Project Development-Delivery of Sprint 3

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Team ID	PNT2022TMID030639
Project Name	Project -IoT Based Safety Gadget for Child Safety Monitoring and Notification

Sprint 3 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.

Coding,Output,Screenshot

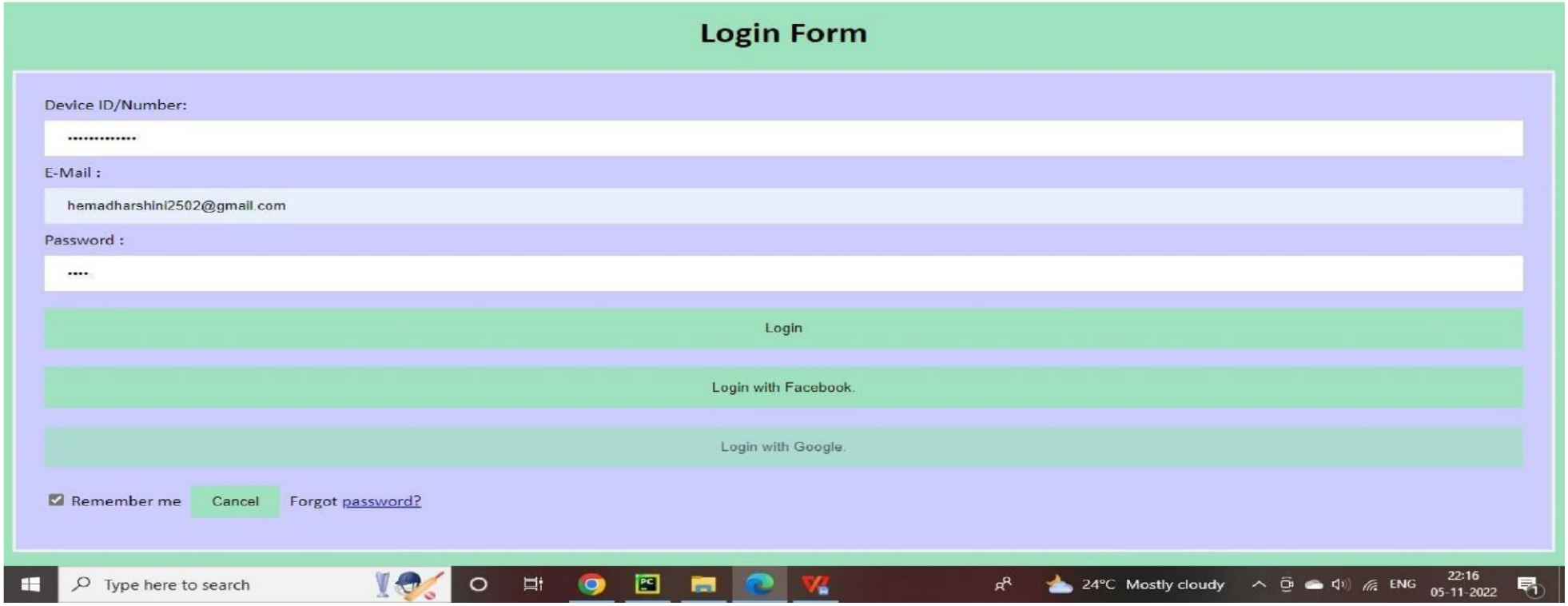
```
<!DOCTYPE html>
<html> <head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<title> Login Page </title>
<style> Body { font-family: Calibri, Helvetica, sans-
serif; background-color:
#9FE2BF;
}
button {       background-color:
#9FE2BF;              width: 100%;
```

```
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>
```

OUTPUT:



NOTIFICATION:-

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

Coding,Output-Screenshot

#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="";
```

Childs status are notified to parents device using cloud service