

The Smart Dispenser

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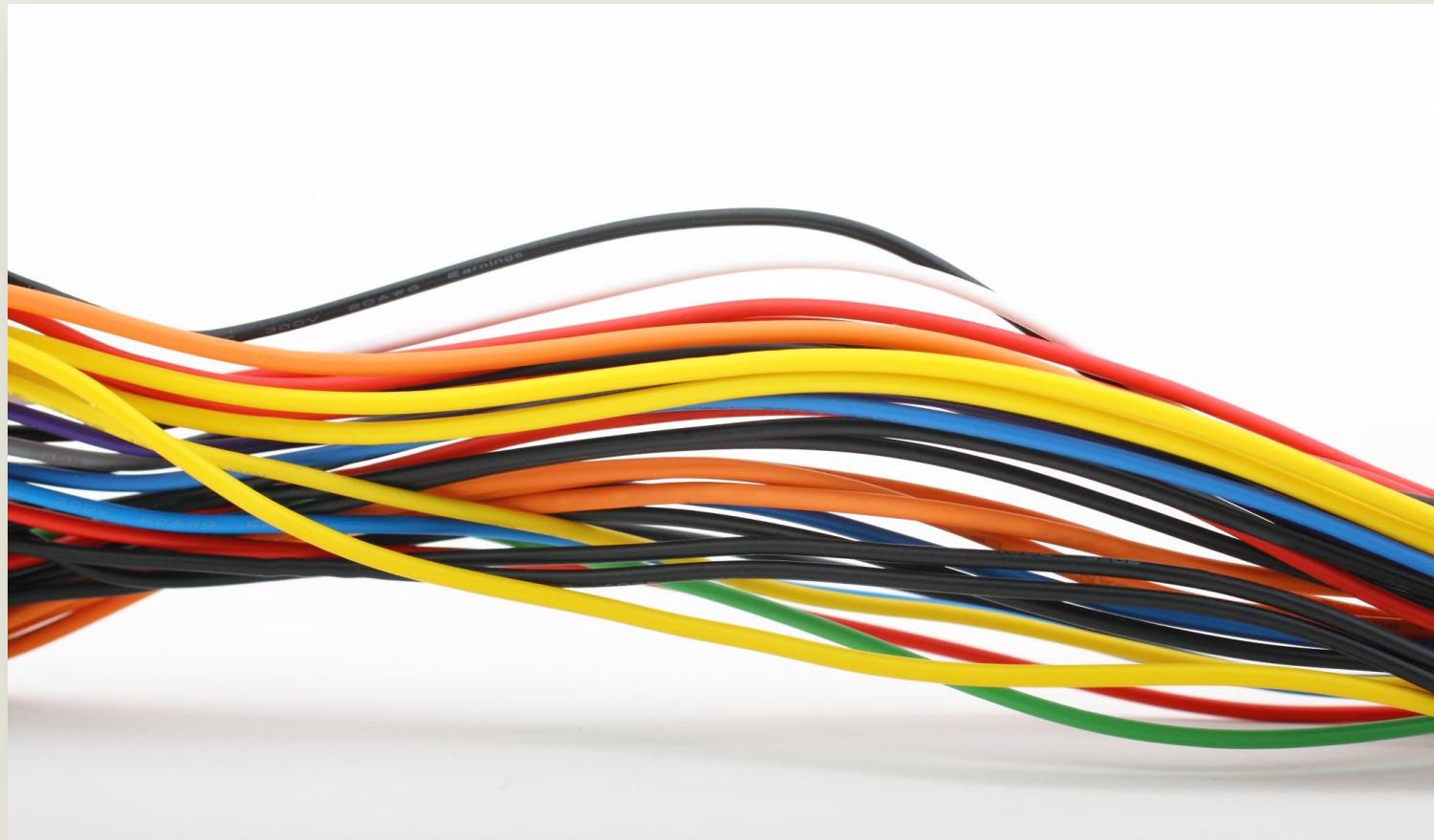
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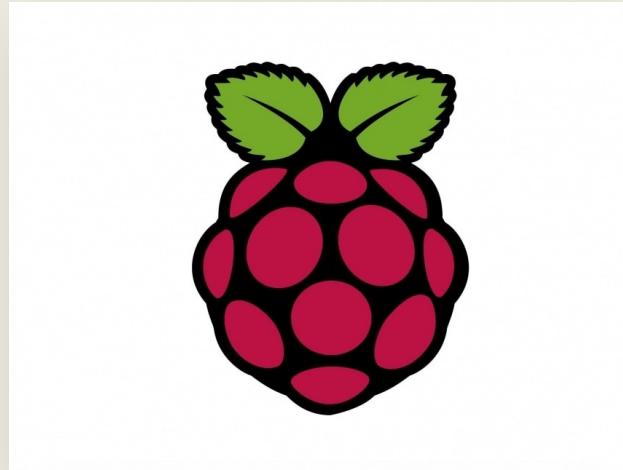
Parts I used in my project



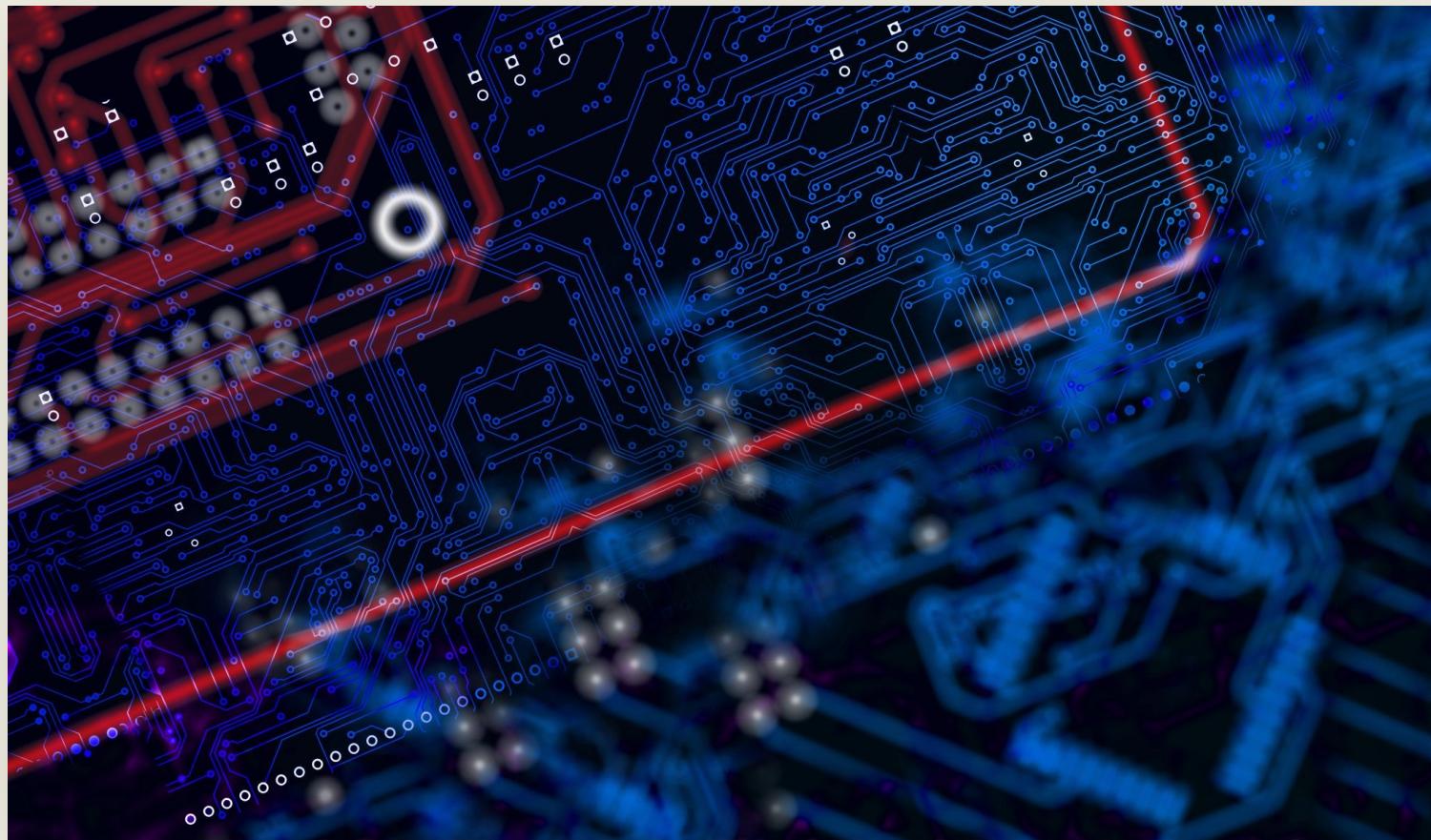
- Raspberry Pi
- Servo motor
- PIR Motion Sensor
- Blynk
- Jumper wires

Why I picked these parts?

- Raspberry Pi
 - Small, low-cost computer with a ton of compatibility, already have experience using the Raspberry Pi.
- Servo motor
 - Easy to use perfect for prototyping ideas.
- Blynk
 - Blynk promotes an open IOT platform with a wide variety of compatibility, being ideal for a project.
- Motion Sensor
 - Extra feature to project adds a little more depth to project.

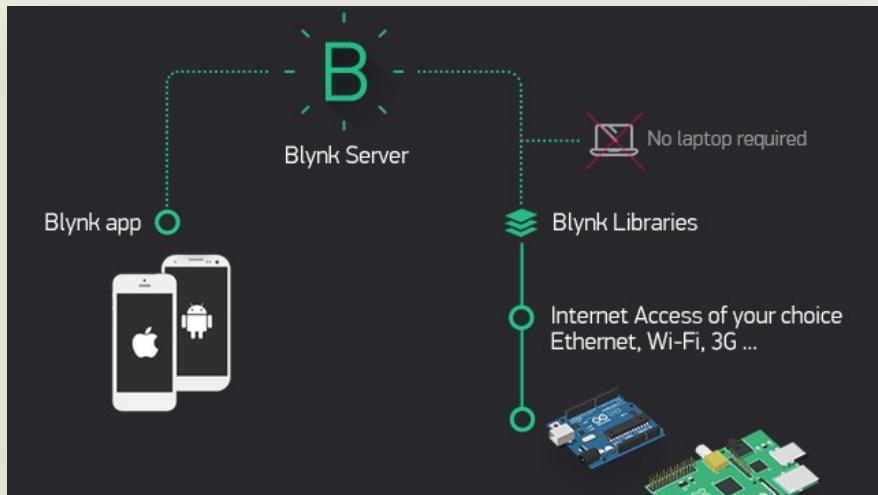


Project features



- Control servo motor using virtual button.
- Motion sensor
- Virtual LED notification

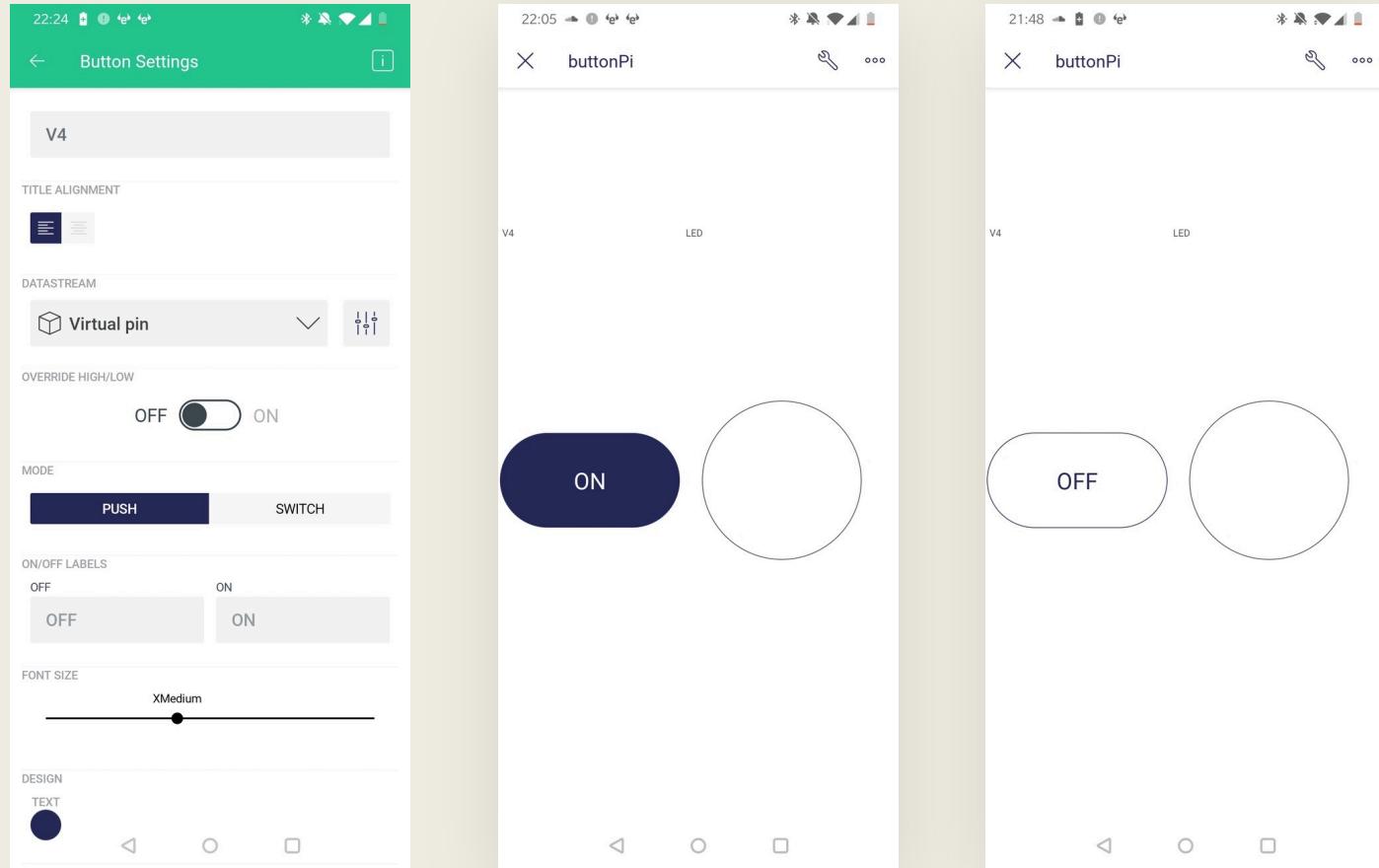
Control servo motor using Blynk app



```
(blynk-env) pi@sensePi:~/week9-lab1 $ python3 blynk.py
_____)_____
 / / / / \ \ .
 / / / / \ \
 / / / for Python v1.0.0 (linux)

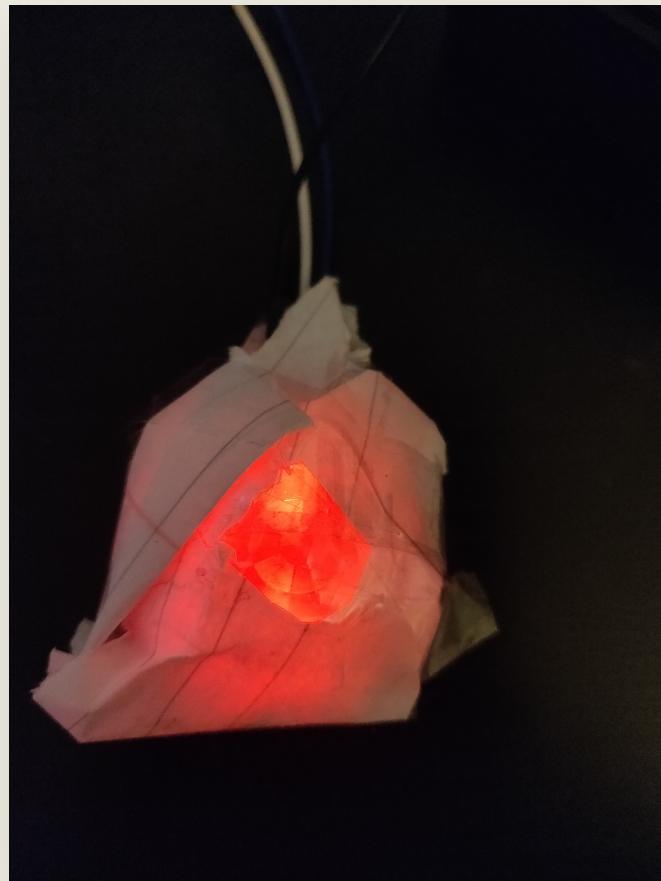
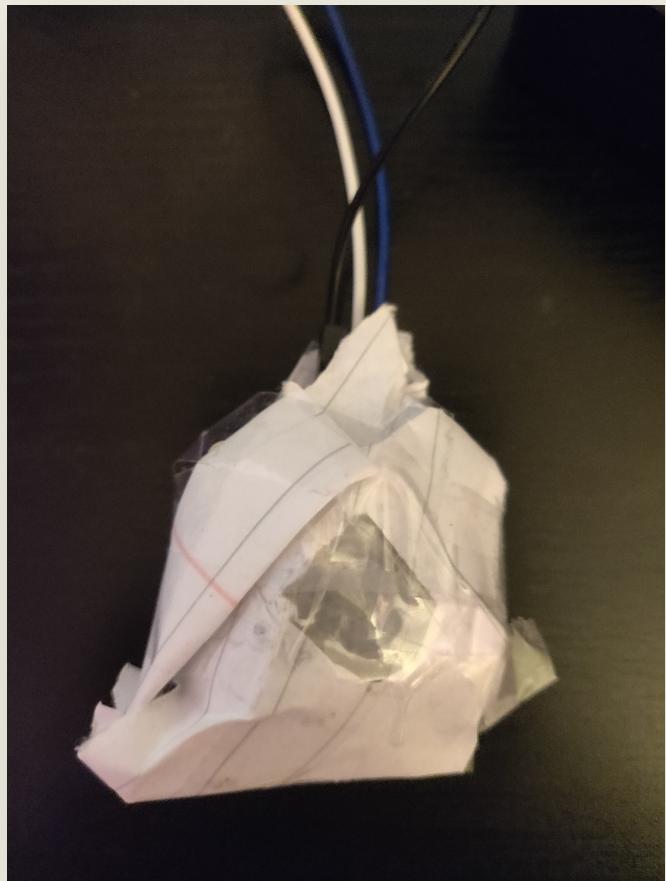
Connecting to blynk.cloud:443...
```

Use of Virtual Pins



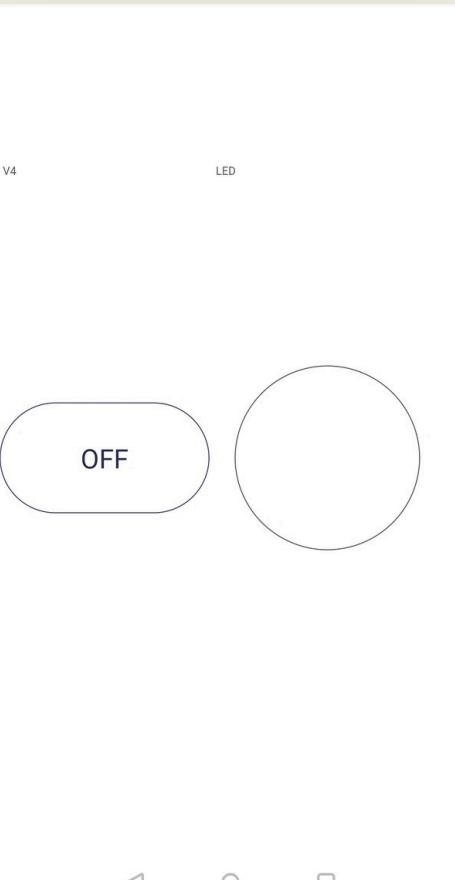
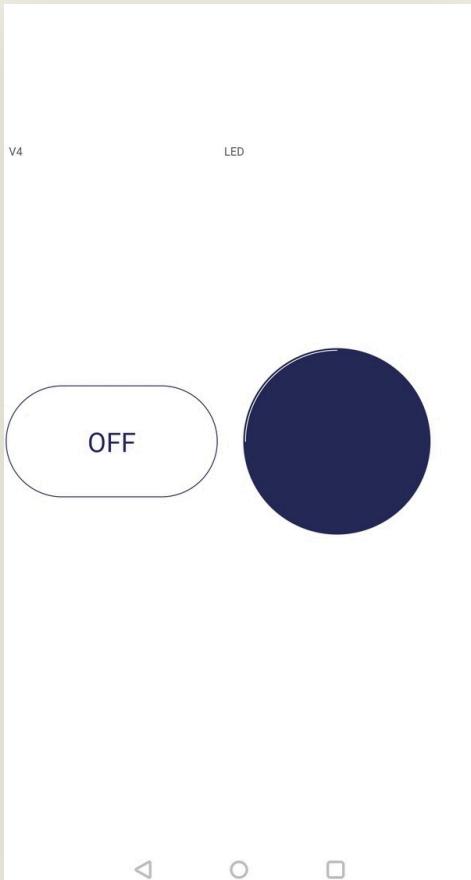
- Virtual Pins are used by Blynk to exchange data between your Blynk app and the hardware you are using.
- In this case the button widget available in the app was used by applying it to Virtual Pin 4

Motion sensor



- A PIR motion sensor was connected to the raspberry Pi using jumper wires.
- Using Nano text editor in terminal The script was developed with the objective to cause the servo motor to move when the motion sensor detects motion.

Virtual LED



- Using Blynk I Created a Virtual LED which when motion was detected, will change colour.
- Like for the On/Off Button you pick a Virtual Pin in the DataStream and add it to a widget in this case the LED widget.

Use of Python

- Python as a language would be seen as one of the more Straight forward and “easier” languages to pick up and use.
- This was through for the most part especially compared to Languages such as JavaScript and Java.
- Using Python was informative and felt much more enjoyable To use even if only with limited use.



Link to full [script](#)



Final Thoughts

- By only skimming the surface of IOT and seeing the ever more increasing importance of how it acts as the backbone of almost all modern technologies being released.
- I see now how instrumental autonomy is and the endless uses it has for all aspects of life.
- In the future I would like to dive even deeper to see how much of everyday life is made more optimal by the influence of IOT