B.Tech. Project Report

Remote Controlled Pet Feeder

Submitted in partial fulfillment of the requirements for the

Submitted by

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Department of Computer Science & Engineering Bengaluru

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Certificate

This is to certify that the project entitled "Remote Controlled Pet Feeder" has been successfully completed by Mr Tejas Venugopal, Ms Theekshnavi L, Mr Syed Safdar Faisal, Ms Taskeen Fathima, Mr Syed Sufiyaan, Mr Tejash Shakthi Kumar, Ms Sunaina A of sixth semester B Tech at **Presidency University. Bengaluru,** as the Internet Of Things project in partial fulfilment for the awardof B tech Degree course conducted by the Presidency University. The Project Report presented here is the bonafide work of the student.

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We would like to express our gratitude to our parents for their kind co-operation andencouragement.

ABSTRACT

The proposed **Remote Controlled Pet Feeder** consists of a Remote deployment of an IOT module that is used to control the lid for the pet feeder and dispenses food accordingly.

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COMPONENTS USED

1. Arduino Uno
2. Bread Board
3. Bluetooth HC-05
4. Servo motor
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FEATURES OF COMPONENTS USED

1.Ardiuno Board

Arduino is a prototype platform (open-source) based on an easy-to-use hardware and software. It consists of a circuit board, which can be programed (referred to as a microcontroller) and a ready-made software called Arduino IDE (Integrated Development Environment), which is used to write and upload the computer code to the physical board.

Arduino provides a standard form factor that breaks the functions of the micro-controller into a more accessible package
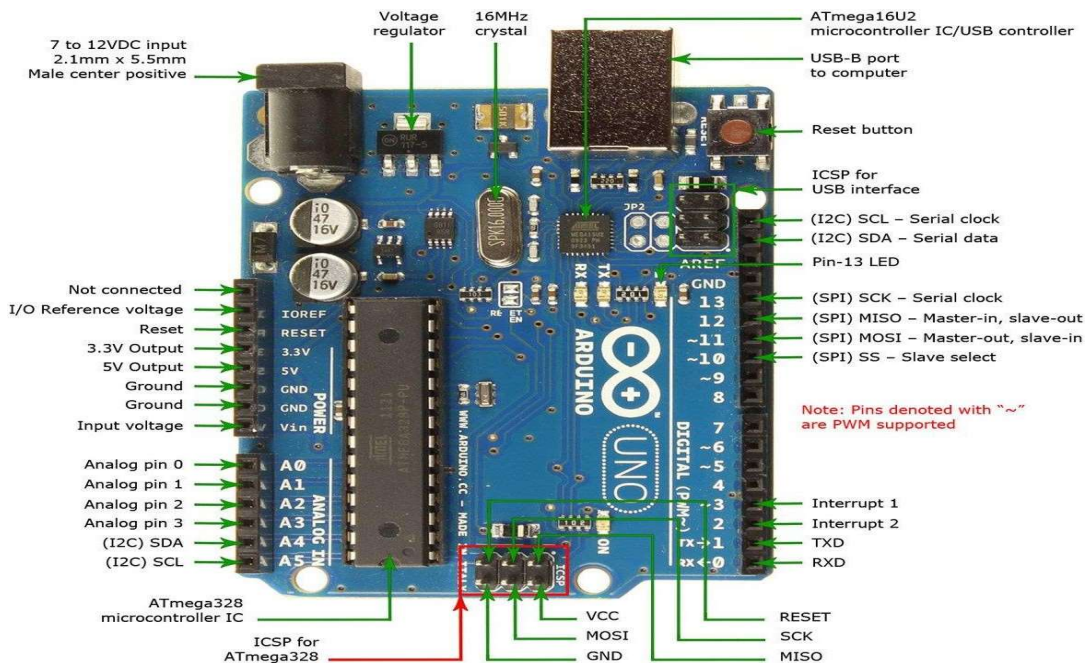
2.BreadBoard

A breadboard is a construction base for prototyping of electronics. This makes it easy to use for creating temporary prototypes and experimenting with circuit design. For this reason, solderless breadboards are also popular with students and in technological education. Older breadboard types did not have this property. A stripboard (Veroboard) and similar prototyping printed circuit boards, which are used to build semi-permanent soldered prototypes or one-offs, cannot easily be reused. A variety of electronic systems may be prototyped byusing breadboards, from small analog and digital circuits to complete central processing units (CPUs).
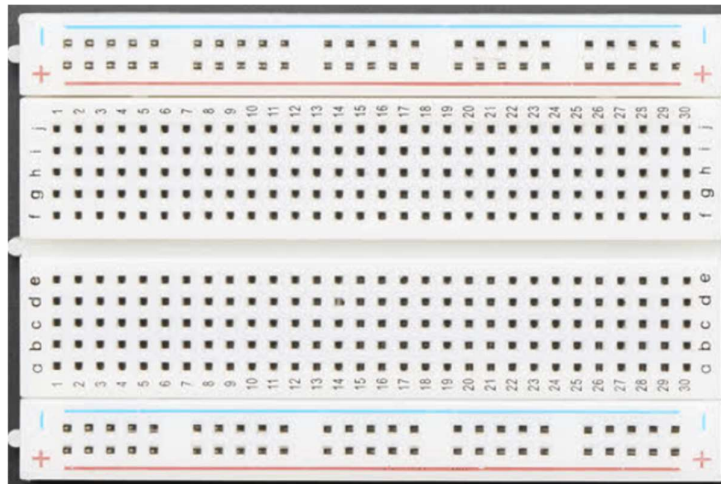
3.Servo Motor

A servo motor is a rotary actuator that allows for precise control of angular position. It consists of a motor coupled to a sensor for position feedback. It also requires a servo drive to complete the system. The drive uses the feedback sensor to precisely control the rotary position of the motor

4.Bluetooth HC-05

A It is used for many applications like wireless headset, game controllers, wireless mouse, wireless keyboard and many more consumer applications.

It has range up to <100m which depends upon transmitter and receiver, atmosphere, geographic & urban conditions. It is IEEE 802.15.1 standardized protocol, through which one can build wireless Personal Area Network (PAN). It uses frequency-hopping spread spectrum (FHSS) radio technology to send data over air. It uses serial communication to communicate with devices. It communicates with microcontroller using serial port (USART). HC-05 is a Bluetooth module which is designed for wireless comunication. This module can be used in a master or slave configuration.

ElectronicWings.com
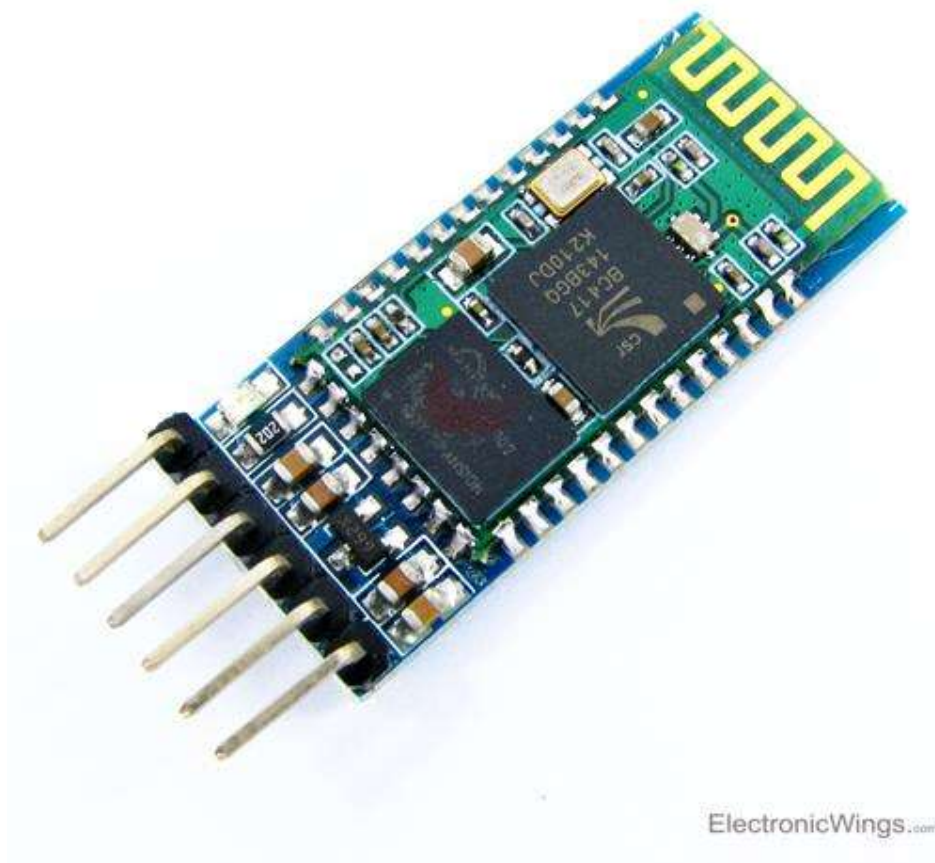
5.Jumper Wires

A jumper wire is an electric wire that connects remote electric circuits used for printed circuit boards. By attaching a jumper wire on the circuit, it can be short-circuited and short-cut (jump) to the electric circuit.

Male to Male Jumper
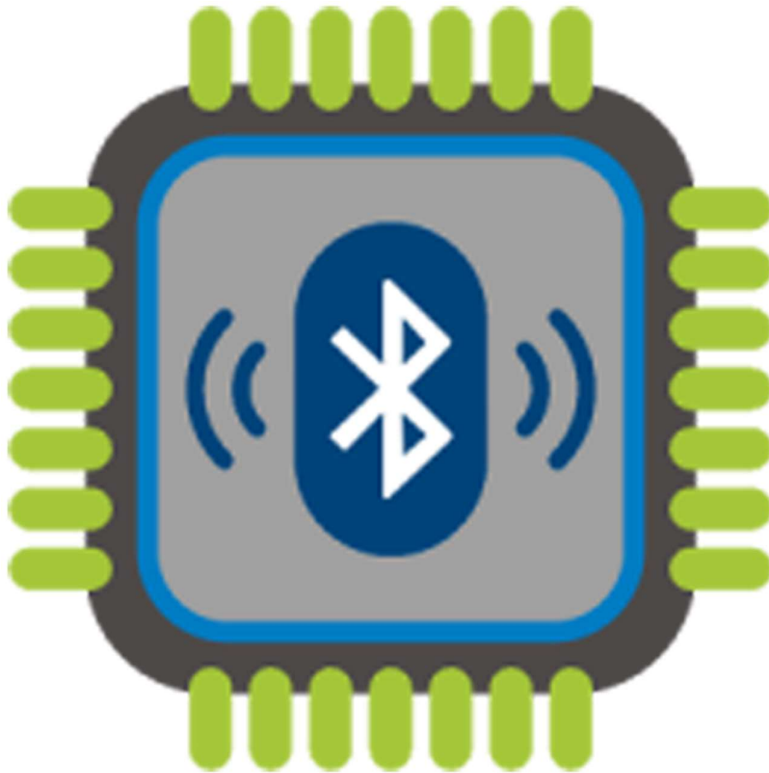
Female JumperWires

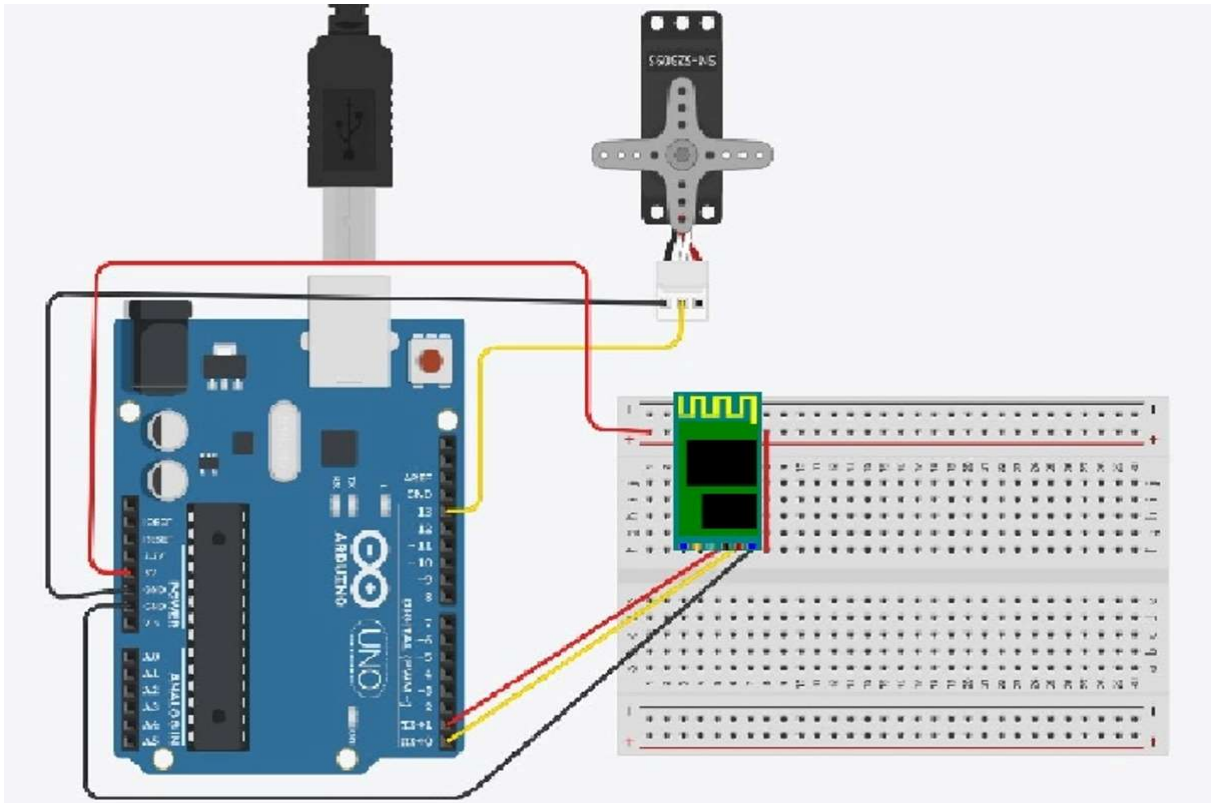Female to Female Jumper

Wires

Male to

Wires

6. Bluetooth Terminal Application

'Serial Bluetooth Terminal' is a line-oriented terminal / console app for microcontrollers, arduinos and other devices with a serial / UART interface connected with a bluetooth to serial converter to your android device.

CIRCUIT REPRESENTATION

CODE

```
#include<Servo.h>

Servo myservo;

int pos;

char inputByte = 'z';

#define pos_initial 90

void setup()

{

 myservo.write(pos_initial);

 Serial.begin(9600);

 myservo.attach(13);

}

void loop()

{

 while(Serial.available() > 0)

 {

  inputByte = Serial.read();

  if(inputByte == 'Z')

  {

   for(pos=90;pos<180;pos++)

   {

    myservo.write(pos);

    delay(1);

   }

   delay(600);
```

```
    for(pos=180;pos>=90;pos--)

     {

      myservo.write(pos);

      delay(1);

     }

     Serial.println("Pet feeder has dispensed food!");

   }

   else if(inputByte == 'G')

   {

     for(pos=90;pos<180;pos++)

     {

      myservo.write(pos);

      delay(1);

     }

     delay(1500);

     for(pos=180;pos>=90;pos--)

     {

      myservo.write(pos);

      delay(1);

     }

     Serial.println("Pet feeder has dispensed extra food!");

   }

   else if(inputByte=='z' || inputByte=='g')

   {

    break;

   }

  }

}
```

CONCLUSION

Through this project we came across various components which gave us more insight about the subject "Internet Of Things". Our project was about Remote Controlled Pet Feeder .

This objective of our project is to provide the improvement on existing Remote Controlled Pet Feeder. Our project implements the basic functionalities of Feeding the pet. It uses servo motor for the opening and closing of the lid . As it uses a mobile Bluetooth application to operate from any place in the range. This makes it easier for the Pet Parents.