<Team Name>

ECE 411

**ECE 411 Practicum Proposal**

***Concept:***

Portable device that outputs light and sound corresponding to a detected color.

***Summary:***

The project will result in a device that is capable of sensing color. Based on the input, a microcontroller will adjust the output of several multicolor LEDs (possibly an array) to match the detected color. It may also provide an audio output that corresponds to the input. This may be a recorded audio file or a generated tone. The device will be portable and may be wearable. It will be powered by USB and possibly also a rechargeable battery.

***Hardware Summary:***

* Atmel AVR ATMega48(?)
* <Color Sensor>
* <LEDs>
* <Audio>
* Li-ion Battery
* Power Management IC

***Software Summary:***

* ***<?>***

***Practicum Requirements:***

* The device will have an input (color sensor)
* The device will use a digital microcontroller that will be programmed from bare metal
* The device will have a minimum of one output (light and possibly sound)
* The device will be safe