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 intpayloadLength);
//-------credentials of IBM Accounts------
#define ORG " 7l1il5"//IBM ORGANITION ID
#define DEVICE_TYPE "Iotsensors"//Device type mentioned in ibm watson IOTPlatform
#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 Namechar publishTopic[] =
"iot-2/evt/Data/fmt/json";// topic name and type of event
char subscribetopic[] = "iot-2/cmd/test/fmt/string";// cmd REPRESENT commandtype
char authMethod[] = "use-token-auth";// authentication methodchar 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 wificredentialvoid setup()// configuring the
ESP32
{
Serial.begin(115200); Serial.begin(9600);
// dht.begin(); pinMode(LED,OUTPUT);
```

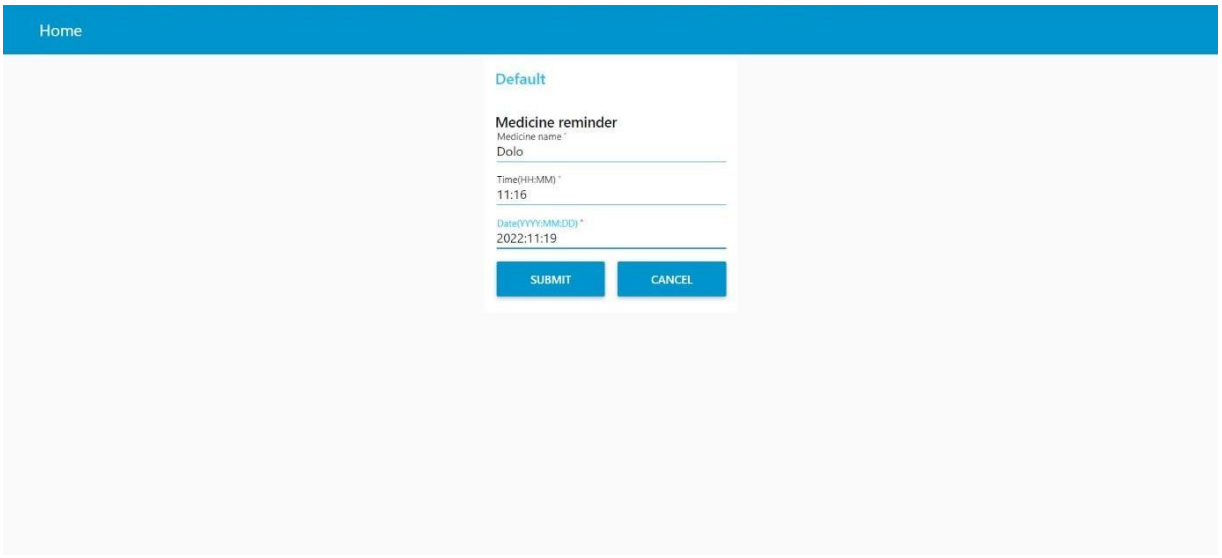
```
pinMode(BUZZER_PIN, OUTPUT);
delay(10); lcd.init();
lcd.clear();
lcd.backlight();
Serial.println();
wificonnect();
mqttconnect();
}
void loop()// Recursive Function
{
   digitalWrite(BUZZER_PIN, HIGH);
delay(1000);
if (!client.loop())
{mqttconnect();
}
}
void mqttconnect() {
if (!client.connected())
{ 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 establishthe 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 0lcd.print("Take now");
lcd.setCursor(2,1); //Move cursor to character 2 on line 1lcd.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="";
}
```

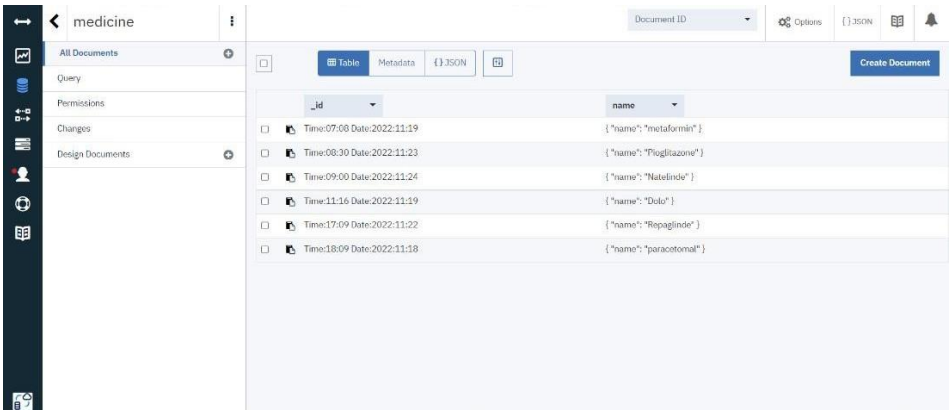
NODE RED DASHBOARD:

The person enters the medicine name,date and time.It is stored incloudant 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.