IOT MINI PROJECT

COURSE CODE:CSE-220

COURSE NAME: INTERNET OF THINGS

TOPIC: AUTOMATIC PET FOOD FEEDER

INSTRUCTOR:

1. MR.LAKSHMISHA K
2. MR. MAHESH

MEMBERS:

1.AKSHAY SHARMA S(20191CSE0730)

2. ARVIND ESHWAR M C (20191CSE0749)

3.YASHWANTH S(20191CSE0710)

AIM:

TO FEED PET FOOD TO THE PET LIKE DOG, CAT, BIRD AND FISH AUTOMATICALLY WITH OR WITHOUT ANY SUPERVISION.

COMPONENTS USED:

ELECTRICAL COMPONENTS:

1.ARDUINO UNO
2.16 X2 LCD
3. I2C MODULE
4.BLUETOOTH HC- 05
5. 2 NO.S IR SENSOR
6. 1 MICRO SERVO MOTOR
7.LEDS, PUSH BUTTON
8.RESISTORS
9.MALE TO MALE AND MALE TO FEMALE JUMPERCABLE
10.BREADBOARD

NON ELECTRICAL COMPONENTS/OTHER COMPONENTS:

1.CPVC PIPE
2. PLASTIC BOTTLE
3.WOODEN BOARD
4.ELECTRIC TAPE
5.PETFOOD.

CODE:

```
#include <Wire.h>
#include<Servo.h>
#include <LiquidCrystal_I2C.h>
Servo myservo;
int btn = 8;
int val;
int pos =0;
char data =0;
int sensor1=7;
int sensor2=6;


// Set the LCD address to 0x27 for a 16 chars and 2 line display
LiquidCrystal_I2C lcd(0x27, 16, 2);


void setup()
{
   pinMode(7,INPUT);
   pinMode(6,INPUT);
   pinMode(5,OUTPUT);
   pinMode(4,OUTPUT);
   myservo.attach(9);
  myservo.write(pos);
  Serial.begin(9600);
  pinMode(btn, INPUT);
  // initialize the LCD

}
void rotate(){
  for(pos=0;pos<=180;pos+=1){
     myservo.write(pos);
    delay(15);
  }
    for(pos=180;pos>=0;pos-=1){
    myservo.write(pos);
    delay(15);
  }
}
```

```
VOID LOOP()
{
 IF(DIGITALREAD(7)==LOW)
 {
  DIGITALWRITE(5,HIGH);
  DIGITALWRITE(4,LOW);
    LCD.BEGIN();


 // TURN ON THE BLACKLIGHT AND PRINT A MESSAGE.
 LCD.BACKLIGHT();
  LCD.PRINT("ADEQUATE FOOD :)");
 LCD.SETCURSOR(0,1);
   LCD.PRINT("FOOD'S>50%");

}


ELSE IF(DIGITALREAD(6)==LOW&&DIGITALREAD(7)==HIGH)
 {
   DIGITALWRITE(5,HIGH);
   DIGITALWRITE(4,LOW);
     LCD.BEGIN();


 // TURN ON THE BLACKLIGHT AND PRINT A MESSAGE.
 LCD.BACKLIGHT();
  LCD.PRINT("HALF THE FOOD");
 LCD.SETCURSOR(0,1);
   LCD.PRINT("FOOD B/W 50%-20%");
 }
```

```
ELSE IF(DIGITALREAD(6)==HIGH)
 {
   DIGITALWRITE(5,LOW);
   DIGITALWRITE(4,HIGH);
     LCD.BEGIN();


 // TURN ON THE BLACKLIGHT AND PRINT A MESSAGE.
 LCD.BACKLIGHT();
  LCD.PRINT("REFILL THE FOOD");
 LCD.SETCURSOR(0,1);
   LCD.PRINT("FOOD'S<20%");
 }

 INT VAL = DIGITALREAD(BTN);
 INT B1;
 IF(SERIAL.AVAILABLE()>0)
 {
  DATA=SERIAL.READ();
  SERIAL.PRINT("\N");
   IF(DATA=='1'){
      ROTATE();
   }
 }
 IF(VAL == HIGH){
 ROTATE();
 }
 ROTATE();
 DELAY(4000);
}
```

PROJECT DESCRIPTION:

1. THE PRODUCT AUTOMATICALLY: The product automatically dispenses the pet food with given time delay by the user .

2. The user can feed the pet in between the specified time or whenever required via mobile application through voice command or push button.

3. Two IR sensors are placed inside the food container (bottle) which will sense the levels of the food inside.

4. 16x2 with i2c module LCD will display the output sent by the respective sensors showing the levels of food present inside the container and warning to refill the food .

5. Additionally two LEDs are also connected
i) green LED glows / is HIGH when the food level is above 20%
ii) RGB LED glows /is HIGH when the food level is below 20%.

6. Bluetooth HC-05 is used to send wireless (Bluetooth) signals to rotate servo motor which dispenses the food.

7. Pushbutton is also present in order to manually turn on servo motor which dispenses the food.

CONTRIBUTION TOWARDS PROJECT

- 1) AKSHAY J SHARMA (20191CSE0730)- CODING AND HARDWARE TESTING
- 2) ARVIND ESHWAR M C (20191CSE0749)- COMPONENTS CONNECTION / HARDWARE CONNECTION
- 3) YASHWANTH S(20191CSE0710)- CODING AND SIMULATION

REFERENCES:

ARDUINO WEBSITE, YOUTUBE AND SELF-LEARNING.

RESULT:

THE AUTOMATIC PET FOOD FEEDER WAS SUCCESSFULLY PLANNED , DESIGNED , CODED , SIMULATED, CONNECTED PHYSICALLY, TESTED, AND VERIFIED SUCCESSFULLY.

LINK:
HTTPS://DRIVE.GOOGLE.COM/DRIVE/FOLDERS/1OYYMXXNTGSEZY_8JK9ON8SXFVYGOE9TE

THANK YOU!!