

RasPi → Arduino

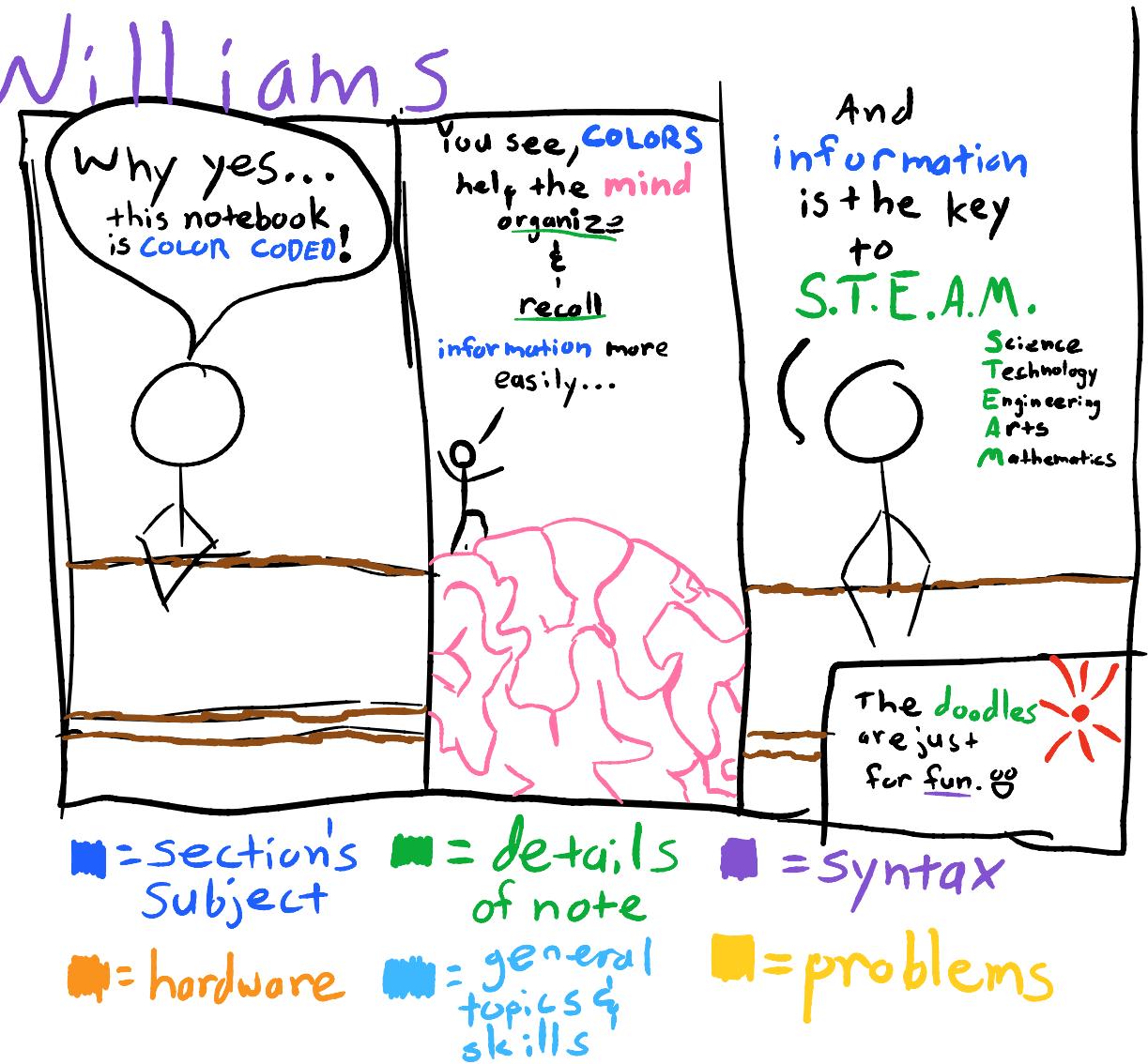
Monday, November 7, 2016

7:45 PM

by Shane Williams

Arduino Uno
Laptop

- the SERIAL LIBRARY can be used to communicate with other SERIAL devices.
- I'll be using the Arduino's USB port to communicate b/w it and a host computer



In this note book...

b/w it and a host computer

...Some of the
functions

I'm considering from
the SERIAL
LIBRARY...

Serial.readBytesUntil()
Serial.setTimeout()
Serial.readString()
Serial.begin()
Serial.end()
Serial.println()
Serial.readStringUntil()
Serial.print()

In this note book...

Serial
digitalWrite
Strings & arrays
interrupts

- input + output

```
startGame()
- readJoystick()
- controlMotors()
- grabAndReturn()
+ clawPosition()
```

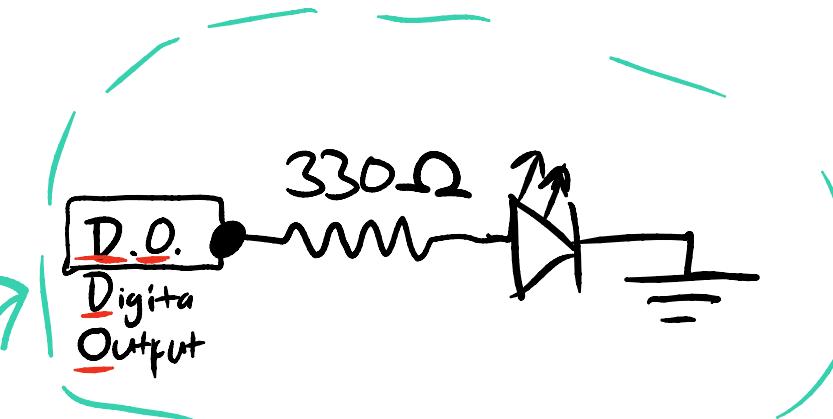
So to trouble shoot my
process, I'll be using

process, I'll be using
the Arduino's serial monitor.

BUT, only one process
can access this at a time.

- Plan (at first thought) is to use
digital output pins on the
Arduino to [light an LED bulb]
when a button is pressed

- We are reading 1's & 0's,
but `DigitalWrite(pin, value)`
requires HIGH & LOW
- Will need to convert
string of 1's & 0's to
array of HIGH & LOW



Basic circuit idea...

Servos (3)

- controlled by PWM

How can we
tell how far
down the
servo has
gone?

Stepper Motors (2)

- controlled by:

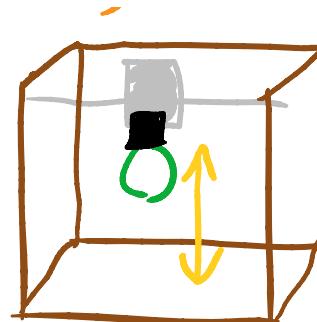


string or array of HIGH & LOW

- Will also be reading floating point values.

Matthew had the idea of multiplying these by 100 (or 1000) so we can send as an integer and divide by 100 again in the Arduino to get back to float.

- controlled by:
Direction
Enable
Square Wave



IDEA:

When reading the button value string, set an interrupt to trigger the section of code that drops the claw, grabs the 'stuff,' and return back to home position