Delivery plan sprint-2

Team ID	**PNT2022TMID44171**
Project Title	**IoT Based Safety Gadget for Child Safety Monitoring and Notification**

Sprint 2 is about **LOGIN and NOTIFIACATION** of the IoT device in Parent's Web Application for getting information about Child's Status.

Login:

This Coding is to built login page of parent's application to get information about child's condition.

Code:

```
<!DOCTYPE html>
<html> <head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<title> Login Page </title>
<style>
Body {
  font-family: Calibri, Helvetica, sans-serif;
  background-color: #9FE2BF;
}
button {
      background-color: #9FE2BF;
```

```
        width: 100%;
         color: black;
         padding: 15px;
         margin: 10px 0px;
         border: none;
         cursor: pointer;
          }
form {
         border: 3px solid #f1f1f1;
    }
input[type=text], input[type=password] {
         width: 100%;
         margin: 8px 0;
         padding: 12px 20px;
         display: inline-block;
         border: 2px white;
         box-sizing: border-box;
    }
button:hover {
         opacity: 0.7;
    }
 .cancelbtn {
```

```
        width: auto;
        padding: 10px 18px;
        margin: 10px 5px;
    }
 .container {
        padding: 25px;
        background-color: #CCCCFF;
    }
</style> </head>
<body>
    <center> <h1> Login Form </h1> </center>
    <form>
        <div class="container">
        <label>Device ID/Number: </label>
            <input type="password" placeholder="Enter Password" name="password" required>
            <label>E-Mail : </label>
            <input type="text" placeholder="Enter Username" name="username" required>
            <label>Password : </label>
            <input type="password" placeholder="Enter Password" name="password" required>
            <button type="submit">Login</button>
            <button class="loginBtn loginBtn--facebook">Login with Facebook.</button>
            <button class="loginBtn loginBtn--google">Login with Google.</button>
```

```
            <input type="checkbox" checked="checked"> Remember me
            <button type="button" class="cancelbtn"> Cancel</button>
            Forgot <a href="#"> password? </a>
        </div>
    </form>
</body>
</html>
```

NOTIFICATION:

This coding will make connection between IoT Device & Parent's application. When the child cross across the geofence message will be notified on parent's application.

Code:

```
 #include<WiFi.h>//library for wifi
#include<PubSubClient.h>//library  for  MQTT
void callback(char* subscribetopic, byte* payload,unsigned int payloadlength); //---------------
credentials of IBM Account------
#define ORG "45z3o2"// IBM ORGANIZATION ID
#define DEVICE_TYPE "ESP32_Controller"//DEVICE TYPE MENTIONED IN IOT WATSON
PLATFORM #define DEVICE_ID "bme2"//DEVICE ID MENTIONED IN IOT WATSON PLATEFORM
#define TOKEN "OKZ+q@JfPWDOd6wBTj"//Token
String  data3;
float dist;
//------------customize the above value-------
char server[]=ORG ".messaging.internetofthings.ibmcloud.com";//server name
char publishtopic[]="ultrasonic/evt/Data/fmt/json";/*topic name and type of event perform and format in
  which data to be send*/
char subscribetopic[]="ultrasonic/cmd/test/fmt/String";/*cmd  REPRESENT  Command  tupe and
COMMAND IS TEST OF FORMAT STRING*/
```

```
char authMethod[]="use-token-auth";//authentication  method
char token[]=TOKEN;
char clientid[]="d:"  ORG ":"  DEVICE_TYPE":" DEVICE_ID;//CLIENT  ID
//  ————————————————————————————
WiFiClient wifiClient;// creating an instance for wificlient
PubSubClient client(server, 1883 , callback , wifiClient);/*calling the predefined client id by passing parameter like
server id,portand wificredential*/
int LED =4;
int     trig      =5;
int      echo=18;
void setup(){
    Serial.begin(115200);
    pinMode(trig,OUTPUT);
    pinMode(echo,INPUT);
    pinMode(LED,OUTPUT);
    delay(10);
    Serial.println();
    wificonnect();
    mqttconnect();
}
```

```
void loop() {
    digitalWrite(trig,LOW);
    digitalWrite(trig,HIGH);
    delayMicroseconds(10);
    digitalWrite(trig,LOW);
    float dur=pulseIn(echo,HIGH);
    float dist=(dur  *  0.0343)/2;
    Serial.print("distance in cm");
    Serial.println(dist);
    PublishData(dist);
    delay(1000);
    if (!client.loop()){
        mqttconnect();
    }
}
/*.....retriving to cloud. ..... */
void PublishData(float dist){
    mqttconnect();//function call for connecting to ibm
    /*creating the string in form of JSON to update the data to ibm cloud*/ String
    object;
```

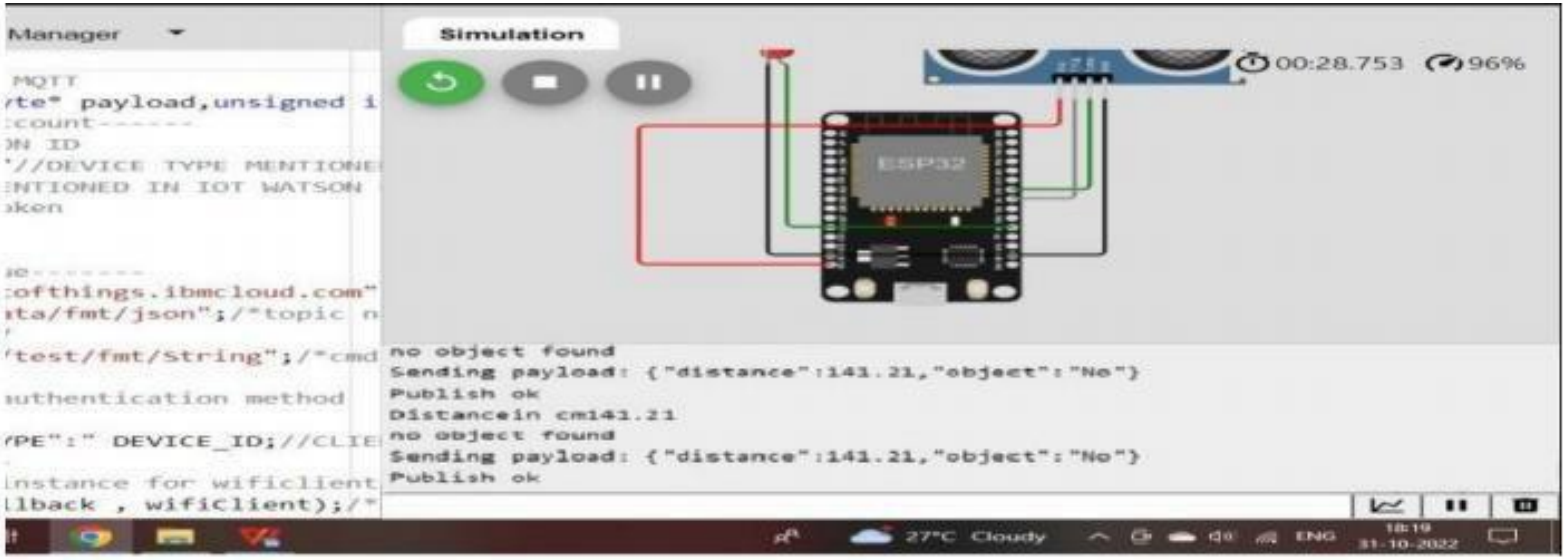
```
if(dist<100)
{
   digitalWrite(LED,HIGH);
   Serial.println("no object is near");
   object="Near";
}
else
{
   digitalWrite(LED,LOW);
   Serial.println("no object found");
   object="No";
}
String payload="{\"distance\":";
payload +=dist;
payload +="," "\"object\":\"";
payload += object;
payload += "\"}";

Serial.print("Sending payload:  ");
Serial.println(payload);
```

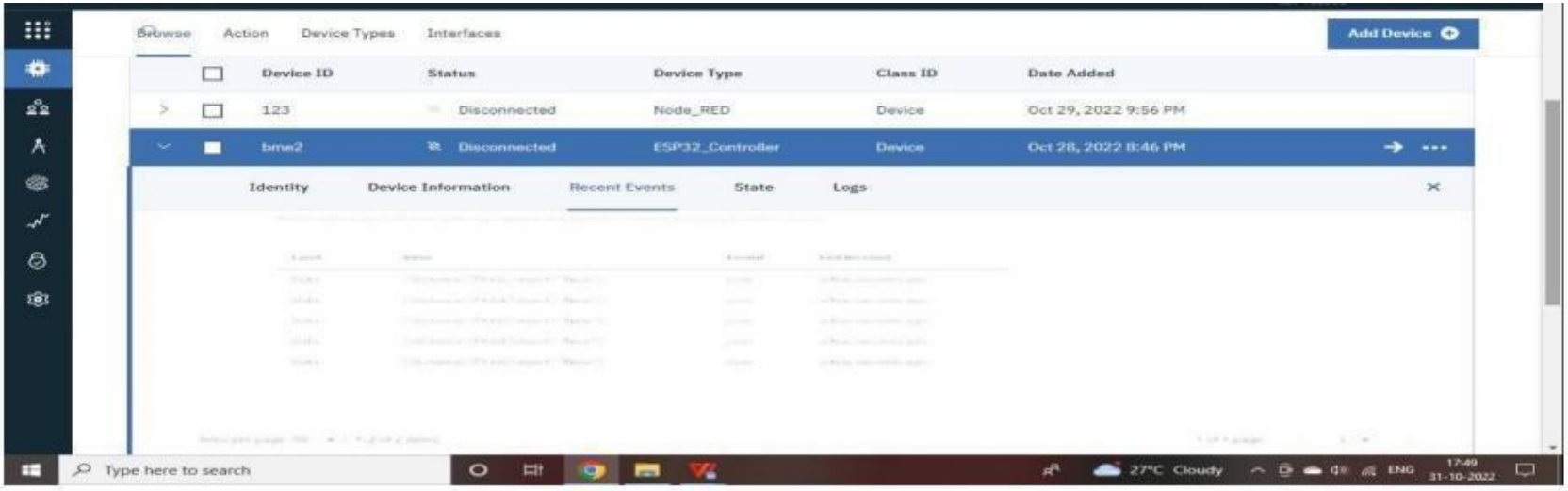
```
    if(client.publish(publishtopic, (char*)  payload.c_str())){
        Serial.println("Publish ok");/* if its sucessfully upload data on the cloud then it will print publish ok in serial monitor or
        else it will print publish failed*/
    } else{
        Serial.println("Publish failed");
    }
}
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 defenition for                    wificonnect
```

```
{
    Serial.println();
    Serial.print("Connecting to ");
    WiFi.begin("vivo 1816", "taetae95",6);//PASSING THE WIFI CREDIDENTIALS TO ESTABLISH 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);
    for(int i=0; i< payloadLength; i++){
        //Serial.print((char)payload[i]);
        data3 +=(char)payload[i];
    }
    //Serial.println("dta: "+ data3);
    //if(data3=="Near")
    //{
    //Serial.println(data3);
    //digitalWrite(LED,HIGH);
    //}
    //else //{
    //Serial.println(data3);
    //digitalWrite(LED,LOW);//}
    data3="";
}
```

Output:


Manager
Simulation
00:28.753
96%
ESP32
no object found
Sending payload: {"distance":141.21,"object":"No"}
Publish ok
Distancein cm141.21
no object found
Sending payload: {"distance":141.21,"object":"No"}
Publish ok
27°C Cloudy
ENG
18:19
31-10-2022


Browse
Action
Device Types
Interfaces
Add Device
Device ID
Status
Device Type
Class ID
Date Added
123
Disconnected
Node_RED
Device
Oct 29, 2022 9:56 PM
bme2
Disconnected
ESP32_Controller
Device
Oct 28, 2022 8:46 PM
Identity
Device Information
Recent Events
State
Logs
Type here to search
27°C Cloudy
ENG
17:49
31-10-2022