SPRINT DELIVERY – 3

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PROJECT NAME: PERSONAL ASSISTANCE FOR SENIORS WHO ARE SELF RELIANT

SIMULATION USING ESP32:

The lcd displays the medicine name when the time arrives.

CODE:

```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQtt
#define LED 1
#include <LiquidCrystal_I2C.h> LiquidCrystal_I2C
lcd(0x27,16,2); void callback(char* subscribetopic, byte*
payload, unsigned int payloadLength);
//-------credentials of IBM Accounts------
#define ORG " 7l1il5"//IBM ORGANITION ID
#define DEVICE_TYPE "Iotsensors"//Device type mentioned in ibm watson IOT
Platform
#define DEVICE_ID "12345"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "Anandh@1973" //Token
String data3,light; float h, t;
#define BUZZER_PIN 19 // ESP32 GIOP21 pin connected to Buzzer's pin
//-------- Customise the above values --------
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event
char subscribetopic[] = "iot-2/cmd/test/fmt/string";// cmd REPRESENT command
type
char authMethod[] = "use-token-auth";// authentication method char
token[] = TOKEN; char clientId[] = "d:" ORG ":" DEVICE_TYPE ":"
DEVICE_ID;//client id
//-----------------------------------------
WiFiClient wifiClient; // creating the instance for wificlient PubSubClient
client(server, 1883, callback ,wifiClient); //calling the predefinedclient id
by passing parameter like server id,portand wificredential void setup()//
configuring the ESP32
{
Serial.begin(115200);
Serial.begin(9600); //
dht.begin();
pinMode(LED,OUTPUT);
pinMode(BUZZER_PIN,
OUTPUT); delay(10);
lcd.init();
lcd.clear();
```

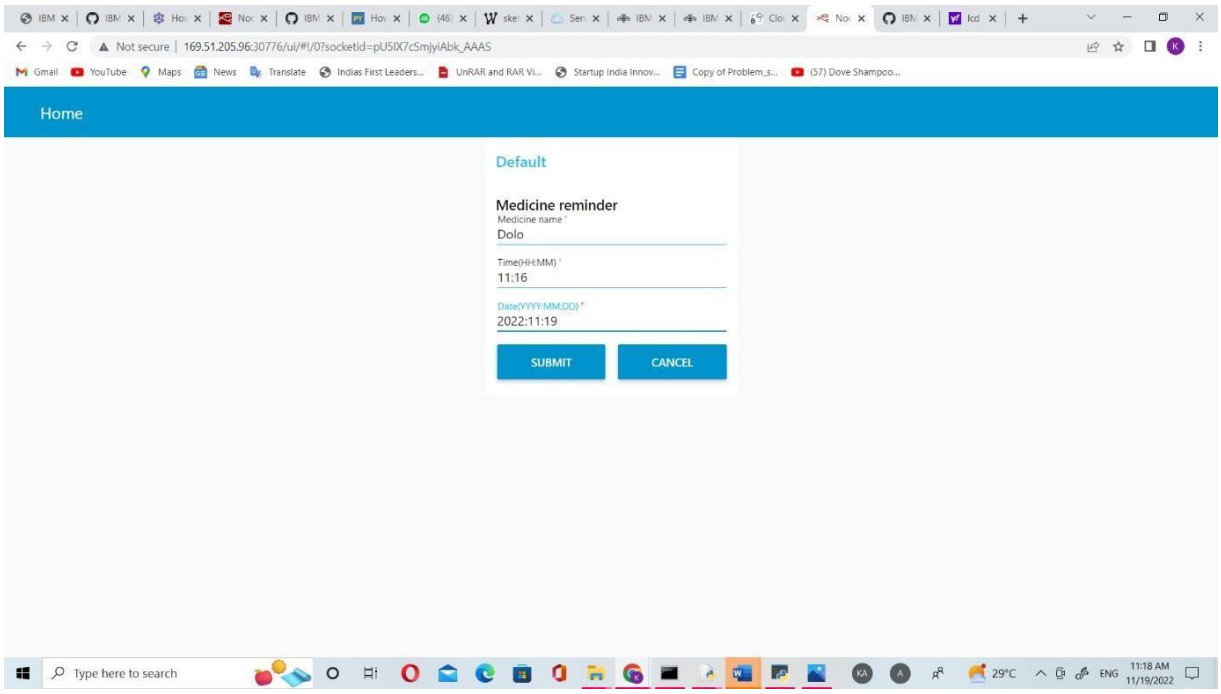
```
lcd.backlight();
Serial.println();
wificonnect();
mqttconnect();
} void loop()// Recursive
Function
{   digitalWrite(BUZZER_PIN,
HIGH); delay(1000); if
(!client.loop()) { mqttconnect();
} } void mqttconnect() {
if (!client.connected()) {
Serial.print("Reconnecting client to "); Serial.println(server);
while (!!!client.connect(clientId, authMethod, token)) {
Serial.print("."); delay(500); }
initManagedDevice();
Serial.println();
} } void wificonnect() //function defination for
wificonnect {
Serial.println();
Serial.print("Connecting to ");
WiFi.begin("Wokwi-GUEST", "", 6);//passing the wifi credentials to establish
the connection while (WiFi.status() != WL_CONNECTED) { delay(500);
Serial.print(".");
}
Serial.println("");
Serial.println("WiFi connected");
Serial.println("IP address: ");
Serial.println(WiFi.localIP());
} void initManagedDevice()
{
if (client.subscribe(subscribetopic)) {
Serial.println((subscribetopic));
Serial.println("subscribe to cmd OK");
} else {
Serial.println("subscribe to cmd FAILED");
} } void callback(char* subscribetopic, byte* payload, unsigned int
payloadLength) {
Serial.print("callback invoked for topic: ");
Serial.println(subscribetopic);
light=(char)payload[0];
for (int i = 1; i < payloadLength; i++) {
Serial.print((char)payload[i]); data3 +=
(char)payload[i];
}
// Make sure backlight is on
Serial.println("data: "+ data3); if(light=="n")
{
digitalWrite(BUZZER_PIN, HIGH);
Serial.println(data3); digitalWrite(LED,HIGH);
```

```
// Print a message on both lines of the LCD.
lcd.setCursor(2,0); //Set cursor to character 2 on line 0
lcd.print("Take now"); lcd.setCursor(2,1); //Move cursor
to character 2 on line 1 lcd.print(data3); delay(3000);
digitalWrite(BUZZER_PIN, LOW); digitalWrite(LED,LOW);
lcd.clear();
} else
{
digitalWrite(BUZZER_PIN, LOW);
Serial.println(data3);
digitalWrite(LED,LOW); lcd.clear();
} data3="";
}
```

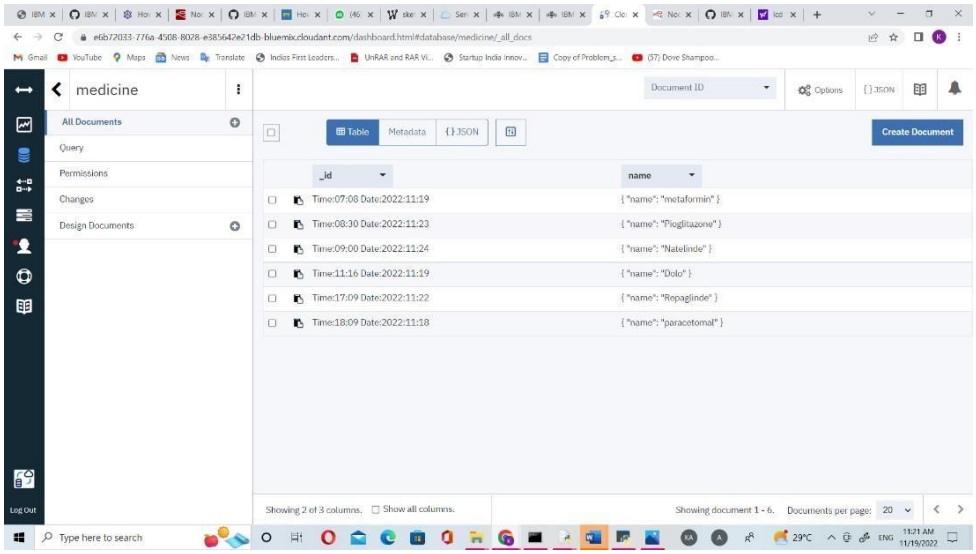
NODE RED DASHBOARD:

The person enters the medicine name,date and time.It is stored in cloudant database.

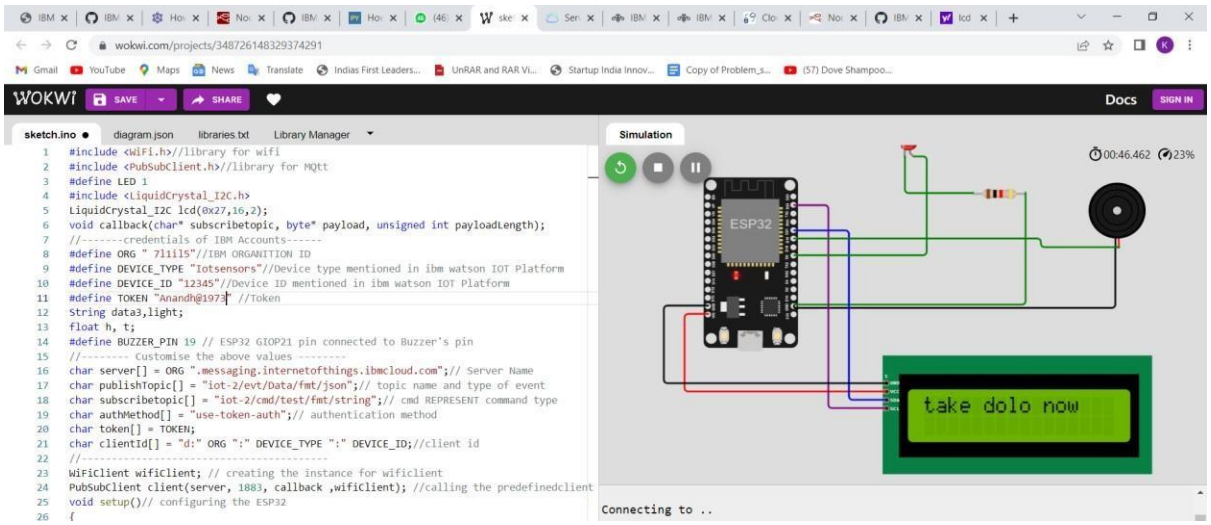
It checks which medicine has to be taken at that time.

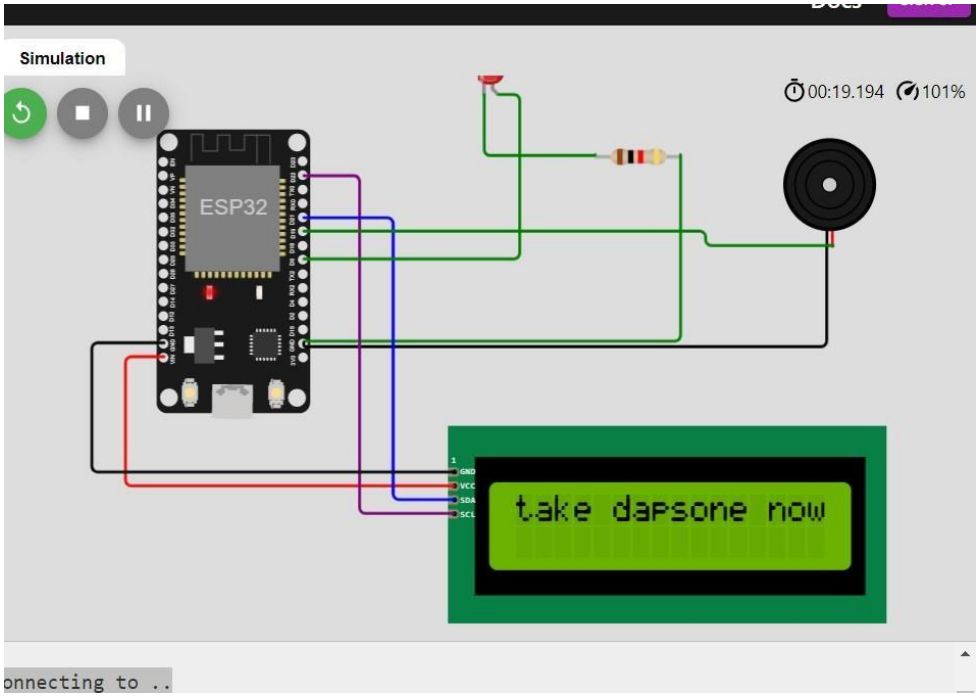


MEDICINE DATABASE:



When the medicine details is added it sends command to ibm iot platform.ESP32 displays the medicine name in lcd display.




Simulation
00:19.194
101%
ESP32
take dapsone now
onnecting to ..