SPRINT 2

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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.

Coding:

```
<!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: 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 applications. 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 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();
}
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
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int LED =4;
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Serial.begin(115200); pinMode(trig,OUTPUT); pinMode(echo,INPUT); pinMode(LED,OUTPUT);
delay(10); Serial.println(); wificonnect(); mqttconnect();
}
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: