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IOT ASSIGNMENT-4

Develop a Smart water pump controller using ESP32.

The tasks to be covered are:

1. use an ultrasonic sensor for monitoring tank  water level and send the values to the mobile app using Bluetooth communication
2. Integrate buttons in the mobile app for controlling the water pump
3. when the buttons are clicked send the data to ESP32 using Bluetooth communication
4. receive the data from the mobile app using ESP32 and control the pump accordingly.

CODE:

int trigpin=5;

int echopin=4;

#include "BluetoothSerial.h"

BluetoothSerial SerialBT;

void setup()

{

pinMode(echopin,INPUT);

pinMode(trigpin,OUTPUT);

Serial.begin(115200);

SerialBT.begin("ESP32test"); //Bluetooth device name

Serial.println("The device has started, now you can pair it with bluetooth!");

}

void loop()

{

if (Serial.available()) {

SerialBT.write(Serial.read());

}

if (SerialBT.available()) {

Serial.write(SerialBT.read());

}

digitalWrite(trigpin,HIGH);

delay(1000);

digitalWrite(trigpin,LOW);

int duration=pulseIn(echopin,HIGH);

int waterlevel=(duration\*0.0343)/2;

Serial.print("the water level is ");

Serial.println(waterlevel);

delay(1000);

if (waterlevel<180)

{

Serial.println("water level is low,pump on");

SerialBT.println(waterlevel);

SerialBT.println("EMPTY");

}

else

{

Serial.println("water level is high,pump off");

SerialBT.println(waterlevel);

SerialBT.println("FULL");

}

delay(20);

}











