Derek King and Ajin Sunny

October 6, 2014

**EE-383 Team Project Proposal**

**Overview:**

We will be making a frequency analyzer using a TI Tiva microcontroller and an OLEM matrix LED set if 8x8 LEDs.

**Supplies:**

-OLEM LED Matrix 8x8

-Tiva C series Launchpad

-Connecting wires

-Op Amp

-Breadboard

**Description:**

We will initially start by wiring the circuit for he frequency analyzer from the pins of the Tiva Launchpad to the OLEM LED Matrix. We will be using a software that will be forked from a github user to install the code into the Launchpad. The code will do:

* ADC Sampling at a specific frequency
* Digital Signal Processing on the captured audio data
* SPI communication with the LED array.

As we input AC signal, the frequency analyzer will display the matrix line according the frequency level that’s been input into the analyzer. We will also test the analyzer with normal music to see the waves generated on the analyzer.