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https://youtu.be/SQ27p7dP9Us
Group Number: 011

Team Member, and NetIDs

Voice Control Lights Blinking Cycle

- We want to display leds in different styling with mainly using voice control and to also have a button to perform this task manually.

- This will then inform the user of the current styles being displayed and will suggest other alternative styles.

- The main goal for this project is to have it perform using our voices as effectively as possible.

Project Idea

- Using voice command through a communication device to active different blinking cycle.
- LEDs strip to display those functionalities.
- LCD to display the function’s names.

Project Design – I/O Devices Used

Our inputs include:

- An Android smartphone or a computer simulator with a bluetooth adaptor on the Arduino.
  - The Android smartphone will use a third party application known as “Android Meets Robots!”.
  - The computer simulator will “Bluestack” that will allows to place an Android device onto our computers.
  - The Android smartphone or a computer simulator will be used to capture our voices and transmit our frequency as commands to turn on one of the three patterns.
- A Button Switch that will be used in determining how many RGB led lights will be led up from the RGB strip.

Our outputs include:

- A LCD 16*2 display that will be used in informing use which of the three patterns, wave pattern, disco pattern or circular pattern, will be powered by our voice.
- RGB 60 led strip used in display the light that will be turn on by either the switch button or the Android smartphone or computer simulator.

Communication Used

- Serial Bluetooth Module HC-06 to communicate between our Arduino and a phone.

- Serial readings, and Serial Available to retrieve data from user’s voice.

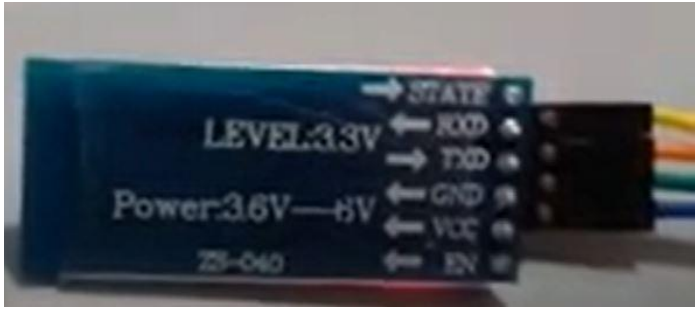
Project Design – Original work

Our projects involve original work will be:

- The created functions that will help in displaying multiple leds lights. Some of these functions include, WaveCycle(),CicularCycle() and DiscoCycle();
    - The functions will be called either through our voices that are being translated into strings or throughout the amount of times we press the button switch.
- Speaking of the functions that will be included, there will be helper functions that will help on deciding which pattern will the switch button have control of and another helper function that will help in displaying which of the patterns will be turn on.

What have worked so far

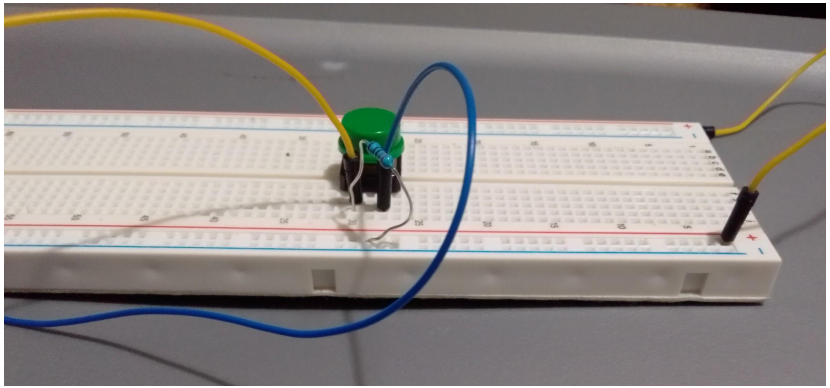
- ➔ Able to connect Serial Bluetooth Module to Arduino.
- ➔ Perform readings and extract string command from voice recognition through a Phone.
- ➔ Button, and LCD both working as expected for the project.




```
Voice Frequency is:
Voice Frequency is:
Voice Frequency is: *turn on
wave on!
```

On the top left is our bluetooth adaptor and on the top right is a screenshot of the screen monitor from the Arduino ide showing that the bluetooth adaptor was able to retrieve our command.

For the now we have not connected all pieces together but that does not matter. The LCD 16*2 still works for the old lab 3 when playing my favorite quote.



```
Button was press. value of count is now: 1.
Button was press. value of count is now: 2.
Button was press. value of count is now: 3.
```

On the top left is our button Switch and on the top right is a screenshot of the screen monitor from the Arduino ide showing that the Button Switch is working. .

What have not worked

- The only thing that did not work is the RGB 60 led strip because we did not have the proper connections for power in order for us to test it.