

Project title

Safety Gadget for child safety monitoring and notification

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Sprint 2 is about *login* and Notification 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.

Coding:

```
<!DOCTYPE html>
<html>
  <head>
    <meta name="viewport" content="width=device-width,
initialscale=1">
    <title> Login Page </title>
    <style>
      Body {      font-family: Calibri, Helvetica, sans-serif;
        backgroundcolor:#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.

Coding:

```

#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
PLATFORM

#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 CREDENTIALS 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="";  
}
```