Project Development Phase

SPRINT - 2

Team ID	PNT2022TMID05117
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification

LOGIN

```
<!DOCTYPEhtml>
<html><head>
<metaname="viewport"content="width=device-width,initial-scale=1">
<title>LoginPage</title>
<style>Body{font- family:Calibri,Helvetica,sans-
serif;background-color:#9FE2BF;
}
button{ background-color:#9FE2BF;
width:100%; color:black;
padding:15px;margin:10px0px;border:none;
cursor:pointer;
}form{ border:
3pxsolid#f1f1f1;
}
input[type=text],input[type=password]
{
width:100%;margin:
8px0;padding:12px20px;display:inline-block; border:2pxwhite;
```

```
box-sizing:border-box;
}
button:hover
{opacity:0.7;
}
.cancelbtn{width:
auto;padding:10px18px;margin:10px 5px;
}.container{padding:
25px;background-color:#CCCCFF;
}
</style></head>
<body>
<center><h1>LoginForm</h1></center>
<form>
<divclass="container">
<label>DeviceID/Number:</label>
<inputtype="password"placeholder="EnterPassword"name="password"required>
<label>E-Mail:</label>
<inputtype="text"placeholder="EnterUsername"name="username"required>
<label>Password:</label>
<inputtype="password"placeholder="EnterPassword"name="password"required>
<buttontype="submit">Login</button>
<buttonclass="loginBtnloginBtn--facebook">LoginwithFacebook.</button>
<buttonclass="loginBtnloginBtn--google">LoginwithGoogle.</button>
<inputtype="checkbox"checked="checked">Rememberme
<buttontype="button"class="cancelbtn">Cancel</button>Forgot<ahref="#">password?</a></div>
</form>
</body>
</html>
```

CODE

```
#include<WiFi.h>//library for wifi
#include<PubSubClient.h>//library for MQTT
voidcallback(char*subscribetopic,byte*payload,unsignedintpayloadlength);
//---------------credentialsofIBMAccount------
#defineORG"45z3o2"//IBM ORGANIZATIONID
#defineDEVICE_TYPE"ESP32_Controller"//DEVICETYPE MENTIONED IN IOT WATSON PLATFORM
#defineDEVICE_ID"bme2"//DEVICE ID MENTIONED IN IOT WATSON PLATEFORM
#define TOKEN"OKZ+q@JfPWDOd6wBTj"//Token Stringdata3;
Float dist;
//       customizetheabovevalue
charserver[]=ORG ".messaging.internetofthings.ibmcloud.com";//servername
char publishtopic[]="ultrasonic/e vt/Data/fmt/json";/*topic name and typeof event perform and format in which data to be send*/
charsubscribetopic[]="ultrasonic/cmd/test/fmt/String";/*cmd REPRESENT Command tupe and  COMMAND IS TEST OF FORMAT STRING*/
charauthMethod[]="use-token-auth";//authentication method
chartoken[]=TOKEN;
char clientid[]="d:"ORG":"DEVICE_TYPE":"DEVICE_ID;//CLIENTID
// WiFiClientwifiClient;//creatinganinstanceforwificlient
PubSubClientclient(server,1883,callback,wifiClient);/*calling the predefined clientid by passing parameter like serverid,portandwrificredential*/
intLED=4;inttrig=5;intecho=18;
void setup(){Serial.begin(115200);pinMode(trig,OUTPUT);pinMode(echo,INPUT);pinMode(LED,OUTPUT);
delay(10);Serial.println();wificonnect();mqttconnect();
}
voidloop()
{digitalWrite(trig,LOW);
digital Write(trig,HIGH);
delayMicrose conds(10);
digitalWrite(trig,LO W);
floatdur=pulseIn(echo,HIG H);
floatdist=(dur* 0.0343)/2;
Serial.print("distanc eincm");
Serial.println(dist);
```

```
PublishData(dist);
delay(1000);
if (!client.loop()){mqttconne
ct();
}
}
/*...............................................retrivingtocloud  */
voidPublishData(floatdist){mqttconnect();//function call for connecting to ibm String object;
if(dist<100)
{
digitalWrite(LED,HIGH); Serial.println("noobjectisnear");object="Near";
}
else
{digitalWrite(LED,LOW);Serial.println("noobjectfound");object="No";
}String payload="{\"distance\":";payload
+=dist;payload
+=",""\"object\":\"";payload+=object;payload+="\"}"; Serial.print("Sendingpayload:"); Serial.println(payload);
if(client.publish(publishtopic,(char*)payload.c_str())){
Serial.println("Publishok");
}else{
Serial.println("Publishfailed");
}}voidmqttconnect(){i f(!client.connected()){ Serial.print("Reconnectingclientto");
Serial.println(server);while(!!!client.connect(clientid,authMet hod,token)){Serial.print(".");
delay(500);
} initManagedDevice(); Serial.println();}}
voidwificonnect()//function definition for wificonnect
{ Serial.println();
Serial.print("Connectingto"); WiFi.begin("RMX2580","taetae95",6);//PASSING THE WIFI CREDIDENTIALS TO ESTABLISH CONNECTION
while(WiFi.status()!=WL_CONNECTED){delay(500);
Serial.print(".");
}
Serial.println("");Serial.println("WiFiconnected");Serial.println( "IPaddress");
Serial.println(WiFi.localIP());
}void initManagedDevice()
```

```
{if(client.subsc ribe(subscribetopic)){Serial.println( (subscribetopic)); Serial.println("subscribetocmdOK");
}else{
Serial.println("subscribetocmdfailed");
}
}voidcallback(char*subscribetopic,byte*payload,unsignedintpayloadLength)
{ Serial.print("callbackinvokedfortopic:");
 Serial.println(subscribetopic);

for(inti=0;i<payloadLength;i++){
Serial.print((char)payload[i]);data3+=(char)payload[i];
Serial.println(data3);
digitalWrite(LED,LOW);
}data3="";
}
```

OUTPUT:

When child is not detected within the safezone with the help of IoT device