Main purpose of our project is to detect the fault motor in real time now present we are using only vibration sensor but we can also use many sensors like temperature, current, etc.…

PROCEDURE:

Firstly, we are using the components of esp8266 as a micro controller, and for power management we are using motor drive, and we are using the sensor of vibration which helps to monitor the motor continuously for the detection of the detection data we are using manually as lcd display which we will use manually for the iot display presently we are using the blynk iot software for it which helps to the monitor the vibration detection output by this software while coming to the models we used we used an simple model till now code we used is Arduino code which is a basic code without any advanced code language to it

Connection:

Firstly, we given connections with to the esp8266 which is called as main module in our project it is the complex part in our project it will uses to transfer the total information to the blynk software without it I can’t transfer the information. And from the esp8266 we given connection to the motor drive and lcd display and vibration sensor the motor will be connect to the motor drive only with the output pins itself and

Code:

#include <Wire.h>

#include <LiquidCrystal\_I2C.h>

#include <SoftwareSerial.h>

// LCD Setup

LiquidCrystal\_I2C lcd(0x27, 16, 2);

// Pin Definitions

#define VIBRATION\_SENSOR A0

#define MOTOR\_IN1 5

#define MOTOR\_IN2 6

#define LED\_ALERT 9

// ESP8266 Setup

SoftwareSerial esp8266(2, 3); // RX, TX

// Threshold Values

const int vibrationThreshold = 500;

void setup() {

pinMode(VIBRATION\_SENSOR, INPUT);

pinMode(MOTOR\_IN1, OUTPUT);

pinMode(MOTOR\_IN2, OUTPUT);

pinMode(LED\_ALERT, OUTPUT);

lcd.begin();

lcd.backlight();

lcd.setCursor(0, 0);

lcd.print("Motor Status:");

Serial.begin(115200);

esp8266.begin(115200);

connectWiFi();

}

void loop() {

int vibrationValue = analogRead(VIBRATION\_SENSOR);

Serial.print("Vibration Value: ");

Serial.println(vibrationValue);

if (vibrationValue > vibrationThreshold) {

lcd.setCursor(0, 1);

lcd.print("Fault Detected! ");

digitalWrite(LED\_ALERT, HIGH);

stopMotor();

sendDataToCloud(vibrationValue);

} else {

lcd.setCursor(0, 1);

lcd.print("Motor Running ");

digitalWrite(LED\_ALERT, LOW);

runMotor();

}

delay(2000);

}

void runMotor() {

digitalWrite(MOTOR\_IN1, HIGH);

digitalWrite(MOTOR\_IN2, LOW);

}

void stopMotor() {

digitalWrite(MOTOR\_IN1, LOW);

digitalWrite(MOTOR\_IN2, LOW);

}

void connectWiFi() {

esp8266.println("AT+CWMODE=1");

delay(2000);

esp8266.println("AT+CWJAP=\"YourSSID\",\"YourPassword\"");

delay(5000);

}

void sendDataToCloud(int vibration) {

String data = "GET /update?api\_key=YOUR\_API\_KEY&field1=" + String(vibration);

esp8266.println("AT+CIPSTART=\"TCP\",\"api.thingspeak.com\",80");

delay(2000);

esp8266.println("AT+CIPSEND=" + String(data.length() + 2));

delay(2000);

esp8266.println(data);

delay(2000);

esp8266.println("AT+CIPCLOSE");

}

Conclusion:

I hope this information will be understand this code is not an final code but we can use this code for presently this not a wrong code it will also work but it is not a full engaged code