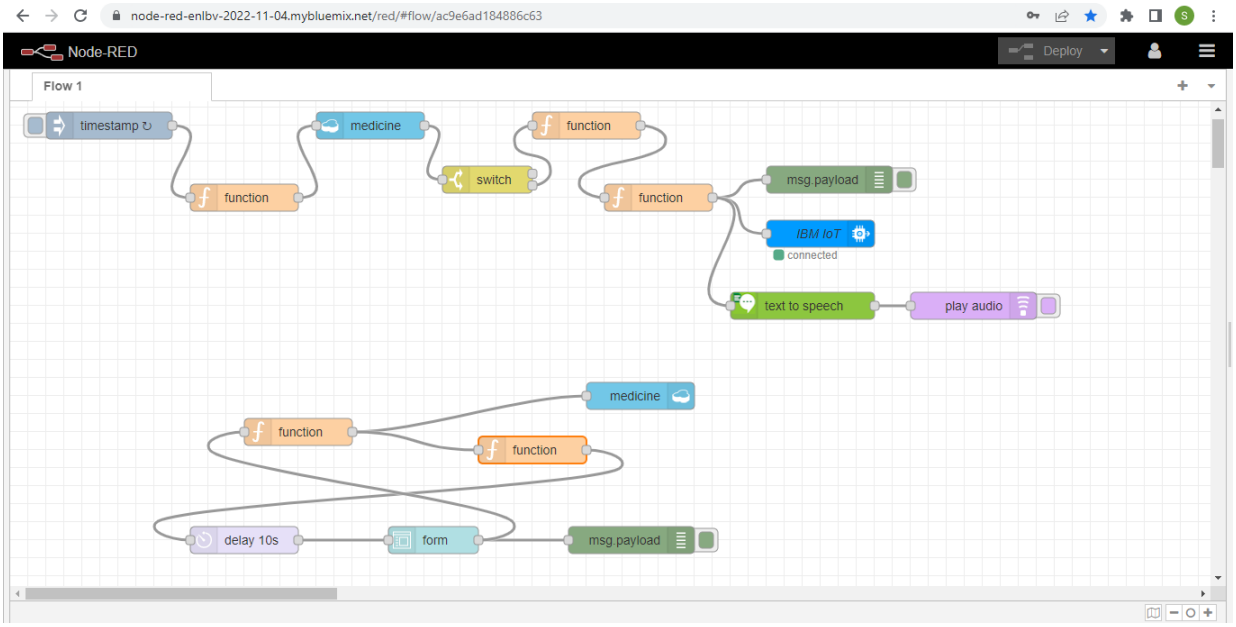
```
fromibm_watsonimportTextToSpeechV1
fromibm_cloud_sdk_core.authenticatorsimportIAMAuthenticator

authenticator
=IAMAuthenticator('KSTdsMPsUS62SL58EqzaZbAFtEW2JlggKYHU
I-NKLuvx')
text_to_speech =
    TextToSpeechV1(authenticator=
    authenticator
)
```

```
text_to_speech.set_service_url('https://api.eu-gb.text-to-
speech.watson.cloud.ibm.com/instances/10758658-1ffd-49e5-ae59-
ffb2aaa3b131')

withopen('Medicine.wav','wb')asaudio_file:au
    dio_file.write(
        text_to_speech.synthesize('Its
            timeforyourmedicine',
            voice='en-
            US_AllisonV3Voice',accept='au
            dio/wav'
        ).get_result().content)
```

Node-redFlows:



Flows.json:

[{"id":"ac9e6ad184886c63","type":"tab","label":"Flow
1","disabled":false,"info":"","env":[]},
{"id":"e791d51f8f5649c5","type":"inject","z":"ac9e6ad184886c63","name":""
,"props":[{"p":"payload"},{"p":"topic","vt":"str"}],"repeat":"10","crontab":"
","once":false,"onceDelay":0.1,"topic":"","payload":"","payloadType":"date",
"x":110,"y":60,"wires":[["89f826db8e77a778"]]},{"id":"b337577ceeabe768",
"type":"cloudantin","z":"ac9e6ad184886c63","name":"","cloudant":"c21434a
fa56c67cf","database":"medicine","service":"Cloudant-h8-
23515","search":"_id_","design":"","index":"","x":400,"y":60,"wires":[["c95
98cd486e11a13"]]},{"id":"fc1e9b8ab90c65ab","type":"cloudantout","z":"ac9
e6ad184886c63","name":"","cloudant":"c3cf7d0d9d56e309","database":"me
dicine","service":"_ext_","payonly":true,"operation":"insert","x"
:700,"y":360,"wires":[]},{"id":"39c5174e84d207ec","type":"ui_form","z":"ac
9e6ad184886c63","name":"","label":"","group":"c2b7d001b83103cd","order"
:1,"width":0,"height":0,"options":[{"label":"Enterthe
medicine","value":"name","type":"text","required":true,"rows":null},{"label"
:"Time(HH:MM)
","value":"time","type":"time","required":true,"rows":null},{"label":"Date(Y
YYY/MM/DD)","value":"date","type":"date","required":true,"rows":null}],"f
ormValue":{"name":"","time":"","date":""},"payload":"","submit":"submit","
cancel":"cancel","topic":"topic","topicType":"msg","splitLayout":"","className":"","x":470,"y":520,"wires":[["be40b40b2a27b0de","a7d08bb7e7e4d9cc"

]]},{"id":"89f826db8e77a778","type":"function","z":"ac9e6ad184886c63","name":"","func":"var d=new Date()\nvarutc=d.getTime()+(d.getTimezoneOffset()*60000);\nvar offset=5.5;\nnewDate=newDate(utc+(3600000*offset));\nvar n=newDate.toISOString()\nvar date = n.slice(0,10)\nvartime=n.slice(11,16)\nglobal.set(\"time\",time)\nmsg.payload=date+\" \"+time\nreturnmsg;","outputs":1,"noerr":0,"initialize":"","finalize":"","libs":[],"x":260,"y":140,"wires":[["b337577ceeabe768"]]},{"id":"be27a4f287349a79","type":"function","z":"ac9e6ad184886c63","name":"","func":"msg.payload=msg.payload.name\nreturnmsg;","outputs":1,"noerr":0,"initialize":"","finalize":"","libs":[],"x":640,"y":60,"wires":[["753a71cd01bf517f"]]},{"id":"ae3740ed090a2d5d","type":"function","z":"ac9e6ad184886c63","name":"","func":"msg.payload={\n   \"date\":\"\",\n   \"name\":\"\",\n   \"time\":\"\",\n}\nreturnmsg;","outputs":1,"noerr":0,"initialize":"","finalize":"","libs":[],"x":580,"y":420,"wires":[["a19f2c1fa687e0ce"]]},{"id":"c9598cd486e11a13","type":"switch","z":"ac9e6ad184886c63","name":"","property":"payload","propertyType":"msg","rules":[{"t":"null"},{"t":"else"}],"checkall":"true","repair":false,"outputs":2,"x":530,"y":120,"wires":[[],["be27a4f287349a79"]]},{"id":"3bf37842d99948c2","type":"debug","z":"ac9e6ad184886c63","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","targetType":"msg","statusVal":"","statusType":"auto","x":910,"y":120,"wires":[]},{"id":"be40b40b2a27b0de","type":"debug","z":"ac9e6ad184886c63","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"p

ayload","targetType":"msg","statusVal":"","statusType":"auto","x":690,"y":5
20,"wires":[]},{"id":"a19f2c1fa687e0ce","type":"delay","z":"ac9e6ad184886
c63","name":"","pauseType":"delay","timeout":"10","timeoutUnits":"seconds
","rate":"1","nbRateUnits":"1","rateUnits":"second","randomFirst":"1","rando
mLast":"5","randomUnits":"seconds","drop":false,"allowrate":false,"outputs":
1,"x":260,"y":520,"wires":[["39c5174e84d207ec"]]},{"id":"c5bcf7f29be64
599","type":"ibmiotout","z":"ac9e6ad184886c63","authentication":"apiKey","
apiKey":"7b603bf8891bac1a","outputType":"cmd","deviceId":"1234567890"
,"deviceType":"2.2
.2","eventCommandType":"command","format":"json","data":"Data","qos":0
,"name":"IBMIoT","service":"registered","x":900,"y":180,"wires":[]},{"id":"a
7d08bb7e7e4
d9cc","type":"function","z":"ac9e6ad184886c63","name":"","func":"vard
=msg.payload.date\nvar t=msg.payload.time\nvar
date=d.slice(0,10)\nvartime=t.slice(10,25)\nvar
hit=newDate(date+time)\nhit.setDate(hit.getDate()+1);\nvarutc=hit.getTi
me()+(hit.getTimezoneoffset()*60000);\nvaroffset=5.5\nnewDate= new
Date(utc+(3600000*offset));\nvarn=newDate.toISOString()\nvar
da=n.slice(0,10)\nvarti=n.slice(11,16)\nmsg.payload={\n
\"_id\":da+\"\"+ti,\n
\"name\":msg.payload.name,\n}\nreturnmsg;","outputs":1,"noerr":0,"initializ
e":"","finalize":"","libs":[],"x":320,"y":400,"wires":[["fc1e9b8ab90c65ab","a
e3740ed090a2d5d"]]},{"id":"3b561d7e984ea35b","type":"watson-text-to-
speech","z":"ac9e6ad184886c63","name":"","lang":"en-

US","langhidden":"en-US","langcustom":"NoCustomisationSetting","langcustomhidden":"","voice":"en-US_LisaVoice","voicehidden":"en-US_LisaVoice","format":"audio/wav","password":"","apikey":"KSTdsMPsUS62SL58EqzaZbAFtEW2JlggKYHUI-NKLuvx","payload-response":true,"service-endpoint":"https://api.eu-gb.text-to-speech.watson.cloud.ibm.com/instances/10758658-1ffd-49e5-ae59-ffb2aaa3b131","x":880,"y":260,"wires":[["830464e98a3da3e6"]]},{"id":"830464e98a3da3e6","type":"playaudio","z":"ac9e6ad184886c63","name":"","voice":"0","x":1070,"y":260,"wires":[]},{"id":"753a71cd01bf517f","type":"function","z":"ac9e6ad184886c63","name":"","func":"varst={\"please take \":msg.payload}\nmsg.payload=JSON.stringify(st)\nmsg.payload=msg.payload.replace(':',');\nreturnmsg;","outputs":1,"noerr":0,"initialize":"","finalize":"","libs":[],"x":720,"y":140,"wires":[["3bf37842d99948c2","c5bcf7f29be64599","3b561d7e984ea35b"]]},{"id":"c21434afa56c67cf","type":"cloudant","host":"https://apikey-v2-2jzy07gxh6foo2jhn5tfo1k8c12ueqn3weg9kolpkm2n:7b9e69c73c1ff8711d0f323f05376bbd@531665c2-3667-4c6a-8eb7-df74d7359f6a-bluemix.cloudantnosqldb.appdomain.cloud","name":""},{"id":"c3cf7d0d9d56e309","type":"cloudant","host":"https://apikey-v2-2jzy07gxh6foo2jhn5tfo1k8c12ueqn3weg9kolpkm2n:7b9e69c73c1ff8711d0f323f05376bbd@531665c2-3667-4c6a-8eb7-df74d7359f6a-bluemix.cloudantnosqldb.appdomain.cloud","name":""},{"id":"c2b7d001b83103cd","type":"ui_group","name":"Medicine

Details","tab":"ac2a2774050646b1","order":2,"disp":true,"width":"6","collapse":false,"className":""},{"id":"7b603bf8891bac1a","type":"ibmiot","name":"IBM
IOT","keepalive":"60","serverName":"","cleansession":true,"appId":"","shared":false},{"id":"ac2a2774050646b1","type":"ui_tab","name":"Medicinedetails","icon":"dashboard","disabled":false,"hidden":false}]

GitHub link: https://github.com/IBM-EPBL/IBM-Project-55591-1669182539