

## PROJECT DEVELOPMENT PHASE

### DELIVERY OF SPRINT 3

Date	11 November 2022
Team ID	PNT2022TMID27535
Project Name	Project – Personal Assistance for senior citizens who are self-reliant

### SPRINT III:Hardware Implementation

#### Objective:

Developing code to retrieve data from cloudant db to send that data to IoT device at the appropriate time.

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	<u>Registration:</u> Creation of IBM services like NodeRED, Cloudant DB, TTS Service and design of IoT system	USN-1	As a user,I should login into my IBM Cloud account.	2	High	Mark Gerald, Kingston Leonard
Sprint-2	<u>Web UI:</u> Creating web UI using node-red and connect it to IBM Cloudant db	USN-2	As a user,I should be able to feed the medicine name and intake time in the web UI	2	High	Melodina Carnelian D, Rufus A.R
Sprint-3	<u>Hardware implementation:</u> Developing code to retrieve data from cloudant db to send that data to IoT device at the appropriate time	USN-3	As a user, I should be able to send the medicine name to the IoT device at the scheduled time	2	High	Rufus.A.R, Kingston Leonard
Sprint-4	<u>Software implementation:</u> Converting the data received from cloud as voice using IBM Text to Speech service	USN-4	As a user, I must be able hear the medicine name which is to be taken at the appropriate time	2	High	Melodina Carnelian D, Mark Gerald

#### ❖ Scheduling medicine name and intake time:

Add Medicine

Medicine Reminder

Medicine Name \*

DOL0650

Time \*

23:00

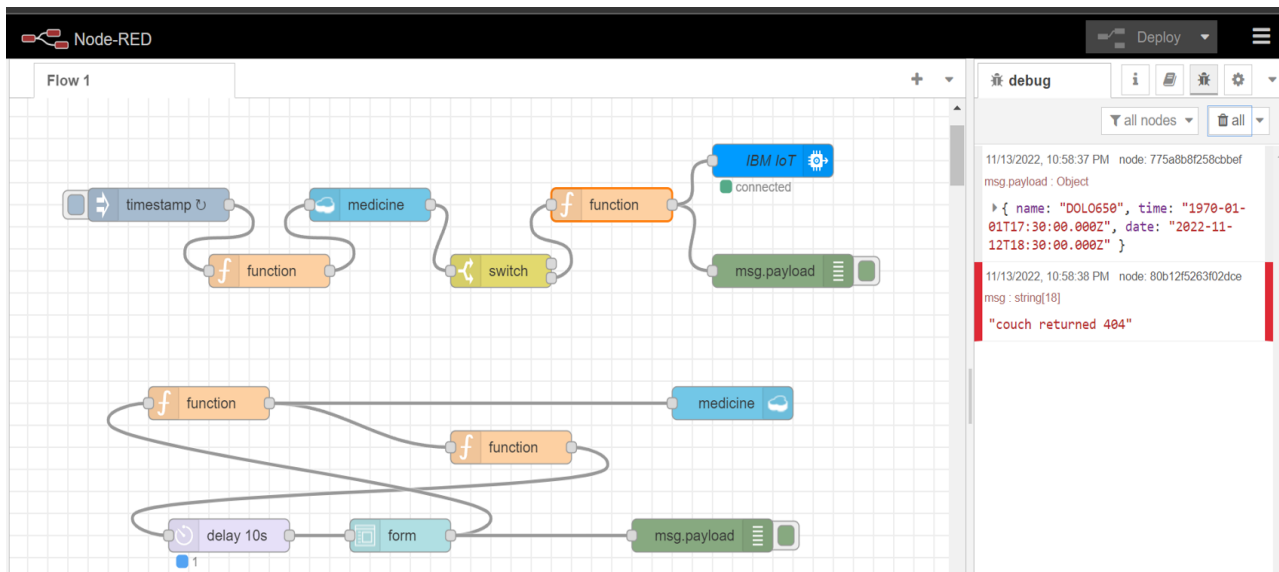
Date \*

13-11-2022

SUBMIT

CANCEL

## ❖ Medicine details displayed in Node-RED debug window:



## ❖ Medicine details pushed and displayed in IBM Cloudant db:

The IBM Cloudant dashboard shows the 'medicine' database. The table displays the following data:

_id	name
2022-11-13 08:35	Amoxicillin
2022-11-13 18:57	crocin
2022-11-13 21:30	Gelusil
2022-11-13 22:43	Vicks
2022-11-13 22:46	montair
2022-11-13 22:55	Gelusil
2022-11-13 23:00	DOL0650
2022-11-14 14:22	Azithromycin
2022-11-15 01:02	Paracetamol
2022-11-15 08:00	PAN-20
2022-11-15 20:30	Clindamycin

Showing 2 of 3 columns. ☐ Show all columns. Showing document 1 - 14. Documents per page: 20

Scheduled DOLO650 medicine to be taken at 23:00(11:00PM)

medicine ➤ 2022-11-13 23:00

✓ Save Changes Cancel

```
1 {  
2   "_id": "2022-11-13 23:00",  
3   "_rev": "1-50a3645e6e95cc90cb779ac8ef57f665",  
4   "name": "DOLO650"  
5 }
```

❖ Medicine name sent to ESP32 on the scheduled time 23:00:

WOKWI SAVE SHARE PNT2022TMID27535.ino Docs R

sketch.ino diagram.json libraries.txt Library Manager

```
75 Serial.println(WiFi.localIP());  
76 }  
77  
78 void initManagedDevice() {  
79   if (client.subscribe(subscribetopic)) {  
80     Serial.println(subscribetopic);  
81     Serial.println("subscribe to cmd OK");  
82   } else {  
83     Serial.println("subscribe to cmd FAILED");  
84   }  
85 }  
86  
87 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength) {  
88   {  
89  
90     Serial.print("callback invoked for topic: ");  
91     Serial.println(subscribetopic);  
92     for (int i = 0; i < payloadLength; i++) {  
93       //Serial.print((char)payload[i]);  
94       data3 += (char)payload[i];  
95     }  
96  
97     Serial.println("Please take " + data3);  
98     if(data3 != "")  
99     {  
100       lcd.init();  
101       lcd.print("Take " + data3);  
102  
103       digitalWrite(LED,HIGH);  
104       delay(20000);  
105       digitalWrite(LED,LOW);  
106     }
```

Simulation

00:06.749 100%

ESP32

Take DOLO650

Reconnecting client to  
ok5c7o.messaging.internetofthings.ibmcloud.com  
iot-2/cmd/command/fmt/String  
subscribe to cmd OK

callback invoked for topic: iot-2/cmd/command/fmt/String  
Please take DOLO650

Type here to search 25°C 23:00 13-11-2022

❖ **Medicine name sent to device ESP32 in IBM Watson IoT Platform:**

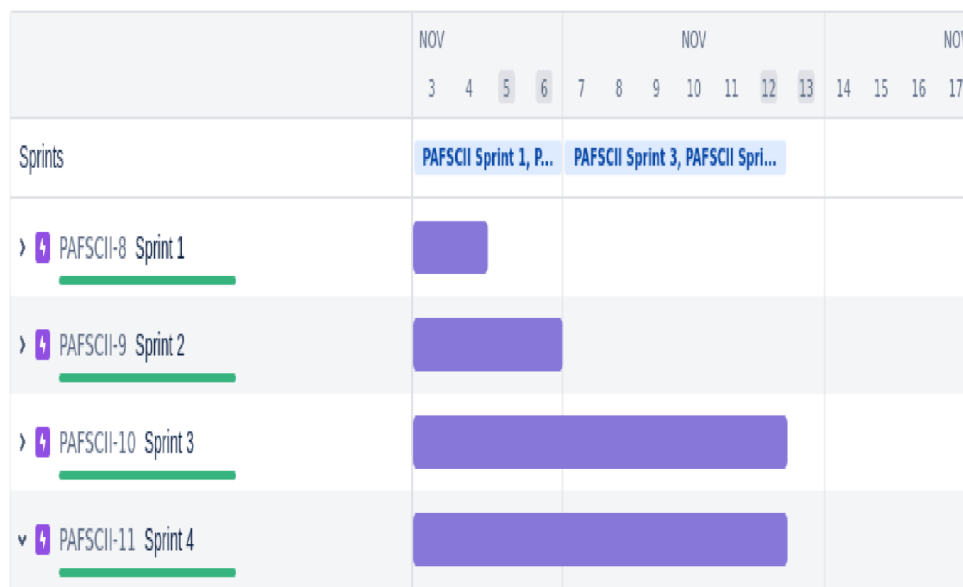
The screenshot shows the IBM Watson IoT Platform interface. The 'Recent Events' tab is selected for device ESP32. The table below shows the live stream of data received from the device.

Event	Value	Format	Last Received
command	{"type":"Buffer","data":[68,79,76,79,54,53,48]}	String	a few seconds ago
command	{"type":"Buffer","data":[68,79,76,79,54,53,48]}	String	a few seconds ago
command	{"type":"Buffer","data":[68,79,76,79]}	String	a minute ago

**Medicine name(DOLO650) sent to IBM Watson IoT as ASCII values**

**Conclusion:**

Hardware implementation phase is successfully completed



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