**Smart Manhole\_ Code**

#include <ESP8266WiFi.h>

#include <Firebase\_ESP\_Client.h>

#include "addons/TokenHelper.h"

#include "addons/RTDBHelper.h"

int irSensorPin = D2; // Pin for the IR sensor

int floatSensorPin = D1; // Pin for the float sensor

int lightPin = D3; // Pin for the light

int buzzerPin = D4; // Pin for the buzzer

#define WIFI\_SSID "Kumar BOLLA"

#define WIFI\_PASSWORD "manasaaa"

#define API\_KEY "AIzaSyARjoYNzqtpw65r8k24OkH34fNtT2o1o9Y"

#define DATABASE\_URL "https://gnits-d5d15-default-rtdb.firebaseio.com/"

FirebaseData fbdo;

FirebaseAuth auth;

FirebaseConfig config;

unsigned long sendDataPrevMillis = 0;

bool signupOK = false;

void setup() {

Serial.begin(115200); // Start the serial monitor

pinMode(irSensorPin, INPUT); // Set the IR sensor pin as an input

pinMode(floatSensorPin, INPUT\_PULLUP); // Set the float sensor pin as an input

pinMode(lightPin, OUTPUT); // Set the light pin as an output

pinMode(buzzerPin, OUTPUT); // Set the buzzer pin as an output

WiFi.begin(WIFI\_SSID, WIFI\_PASSWORD);

Serial.print("Connecting to Wi-Fi");

while (WiFi.status() != WL\_CONNECTED){

Serial.print(".");

delay(300);

}

Serial.println();

Serial.print("Connected with IP: ");

Serial.println(WiFi.localIP());

Serial.println();

config.api\_key = API\_KEY;

config.database\_url = DATABASE\_URL;

if (Firebase.signUp(&config, &auth, "", "")){

Serial.println("ok");

signupOK = true;

}

else{

Serial.printf("%s\n", config.signer.signupError.message.c\_str());

}

config.token\_status\_callback = tokenStatusCallback; //see addons/TokenHelper.h

Firebase.begin(&config, &auth);

Firebase.reconnectWiFi(true);

}

void loop() {

int irValue = digitalRead(irSensorPin); // Read the IR sensor value

int floatValue = digitalRead(floatSensorPin); // Read the float sensor value

Serial.print("IR Value: ");

Serial.println(irValue);

Serial.print("Float Value: ");

Serial.println(floatValue);

if (irValue == HIGH) {

digitalWrite(lightPin, HIGH); // Turn on the light

} else {

digitalWrite(lightPin, LOW); // Turn off the light

}

if (floatValue == HIGH) {

digitalWrite(buzzerPin, HIGH); // Turn on the buzzer

} else {

digitalWrite(buzzerPin, LOW); // Turn off the buzzer

}

if (Firebase.ready() && signupOK && (millis() - sendDataPrevMillis > 1000 || sendDataPrevMillis == 0)){

sendDataPrevMillis = millis();

if (Firebase.RTDB.setInt(&fbdo, "mainbucket/manhole lid",irValue )){

Serial.println("PATH: " + fbdo.dataPath());

Serial.println("TYPE: " + fbdo.dataType());

}

else {

Serial.println("Failed REASON: " + fbdo.errorReason());

}

if (Firebase.RTDB.setInt(&fbdo, "mainbucket/water level",floatValue )){

Serial.println("PATH: " + fbdo.dataPath());

Serial.println("TYPE: " + fbdo.dataType());

}

else {

Serial.println("Failed REASON: " + fbdo.errorReason());

}

delay(1000); // Delay for stability

}

}