FINAL DELIVERABLE(IBM IOT PLATFORM)WOKWI

TEAM ID : PNT2022TMID18706
PROJECT NAME: PERSONAL ASSISTANCE FOR SENIORS WHO ARESELF 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() {
```

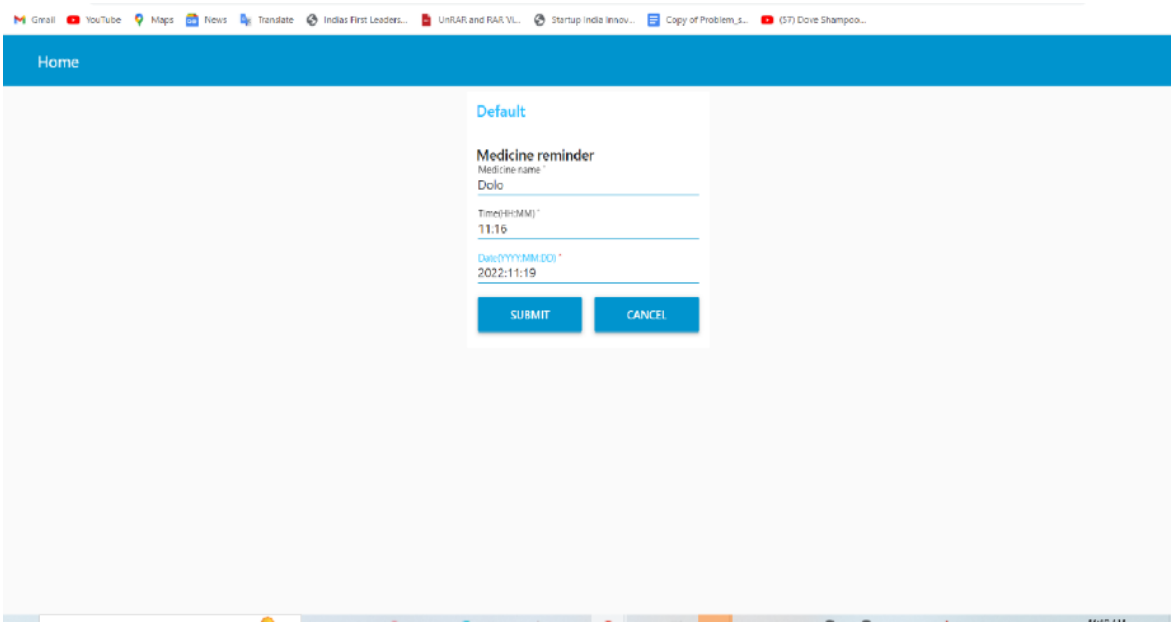
```
if (!client.connected()) { Serial.print("Reconnecting client to ");
Serial.println(server);
while (!!!client.connect(clientId, authMethod, token)) {
Serial.print("."); delay(500);
}
initManagedDevice();
Serial.println();
}
}
void wificonnect() //function defination for wificonnect
{
Serial.println(); 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="";
}
```

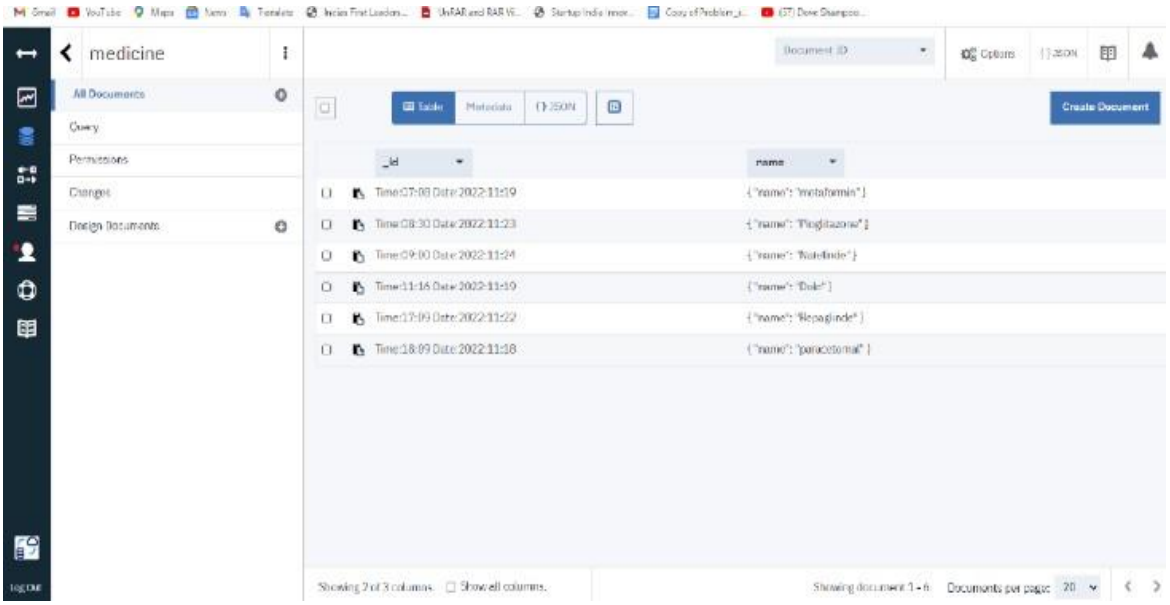
NODE RED DASHBOARD:

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.