



**EASWARI ENGINEERING COLLEGE
(AUTONOMOUS)
Ramapuram, Chennai**

**Personal Assistance for Seniors who are Self-
Reliant**

**NALAIYA THIRAN PROJECT REPORT
2022**

Submitted by

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PERSONAL ASSISTANCE FOR SENIORS WHO ARE SELF-RELIANT

1. Introduction

1.1 Project Overview

Most of the time due to number of works for the people as well as regarding age and some disease which leads to forget the basic things among daily routine. If the patient sufferings from the disease where it is compulsory to take medicine at proper time, in this paper we have review the technology of home health care system among them a medicine reminder system and some improvement regarding authentication have well focused. An app is built for the user (caretaker) which enables him to set the desired time and medicine. These details will be stored in the IBM Cloudant DB. If the medicine time arrives the web application will send the medicine name to the IoT Device through the IBM IoT platform. The device will receive the medicine name and notify the user with voice commands.

1.2 Purpose

Internet of Things (IoT) network will provide active and real-time appointment of patient, hospitals, caretaker, and doctors apart from this the secured data transmission from source point to destination for the purpose of remote monitoring there is need of the architecture of a low-cost embedded platform for Web-based monitoring. By analyzing the data, an internet of things (IoT) based reminder system has been developed. It is designed to assist the patient who forgets to take medicine. The proposed system consists of an IoT enabled device and an android application

2. Literature Survey

2.1 Existing Problem

Because of healthcare reforms, digital medical records have facilitated the widespread availability of publicly available, statistical data. Feeding the pool of mounting data is the patient doctor interaction Physicians assess the patient's complaint and prescribe a course of action The data collected provides the basis for a decision support tool for patients to compare Prescription Drug Plans based on a patient's individual situation and preferences. The existing tools will not provide explicit information that will assist the patient in determining the most suitable prescription drug plan, considering the individual importance of plan features.

2.2 References

"Work Embedded Platform for Web-based Monitoring and Control of a Smart Home" C. List, O. F. Authors, D. Moga, N. Stroia, D. Petreus, this paper explains the low-cost embedded platform for web-based monitoring and controlling and the platform consist of distributed sensing and control network and touch screen to easy use interface to the user and remote web-based access.

"Personal Assistance Device for Independent Senior Citizens/ Patients" A. Yuvaraj K, B. N. Gunasekhar Reddy, C. V. Saritha, this paper proposes an affordable personal assistance device for health monitoring of elderly people using different sensors which can measure pulse rate, position of elderly. Proper intake of medicine at correct time is indicated by the display on OLED screen and an alert is produced by buzzer. This paper provides shape and operating of an IOT based totally Personal Assistance Device which is a helpful device using low force Atmega328 microcontroller and ESP8266.

Problem Statement Definition

Who does the problem affect?

This problem affects the senior citizens who forget to take their medicines on time.

When does the issue occur?

People suffering from dementia or forget things easily. Mostly occurs when aging.

What would happen if we didn't solve the problem?

Senior citizens will forget to take their medicine in time than in turn results in various health issues.

Why is it important to fix the problem?

It would be easy for senior citizens to take medicine on time as well as help doctors track their health data too.

3. Ideation and Proposed Solution

3.1 Empathy Map Canvas



Empathy map

TEAM ID:
BATCH NUMBER: B9-3A5E
TEAM MEMBERS:
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R.SRIMALINI
B.YOGAPRIYA

Originally created by David G. Baym



[aj. Share template feedback](#)



PERSONAL ASSISTANCE FOR SENIOR CITIZENS WHO ARE SELF-RELIANT

MEDICINE REMINDER




Need some inspiration?
See a link of similar if to be related to your work
[Open example](#)



3.2 Ideation and Brainstorming

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Template




Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 🕒 10 minutes to prepare
- 🕒 1 hour to collaborate
- 👤 2-8 people recommended

Share template feedback



Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

A

Team gathering

session invite has been sent to team members by the team leader.

B

Set the goal


To find the most possible ways for senior citizens to more self-reliant.

C

Learn how to use the facilitation tools

Use the Facilitation Superpowers to run a happy and productive session.

Open article →




Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

🕒 5 minutes







PROBLEM

How might we find ways for personal assistance for senior citizen who are self-reliant?



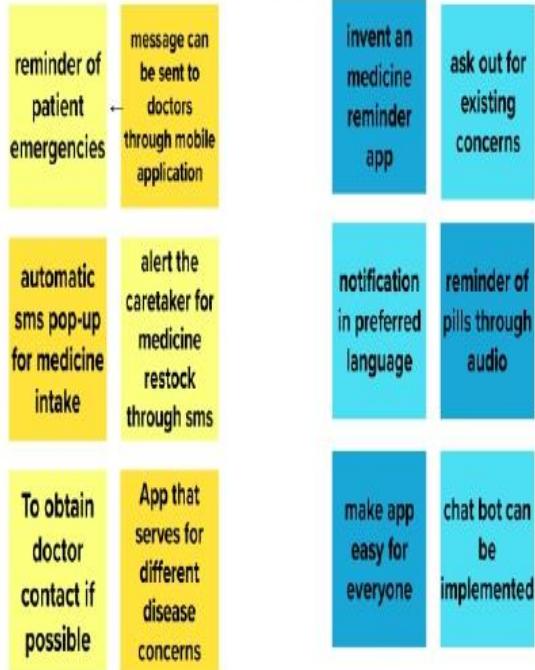
Key rules of brainstorming

To run on smooth and productive session

 Stay in topic.	 Encourage wild ideas.
 Defer judgment.	 Listen to others.
 Go for volume.	 If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

Samyuktha Shrruthi K R(TL) Sandhiya V



Srimalini R



Yogapriya.B



VOICE ALERT

TEXT TO SPEECH CONVERSION

TIME FOR ALERT MESSAGE

PREFERRED LANGUAGE

SMS ALERT

DETAILS OF MEDICINE

ALERT MESSAGE EVEN IN DO NOT DISTURB MODE

ALERT MESSAGE IN TIME OF EMERGENCY TO BOTH PATIENT AND DOCTOR

CHATBOT

TO KNOW ABOUT APP

24/7 SUPPORT

TO SPEAK WITH DOCTOR

Step-3: Idea Prioritization



3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none"> Senior citizens who are self-reliant mostly forgets to take medicine, although many apps are available, they tend difficult in use
2.	Idea / Solution description	<ul style="list-style-type: none"> An application that can be customized for their different concerns.

		<ul style="list-style-type: none"> • Medicine reminder can be done using voice command, SMS with picture of medicine and dosage.
3.	Novelty / Uniqueness	<ul style="list-style-type: none"> • Comprehensible to all seniors • Manage prescriptions after every doctor's visit. • Updating them with symptoms of their new medicine. • Inform a family member and doctor in case of emergencies.
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> • As, the application is user-friendly customers finds this as best solution mostly for senior who are self-reliant. • Any issues with the application is resolved using a chat bot feature so customer need not feel any difficulty.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> • The application's target audience are seniors who are self-reliant, as the business model serves around user-friendly features. • The revenue model, comes in advertising in websites, social media and targeting the high population users who are in need of this application. By creating awareness to use the app.
6.	Scalability of the Solution	<ul style="list-style-type: none"> • Seniors are in need of solution that are more portable, user-friendly and answer their different medical concerns. • As the model consists of cloud service, node-red service the doctor and senior both are benefited with specified medical details.

3.4 Problem Solution Fit

Problem-Solution fit canvas 2.0		Purpose / Vision	
		PNT2022TMD54420 : PERSONAL ASSISTANCE FOR SENIOR WHO ARE SELF RELIANT	
Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-5 y.o. kids 1. Senior people who are aged above 50 years. 2. Physically disabled people. 3. People with specific disease (Eg: Alzheimer)	6. CUSTOMER CONSTRAINTS CC What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices 1. Budget. 2. Incomprehensible for some people. 3. Difficulty in understanding how to use the app. 4. Internet limitations and max range for device operation.	5. AVAILABLE SOLUTIONS AS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking 1. no description on medicine. 2. Only message facility. 3. In case of emergency, no alert will be given to doctors. 4. Message notification even if phone is in do not disturb mode. 5. Timely alert and notification about regular intervals in which medicine should be taken.
	Explore AS, differentiate		
Focus on J&P, tap into BE, understand RC	2. JOBS-TO-BE-DONE / PROBLEMS J&P Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. 1. Medicine reminder with detailed description. 2. Message and Voice alert. 3. Customizing preferred language. 4. Notification on medicine restocking. 5. Alert message to doctor/health care in case of emergency.	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations. 1. Doctors/ Care takers cannot be available 24/7. 2. People who want to be self- reliant. 3. People who depend on others for Monitoring their medicine intake. 4. People who are away from their family / staying alone.	7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace) 1. Chat bot facility. 2. Customizable app according to their needs. 3. Access to both patient and doctors and enabling proper communication on medicine update.
	Focus on J&P, tap into BE, understand RC		
Identify strong TR & EM	3. TRIGGERS TR What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. 1. Low cost, user friendly and customizable app. 2. Conducting awareness program. 3. Advanced alert system and no specific knowledge required.	10. YOUR SOLUTION SL If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. 1. Complete guide for monitoring all health concerns 2. Patient and doctor communication forum. 3. Medicine restocking notification.	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 1. Chat bot facility. 2. Doctor patient cloud access.
	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure + confident, in control - use it in your communication strategy & design. BEFORE: 1. Apps are not suitable for all types of people who need medical assistance. 2. People forget to take medicine on time which affects their health. AFTER: 1. App is Customizable and user friendly, so people are more independent. 2. Helps them to keep track of their medicine and in continuous monitoring of health.	8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. 1. Medicine restocking. 2. Alert messages and medicine intake notifications.	
		Extract online & offline CH of BE	

4. Requirement Analysis

4.1 Functional Requirement

Following are the functional requirements of the proposed solution.

	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through phone number
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP Confirmation via SMS
FR-3	User Login	Login with mail id /phone number and password
FR-4	Subscription	Trial plan / monthly / annual subscription according to needs
FR-5	User data	Personal data medical data Caretaker / Doctor details
FR-6	Setting up Remainder	Time and duration of notification. Medicine details Notification on what device.

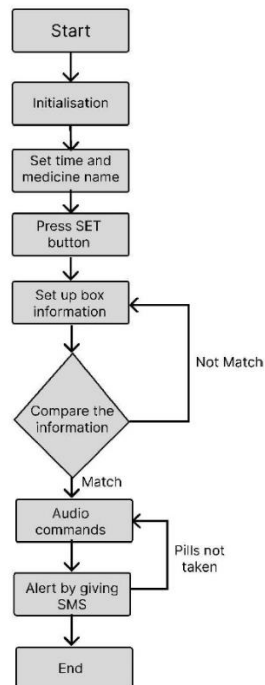
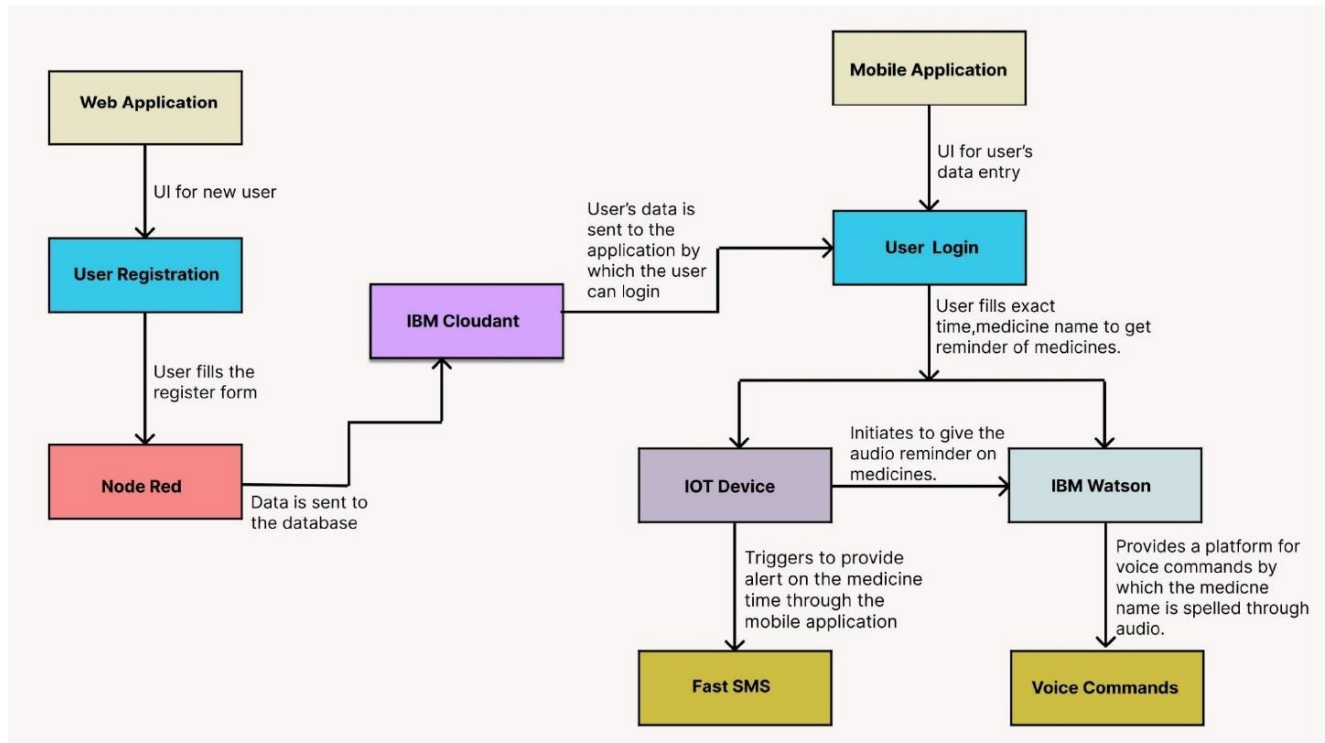
4.2 Non-Functional Requirement

Following are the non-functional requirements of the proposed solution.

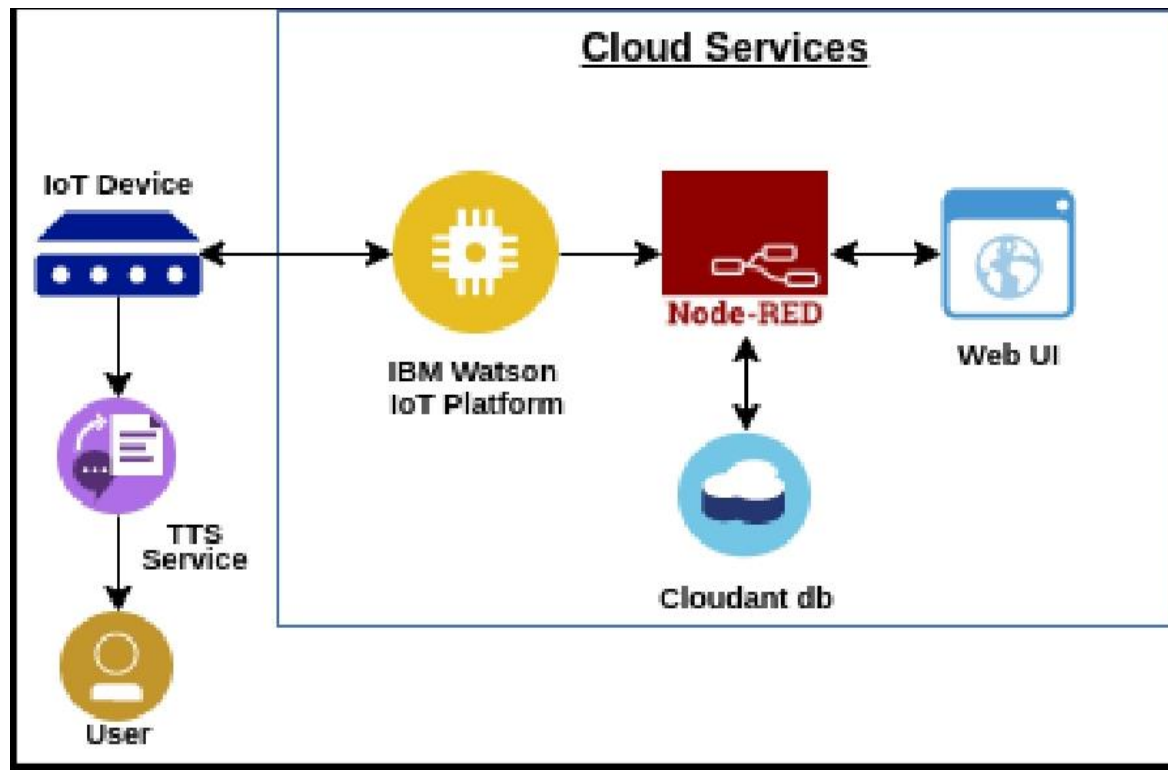
FR No.	Non-Functional Requirement	Description
NFR-1	Usability	User-friendly, allows to use voice command.
NFR-2	Security	Two – step authentication to secure user data.
NFR-3	Reliability	timely data updating after doctor visit, customization.
NFR-4	Performance	The app is adaptable to every user and customer support.
NFR-5	Availability	24/7 customer support through chat bot.
NFR-6	Scalability	Services can be used through subscription plans.

5. Project Design

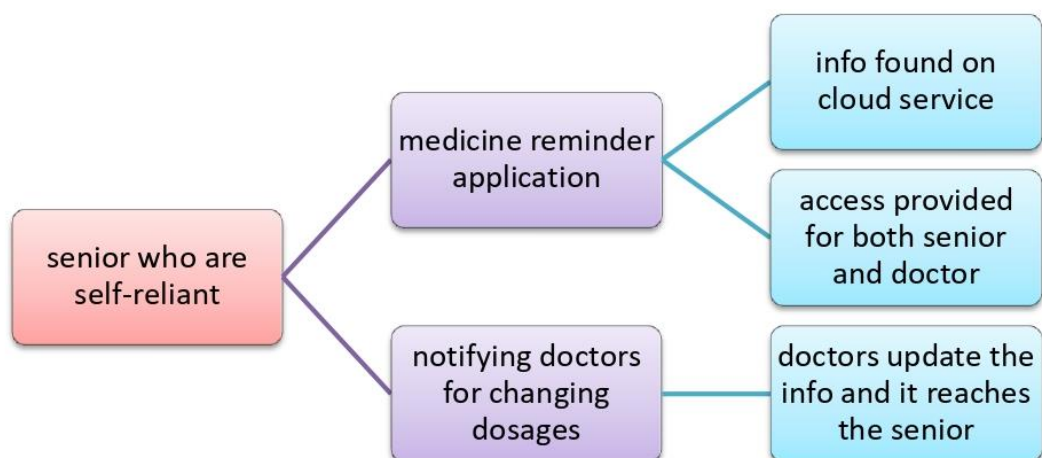
5.1 Data Flow Diagram



5.2 Solution and Technical Architecture



Example flow :



6. Project Planning and Scheduling

6.1 Script Planning and Execution

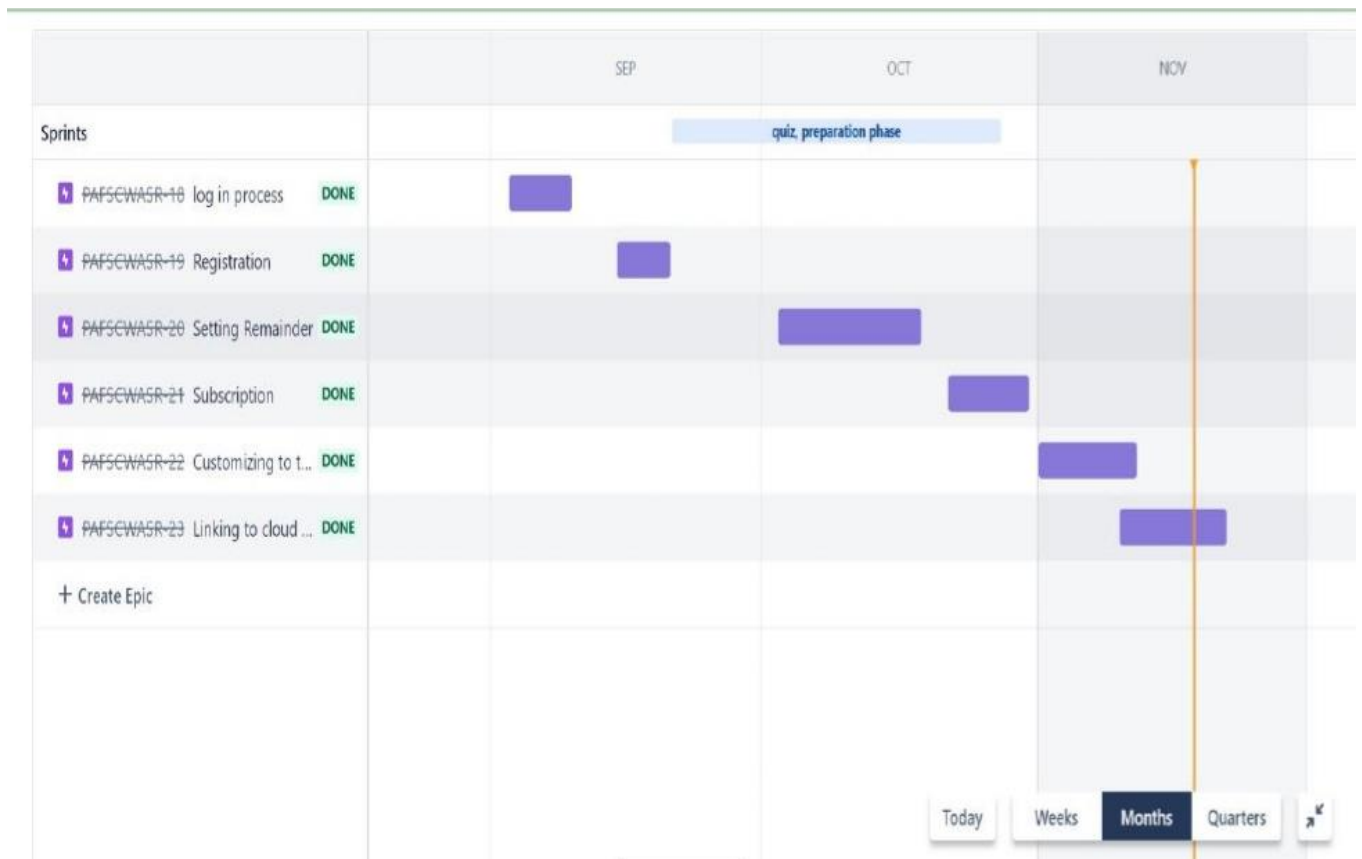
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Login	USN-1	As an admin, I can log into the application by entering username & password	5	Medium	1
Sprint-1		USN-2	When the admin does not enter the username, it displays an error message group	3	Medium	1
Sprint-1		USN-3	When the admin does not enter the password, it displays an error message popup	4	Medium	1
Sprint-1	Dashboard	USN-4	When the admin enters the invalid credentials, it displays an error popup	5	Medium	2
Sprint-1		USN-5	When the admin enters the correct username and password it redirects to the dashboard	3	High	2
Sprint-2		USN-1	Creating a Node-Red dashboard	5	Medium	3
Sprint-2		USN-2	Developing a Node-Red to publish data to IBMcloud	8	High	3
Sprint-2		USN-3	Create a register form in Node-Red	7	Medium	3
Sprint-3	Creating Devices	USN-1	Creating a device in IBM Watson IOT platform	10	High	4
Sprint-3	Python	USN-2	Connect the device created in wokwi to the device created in IBM Watson IOT platform.	10	High	4
Sprint-4	MIT App Inverter	USN-1	Create an Interface for login page and Dashboard	5	Low	4
Sprint-4		USN-2	Connect MIT app to Node Red	5	High	1
Sprint-4		USN-3	As a user, I can keep track of the medicine time	6	Medium	3

Sprint-4	Alert	USN-4	Retrieving the time from cloudant and alert theuser through voice command	4	High	2
----------	-------	-------	---	---	------	---

6.2 Sprint Delivery Schedule

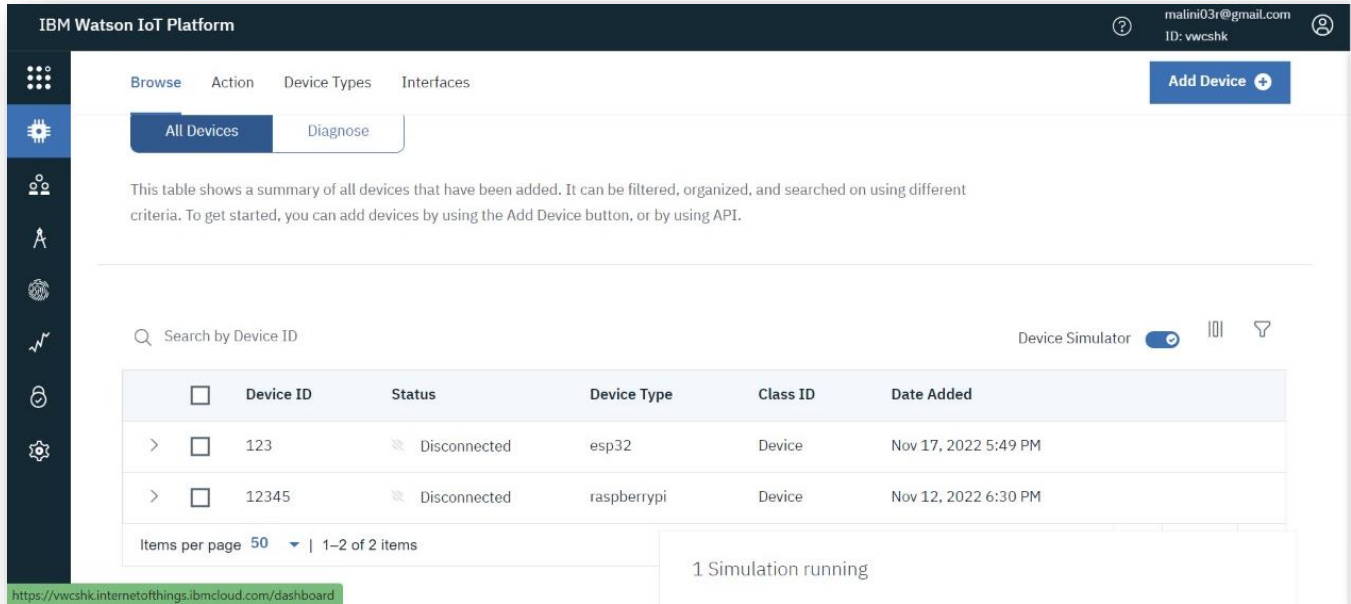
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	4 Days	31 Oct 2022	03 Nov 2022	20	02 Nov 2022
Sprint-2	20	5 Days	04 Nov 2022	08 Nov 2022	20	08 Nov 2022
Sprint-3	20	5 Days	09 Nov 2022	13 Nov 2022	20	12 Nov 2022
Sprint-4	20	4 Days	17 Nov 2022	17 Nov 2022	20	18 Nov 2022

6.2 Jira Report



7 Coding And Solutioning

7.1 CREATING IBM WATSON IOT PLATFORM &DEVICE:

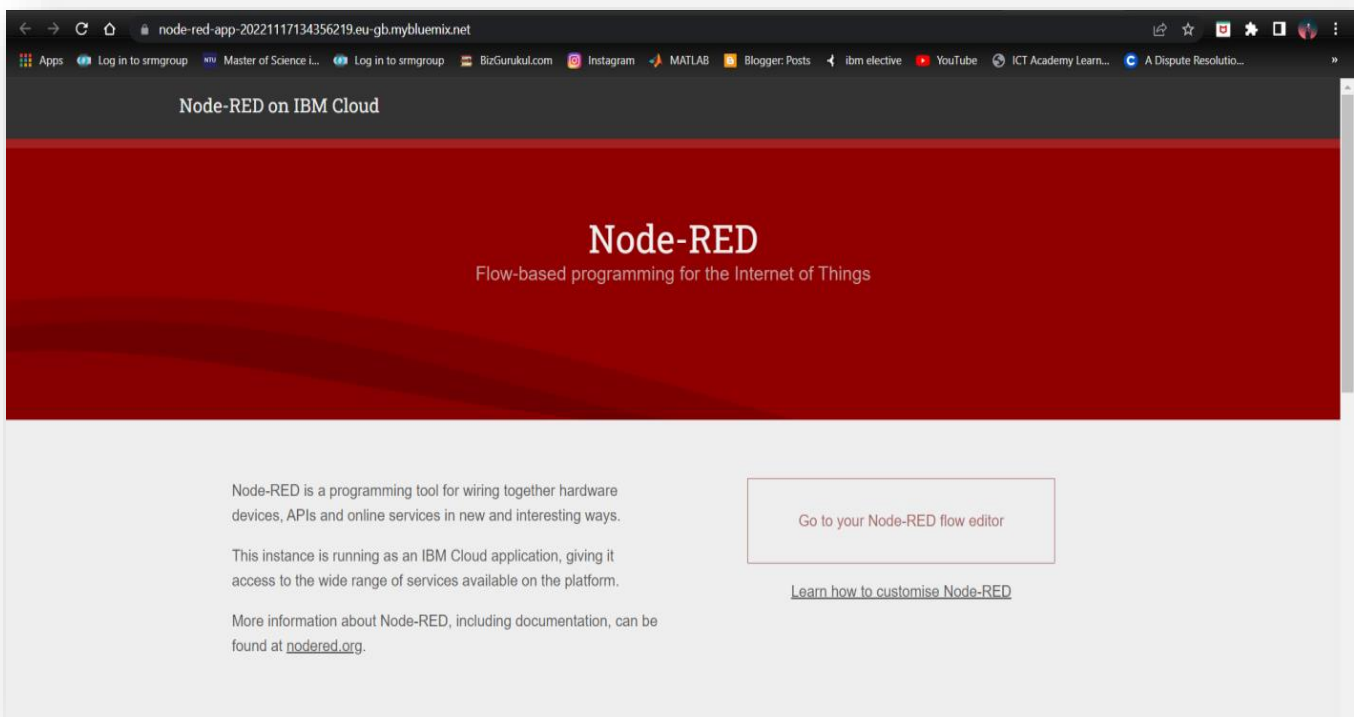


The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main content area has tabs for 'All Devices' and 'Diagnose'. Below the tabs, a text block explains that the table shows a summary of all devices added and can be filtered or searched. A search bar labeled 'Search by Device ID' is present. To the right, there is a 'Device Simulator' toggle switch and icons for list, filter, and refresh. The table below lists two devices:

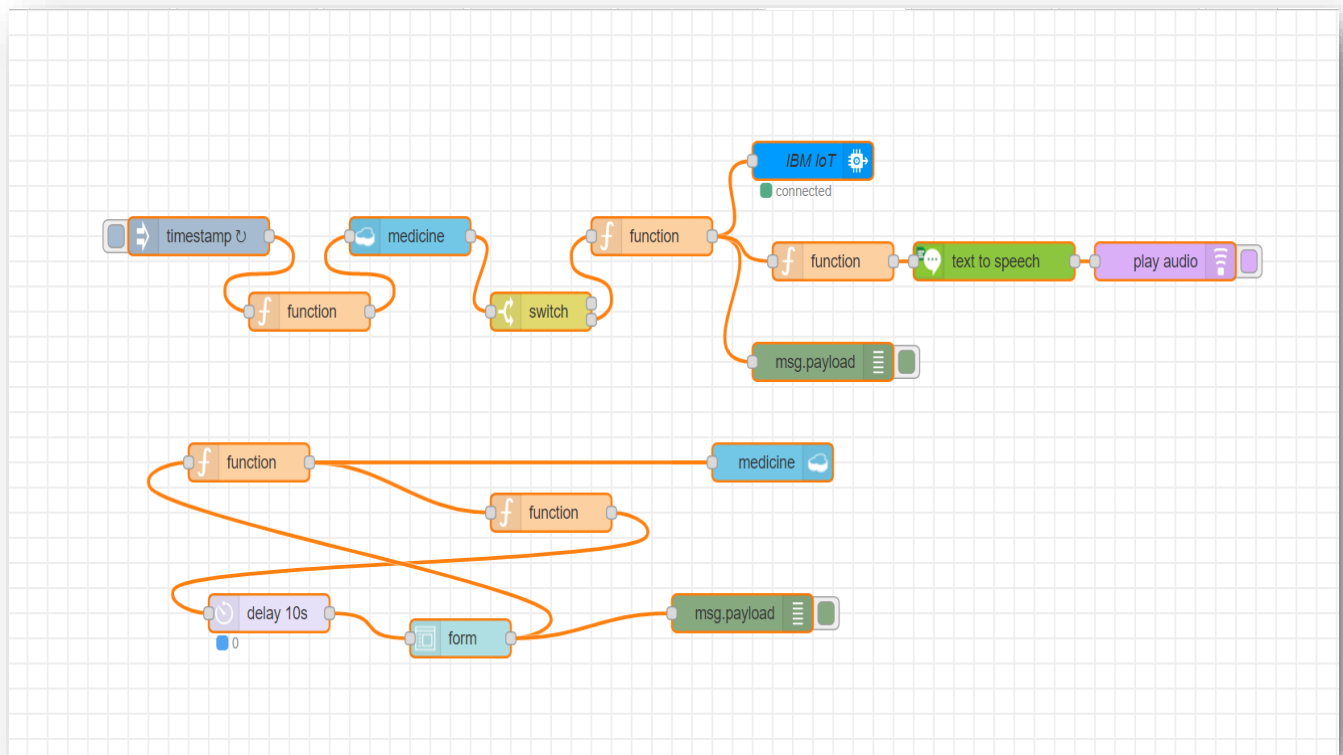
	Device ID	Status	Device Type	Class ID	Date Added
>	123	Disconnected	esp32	Device	Nov 17, 2022 5:49 PM
>	12345	Disconnected	raspberrypi	Device	Nov 12, 2022 6:30 PM

Below the table, it says 'Items per page 50 | 1-2 of 2 items'. At the bottom right, a status bar indicates '1 Simulation running'. A URL bar at the bottom left shows 'https://vwcskh.internetofthings.ibmcloud.com/dashboard'.

7.2 CREATING NODE-RED SERVICE:



The screenshot shows the Node-RED on IBM Cloud landing page. The header reads 'Node-RED on IBM Cloud'. The main section has a large red background with the text 'Node-RED' and 'Flow-based programming for the Internet of Things'. Below this, there is a light gray section with text explaining that Node-RED is a programming tool for wiring together hardware devices, APIs, and online services. It also mentions that this instance is running as an IBM Cloud application. A button labeled 'Go to your Node-RED flow editor' is prominently displayed. Below the button, there is a link to 'Learn how to customise Node-RED'. At the bottom, more information about Node-RED is provided, including a link to 'nodered.org'.



7.3 CREATE DATABASE IN CLOUDANT DB

Databases

Database name

Create Database

{ } JSON

Your Databases

Name	Size	# of Docs	Partitioned	Actions
medicineremainder	0.9 KB	8	No	<div></div> <div></div> <div></div>
noderedwxoxev20221110	37.5 KB	4	No	<div></div> <div></div> <div></div>
simplifiedatabase	13.6 KB	77	No	<div></div> <div></div> <div></div>
simplifiedabse	0.6 KB	0	No	<div></div> <div></div> <div></div>
user	123 bytes	2	No	<div></div> <div></div> <div></div>

Showing 1–5 of 5 databases. Databases per page 20

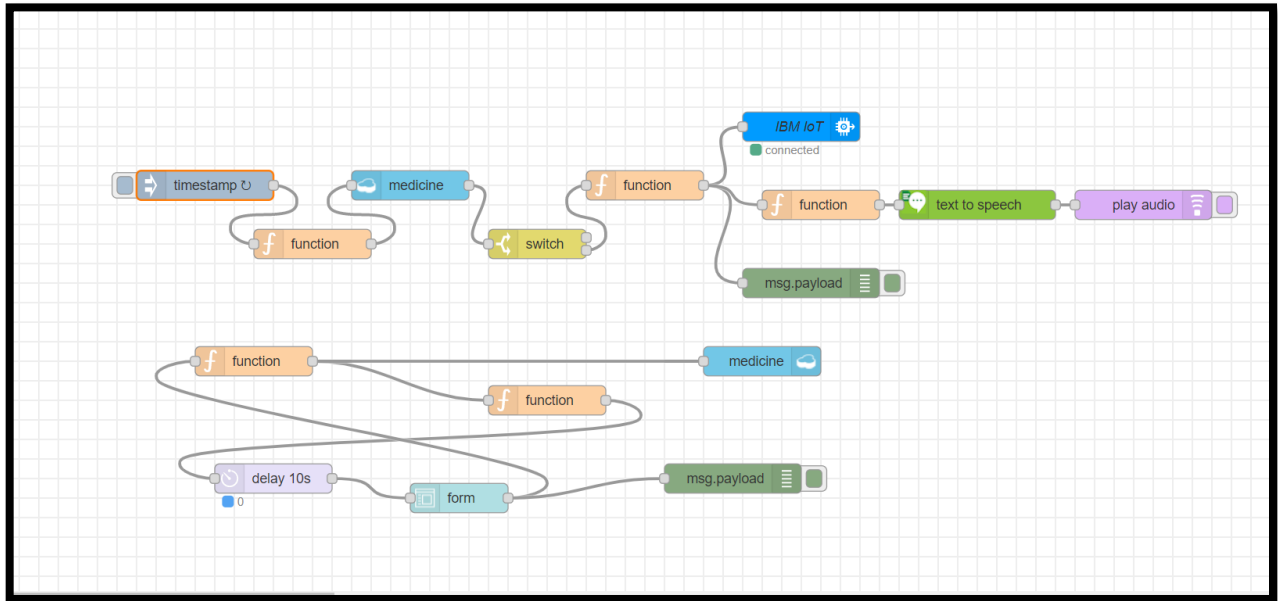
«

1

»

Log Out

7.4 CREATE NODE-RED FORM

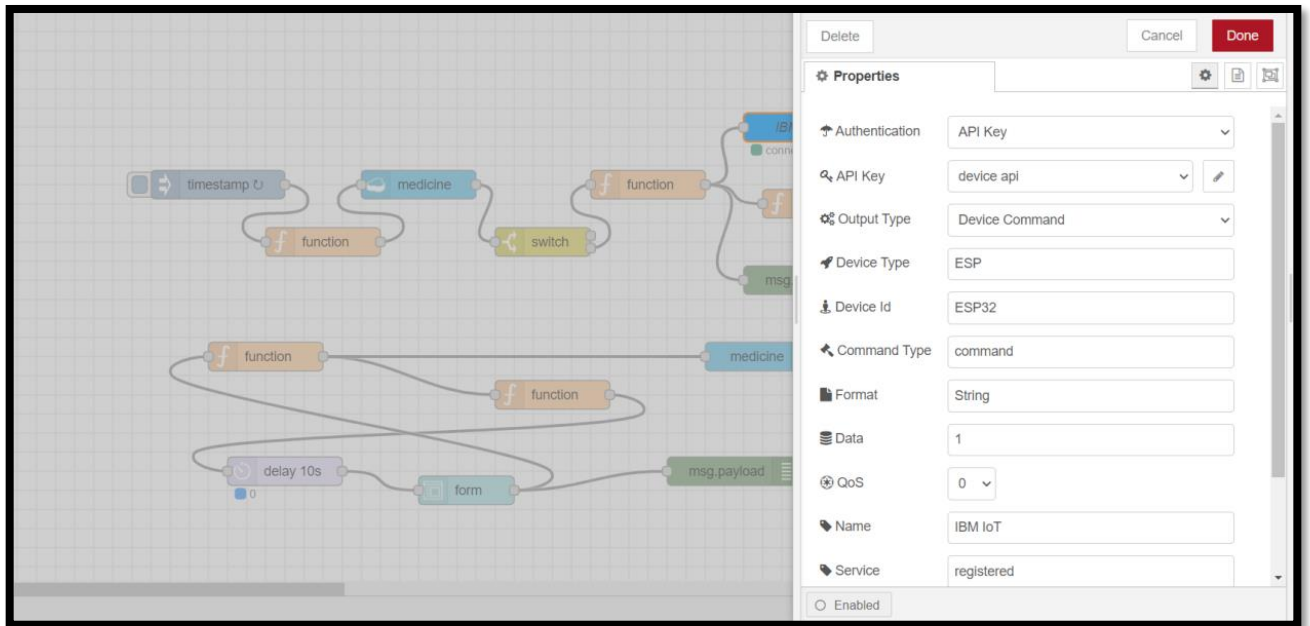
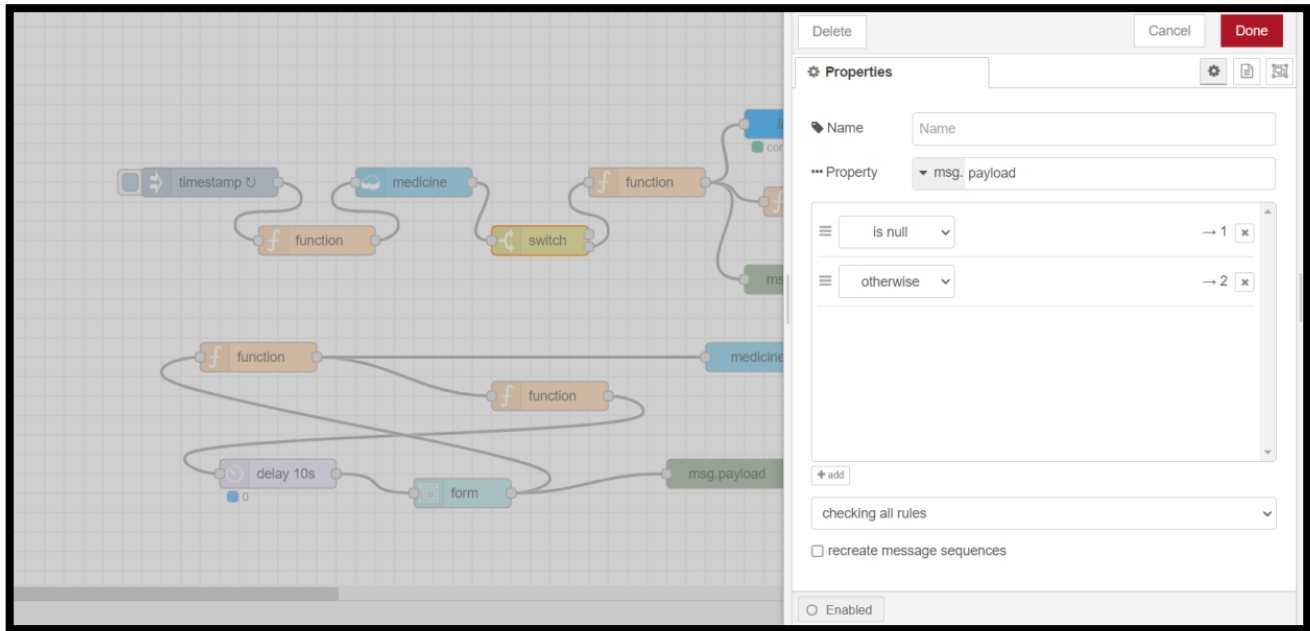


7.5 ADDING IoT CREDENTIALS

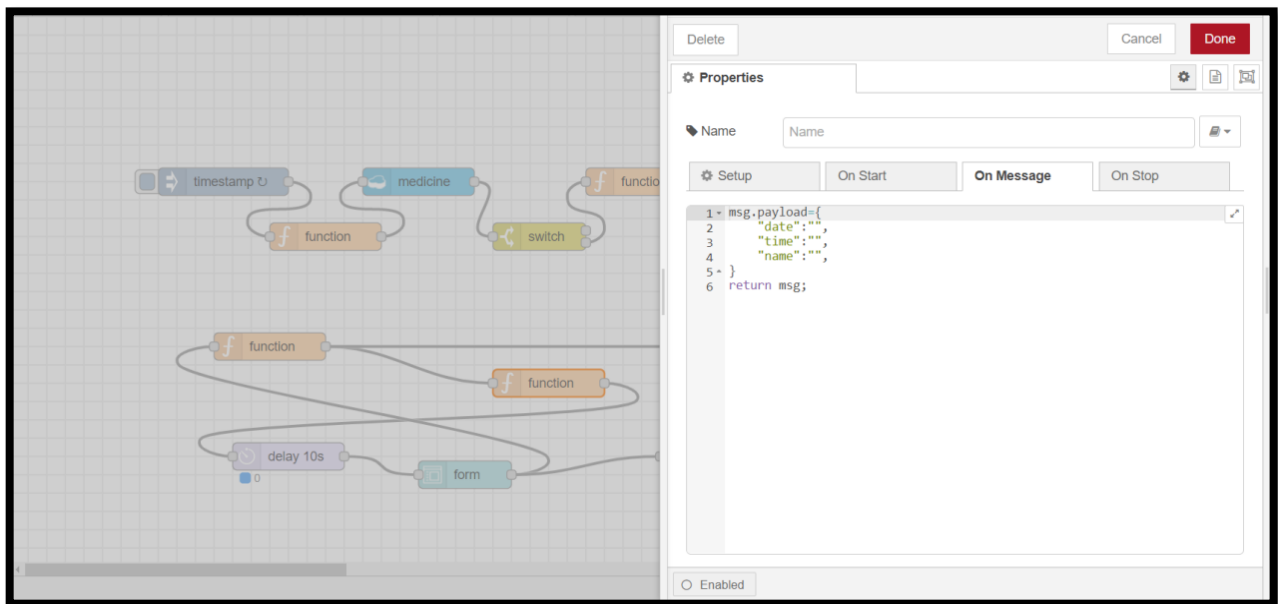
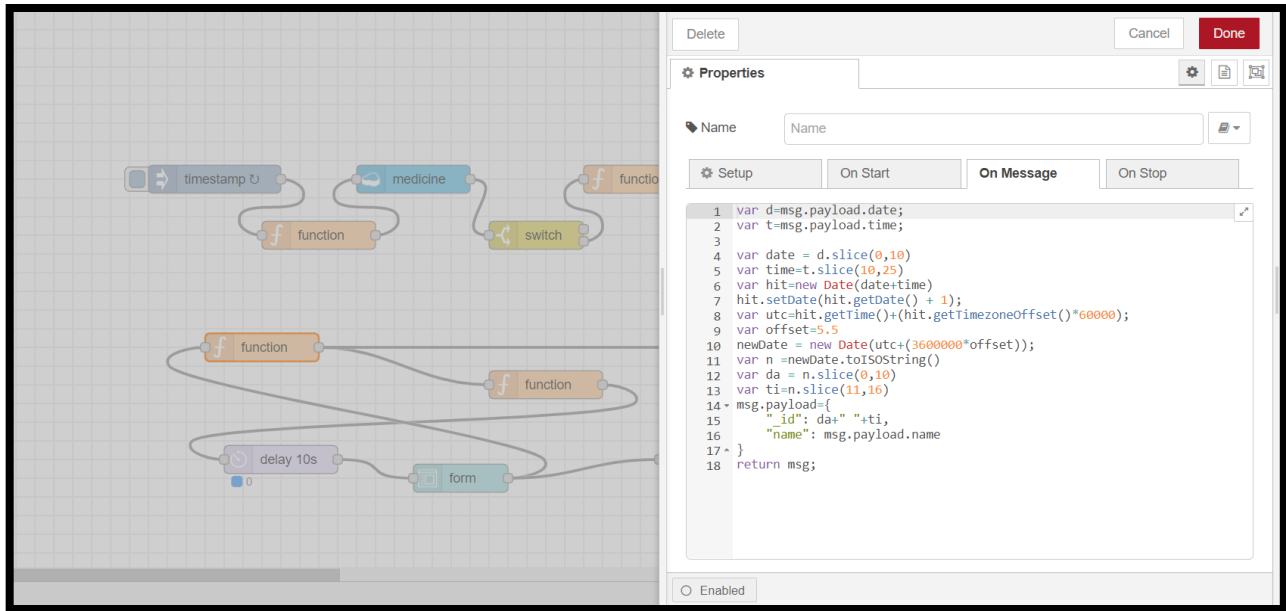
The diagram shows the same Node-RED flow as in the previous section. The 'Properties' panel is open on the right side of the interface. The 'Name' field is empty. The 'Setup' tab is selected. The 'On Message' tab is also visible. The code in the 'On Message' tab is as follows:

```
1 var d=new Date()
2 var utc=d.getTime()+(d.getTimezoneOffset()*60000);
3 var offset = 5.5;
4 newDate = new Date(utc+(3600000*offset));
5 var n =newDate.toISOString()
6 var date = n.slice(0,10)
7 var time=n.slice(11,16)
8 global.set("time",time)
9 msg.payload=date+" "+time
10 return msg;
```

The 'Enabled' checkbox is checked.



7.6 FUNCTION TO GET MEDICINE DETAILS AND TIME



7.6 Python code for random medicine and time generating:

```

import json
import wiotp.sdk.deviceimport time
import random

```

```

myConfig = {"identity": {
"orgId": "mni3qc", "typeId":
"medicine", "deviceId": "123456"
},
"auth": {
"token": "paul@123"
}
}

```

```

}
}
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)

```

```

client.connect()

```

```

for i in range(0,20): tablet=["Paracetamol","Aspirine","Azithral","Asthalin","Sinarest"]
medicinetime=[12.00,1.00,2.00,3.00,5.00,18.00,20.00,7.00]
name = "mani" medicine=random.choice(tablet)
medicinetime=random.choice(medicinetime)
mydata = {'Patient Name': name, 'Medicine Name': medicine, 'Time': medicinetime}

```

```

client.publishEvent("IoTSensor", "json", data=mydata, qos=0, onPublish=None) print("Data published to
IBM IOT platform :", mydata)
time.sleep(5) client.disconnect()

```

temp.py - C:\Users\91637\Downloads\temp.py (3.7.4)

File Edit Format Run Options Window Help

```

import json
import wiotp.sdk.device
import time
import random

myConfig = {
    "identity": {
        "orgId": "mni3qc",
        "typeId": "medicine",
        "deviceId": "123456"
    },
    "auth": {
        "token": "paul@123"
    }
}

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

for i in range(0,20):
    tablet=["Paracetamol","Aspirine","Azithral","Asthalin","Sinarest"]
    medicinetime=[12.00,1.00,2.00,3.00,5.00,18.00,20.00,7.00]
    name = "mani"
    medicine=random.choice(tablet)
    medicinetime=random.choice(medicinetime)
    mydata = {'Patient Name': name, 'Medicine Name': medicine, 'Time': medicinetime}
    client.publishEvent("IoTSensor", "json", data=mydata, qos=0, onPublish=None)
    print("Data published to IBM IOT platform :", mydata)
    time.sleep(5)
client.disconnect()

```

Python 3.7.4 Shell

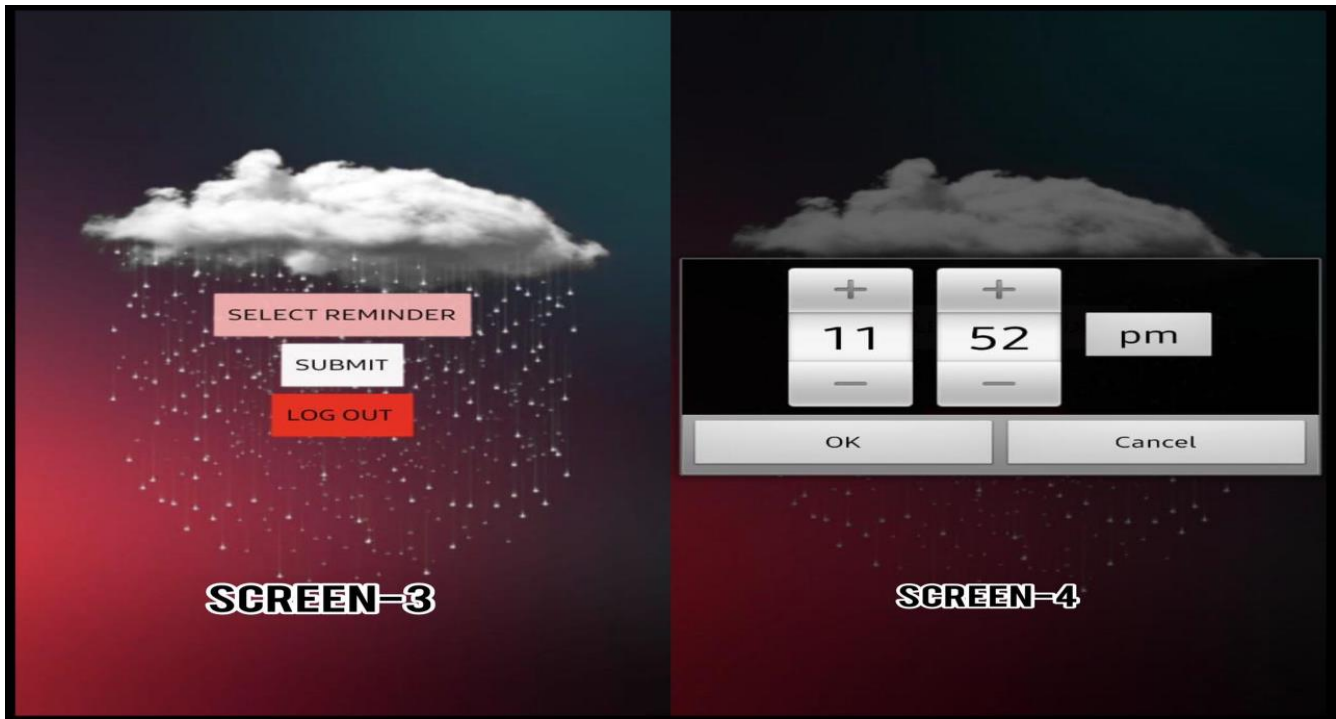
File Edit Shell Debug Options Window Help

Python 3.7.4 (tags/v3.7.4:09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
 type "help", "copyright", "credits" or "license()" for more information.

```

>>>
===== RESTART: C:\Users\91637\Downloads\temp.py =====
022-11-16 15:50:06,267 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:mni3qc:medicine:123456
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Asthalin', 'Time': 5.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Azithral', 'Time': 12.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Sinarest', 'Time': 12.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Azithral', 'Time': 18.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Aspirine', 'Time': 1.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Aspirine', 'Time': 5.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Paracetamol', 'Time': 20.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Azithral', 'Time': 12.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Asthalin', 'Time': 12.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Sinarest', 'Time': 1.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Asthalin', 'Time': 5.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Aspirine', 'Time': 12.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Sinarest', 'Time': 1.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Sinarest', 'Time': 5.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Sinarest', 'Time': 20.0}
Data published to IBM IOT platform : {'Patient Name': 'mani', 'Medicine Name': 'Paracetamol', 'Time': 2.0}

```

8.2 NODE-RED DASHBOARD

Login Form

Enter User Name :

Enter Password :

Login Form

Enter User Name :

Enter Password :

POP-UP MESSAGE APPEARS:

ibmproject123456.000webhostapp.com says

Login Success...Redirecting to Dashboard

Medicine details

Medicine Details

Enter the medicine

Time(HHMM)

Date(YYYY/MM/DD)

9. Testing

Medicine details

Medicine Details

Enter the medicine
Dolo

Time(HH:MM)
10:00

Date(YYYY/MM/DD)
16-11-2022

SUBMIT

CANCEL

≡ Medicine Details

Alert!!

Its time for your medicine

10.Result

Medicine remainder app helps you to remember when to take your pills and manage pill usage. The app collects user's email id and password to login into the app where the User can enter medicine name, dosage, time and date. The entered data is saved in IBM cloud and generates remainder message on time and User can snooze it once he/she has taken Medicine.

S.NO	PARAMETERS	PERFORMANCE
1.	Request latency	0.3ms
2.	Usage count	10
3.	Error rate	<1%
4.	Request rate	100
5.	Down time	Almost no down time

11.Advantages and Disadvantages

Advantages:

- The distant monitoring is made possible by using various biomedical devices, they measure and transmit data via Bluetooth or ZigBee to a unit that manages them.
- The tool will provide explicit information that will assist the patient in determining the most suitable prescription drug plan, considering the individual importance of plan features.
- The alarm will generate according to scheduled and the situation can be recorded with help of sensor which will remotely monitor, save for the future reference, update drug information according to need through web after comparing drug taking during habit of patient.
- It is user friendly and easily accessible

Disadvantages:

- Needs active internet connection
- Users need to know how to use the technology
- Does not provide suggestions to users
- Sensors are not readily available along with medicinal service gadgets

12.Conclusion

We have demonstrated a web application that generates alarm signals to remind a patient to take medication. We focus on helping patients and improving the monitoring system. The application is easily accessible. Combination of a sensing system with web application helps us to measure how well a patient can take their daily medication in real- time. The availability of sensors and other medicinal services gadgets (IoT) work better in consideration of patients.

13.Future Scope

A data-sharing feature between patient and health care professionals would also be developed. Voice-alert notification is being considered as part of the future works; a system that will not only send notification however also read the content of the notification alert to the listening of the patient.

14.Appendix

Source Code: <https://github.com/IBM-EPBL/IBM-Project-42447-1660663103.git>

Demo video link:

https://drive.google.com/file/d/1DH3ukLUWb__bAD8e2fn3ijCWGMpkRAvO/view?usp=sharing