Function Proposal

- Hardware
    - Inputs
        - Pushbuttons
            - Function - Control navigation between the different devices to manipulate
            - Up - Selects the device immediately above the currently selected device.
            - Down - Selects the device immediately below the currently selected device.
            - Source: https://learn.sparkfun.com/tutorials/sik-experiment-guide-for-arduino---v32/experiment-5-push-buttons
        - Slide Switch
            - Function - Power the device on or off.
            - Source:https://www.sparkfun.com/products/14330?_ga=2.256879747.980454918.1513806566-2145733426.1491532409
        - Rotary Encoder (x3)
            - Function - Controlling the HSV values of the lights
            - Source: https://www.adafruit.com/product/377
    - Processing
        - NodeMCU ESP8266 Provides a solid number of inputs/outputs, built in WiFi and storage, and is extremely cheap.
            - Source: https://learn.adafruit.com/adafruit-huzzah-esp8266-breakout/using-arduino-ide
    - Outputs
        - 1.8in Full Color TFT LCD - This screen utilizes the SPI interface to allow for the screen to get all the data it needs without using too many of the limited GPIO pins on my ESP8266.
            - Source:
            - https://www.amazon.com/SainSmart-Display-Interface-MicroSD-Arduino/dp/B008HWTVQ2/
    - Power - How will the device be powered and recharged?
        - 1200 mAh LiPo Battery - This battery will allow the device to stay charged for a very long time without needing to be charged, so the remote can be truly remote for as long as possible.
            - Source: https://www.adafruit.com/product/258
        - TP5410 - This addon circuit will provide constant power and charging capabilities to the device.
            - Source: https://www.ebay.com/itm/191990401129
    - Software

- Arduino IDE - This software will control the microcontroller itself, allowing it to communicate to the sensors, screen and
    - Source: https://www.arduino.cc/reference/en/
- Adafruit GFX Library - The GFX Library allows for quick interfacing for drawing text, simple graphics, and bitmaps to screens.
    - Source: https://learn.adafruit.com/adafruit-gfx-graphics-library/overview
- ST7735R library, much like Adafruit's STR7735 library but is compatible with the extended display.
    - https://github.com/juj/ST7735R
- WebLED server software, which will be what the remote is communicating to/from
- Rotary Encoder libraries: There are many, I will have to test with the hardware combination I have to see which one works/is the best.
    - https://playground.arduino.cc/Main/RotaryEncoders
- ESP8266WiFi library: Will allow for communication to the web server and back.
    - https://github.com/esp8266/Arduino/tree/master/doc/esp8266wifi
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