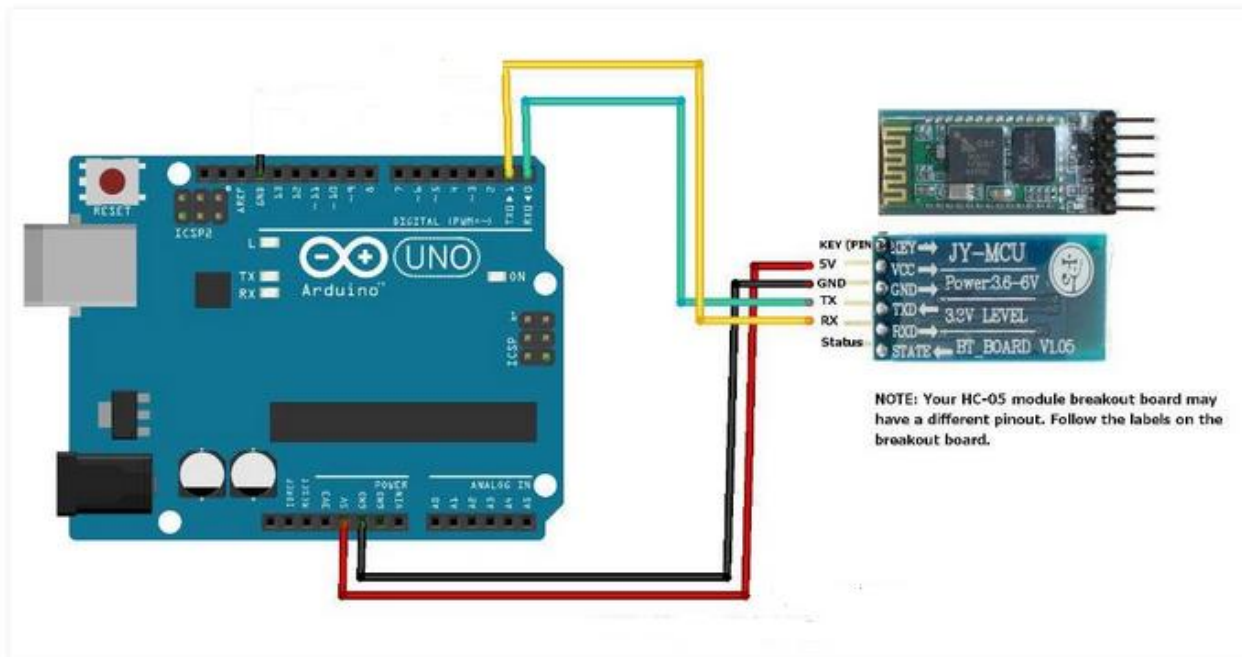# VOICE-ACTIVATED-ARDUINO-BLUETOOTH-ANDROID

Description:

Control your Arduino with voice commands using an Android smartphone! Before we make a voice activated home automation system, we must first learn the basic principles of the experiment. This experiment will let you command the Arduino using your Android smartphone and a HC-05 Bluetooth module.
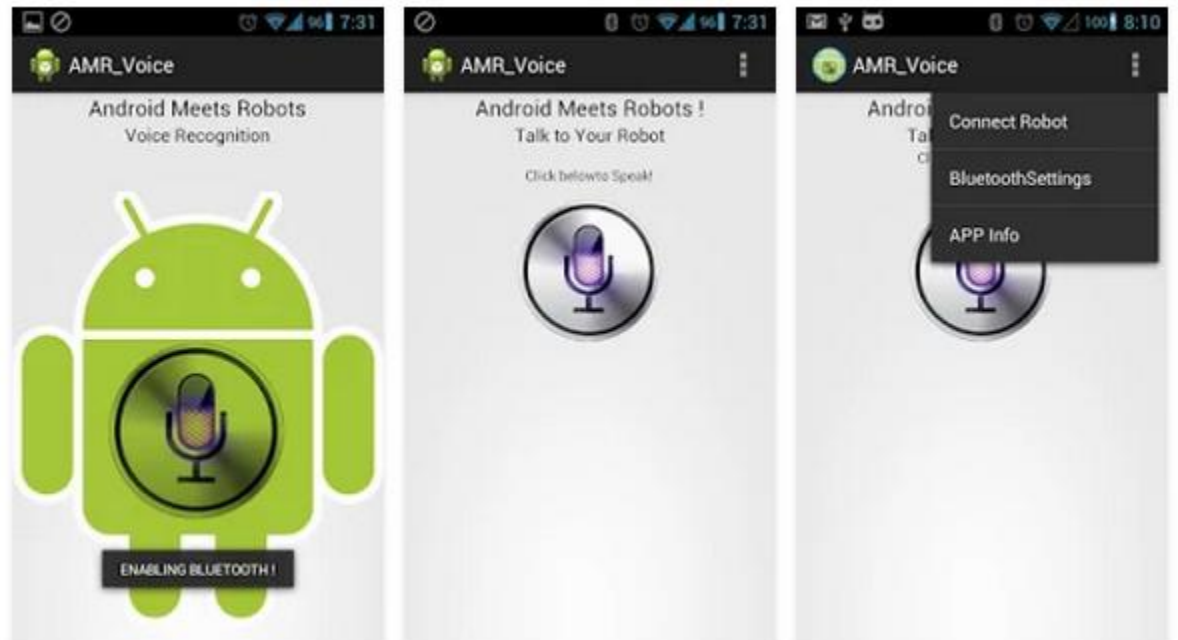
Circuit Diagram:

NOTE: Your HC-05 module breakout board may have a different pinout. Follow the labels on the breakout board.

Android App to Voice Activated through Bluetooth

Download from:
https://play.google.com/store/apps/details?id=robotspace.simplelabs.amr_voice&hl=en

HC-05	Arduino Uno
Vcc	5 V
GND	GND
Tx	Rx
Rx	Tx
STATE	NO CONNECTION
WAKEUP	NO CONNECTION

Components Required:

- ✓ Arduino Uno
- ✓ Bluetooth Module (HC-05)
- ✓ Connecting Wires

Specifications (HC-05):

- ✓ Bluetooth protocal: Bluetooth Specification v2.0+EDR
- ✓ Frequency: 2.4GHz ISM band
- ✓ Modulation: GFSK(Gaussian Frequency Shift Keying)
- ✓ Emission power: ≤4dBm, Class 2
- ✓ Sensitivity: ≤-84dBm at 0.1% BER

- ✓ Speed: Asynchronous: 2.1Mbps(Max) / 160 kbps, Synchronous: 1Mbps/1Mbps
- ✓ Security: Authentication and encryption
- ✓ Profiles: Bluetooth serial port
- ✓ Power supply: +3.3VDC 50mA
- ✓ Working temperature: -20 ~ +75Centigrade
- ✓ Dimension: 26.9mm x 13mm x 2.2 mm

Code:

```
//Coded By: Angelo Casimiro (4/27/14)

//Voice Activated Arduino (Bluetooth + Android)

//Feel free to modify it but remember to give credit

String voice;

int

led1 = 2, //Connect LED 1 To Pin #2

led2 = 3, //Connect LED 2 To Pin #3

led3 = 4, //Connect LED 3 To Pin #4

led4 = 5, //Connect LED 4 To Pin #5

led5 = 13; //Connect LED 5 To Pin #6

//-------------------------Call A Function----------------------------//

void allon(){

    digitalWrite(led1, HIGH);

    digitalWrite(led2, HIGH);

    digitalWrite(led3, HIGH);

    digitalWrite(led4, HIGH);

    digitalWrite(led5, HIGH);

}

void alloff(){

    digitalWrite(led1, LOW);

    digitalWrite(led2, LOW);

    digitalWrite(led3, LOW);
```

```arduino
      digitalWrite(led4, LOW);

      digitalWrite(led5, LOW);

}

//--------------------------------------------------------------------//

void setup() {

  Serial.begin(9600);

  pinMode(led1, OUTPUT);

  pinMode(led2, OUTPUT);

  pinMode(led3, OUTPUT);

  pinMode(led4, OUTPUT);

  pinMode(led5, OUTPUT);

}

//--------------------------------------------------------------------//

void loop() {

  while (Serial.available()){  //Check if there is an available byte to read

  delay(10); //Delay added to make thing stable

  char c = Serial.read(); //Conduct a serial read

  if (c == '#') {break;} //Exit the loop when the # is detected after the word

  voice += c; //Shorthand for voice = voice + c

  }

  if (voice.length() > 0) {

    Serial.println(voice);

//--------------------------------------------------------------------//

  //----------Control Multiple Pins/ LEDs----------//

      if(voice == "*all on") {allon();}  //Turn Off All Pins (Call Function)

  else if(voice == "*all off"){alloff();} //Turn On  All Pins (Call Function)


  //----------Turn On One-By-One----------//
```

```
else if(voice == "*TV on") {digitalWrite(led1, HIGH);}

else if(voice == "*AC on") {digitalWrite(led2, HIGH);}

else if(voice == "*computer on") {digitalWrite(led3, HIGH);}

else if(voice == "*bedroom lights on") {digitalWrite(led4, HIGH);}

else if(voice == "*bathroom lights on") {digitalWrite(led5, HIGH);}

//----------Turn Off One-By-One----------//

else if(voice == "*TV off") {digitalWrite(led1, LOW);}

else if(voice == "*AC off") {digitalWrite(led2, LOW);}

else if(voice == "*computer off") {digitalWrite(led3, LOW);}

else if(voice == "*bedroom lights off") {digitalWrite(led4, LOW);}

else if(voice == "*bathroom lights off") {digitalWrite(led5, LOW);}

//----------------------------------------------------------------------//

voice="";}} //Reset the variable after initiating
```

Output:

Adroid application to control your arduino with voice commands using an android smartphone and the sensor data will be diplayed in mobile