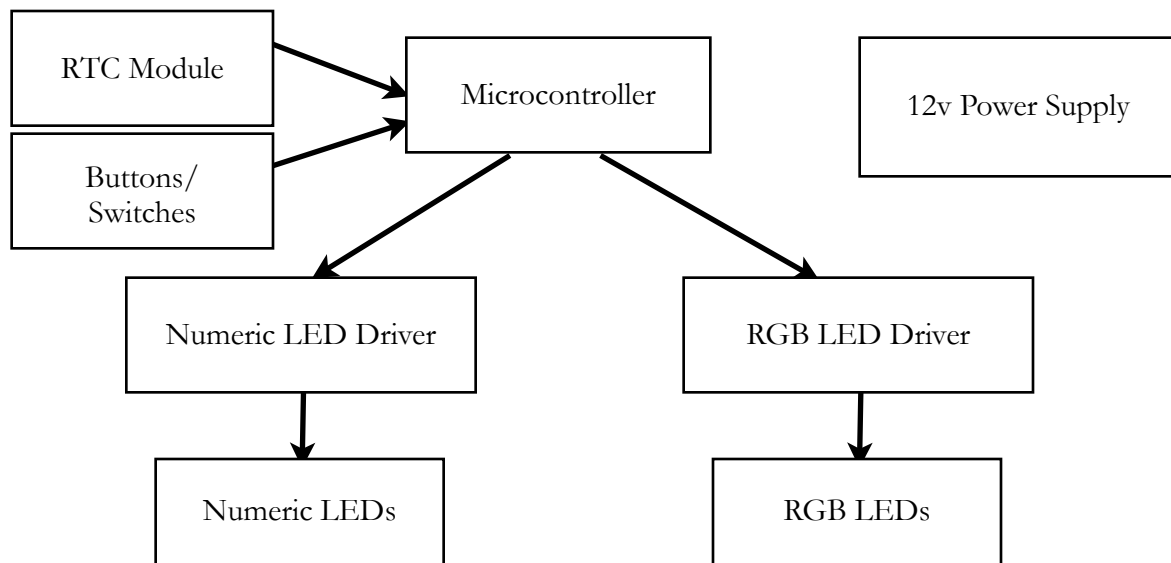


# SPI Proposal for RGB Color Clock

## Abstract

I wish to create a color clock that displays the time of day via the spectrum of color. Each time of day will be associated with a unique color and the color of the clock will gradually fade, always showing the appropriate color for the time of day. The clock will consist of several RGB LEDs, housed in a diffused acrylic box. A microcontroller will control the brightness of all LEDs through an LED driver module. The time will be maintained using an RTC module. An additional feature that I'd like to include is a numeric LED display that can be triggered to temporarily display the time from inside the box.



## Bill of Materials

- TI MSP430 Microcontroller - \$2
- RTC Module - \$5
- RGB LED Driver - \$5
- Numeric LED Driver (x4) - \$10
- Numeric LED Display - \$10
- RGB LEDs - \$10
- 12v Power Supply - \$5
- Diffused Acrylic for Enclosure - \$50
- PCB Fabrication - \$50

Total Requested Budget: \$200

## Design Procedure

The initial design process for this project will be prototyping the interface between all components to ensure that communication functions properly. After this, a PCB will be designed to connect all components and finally construct the acrylic enclosure to house all components.