



# Progress Report 2

## Pretty Lights: Transducing Sound into Visuals

ECE511

Microprocessors

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## Overall Status

- Software algorithm very close to being finalized!
  - Still taking song requests.
- Some hardware confirmed, ordered
- Other hardware not yet decided upon



## Status, continued

- Music read into ADC
- Checking threshold vs. ADC value

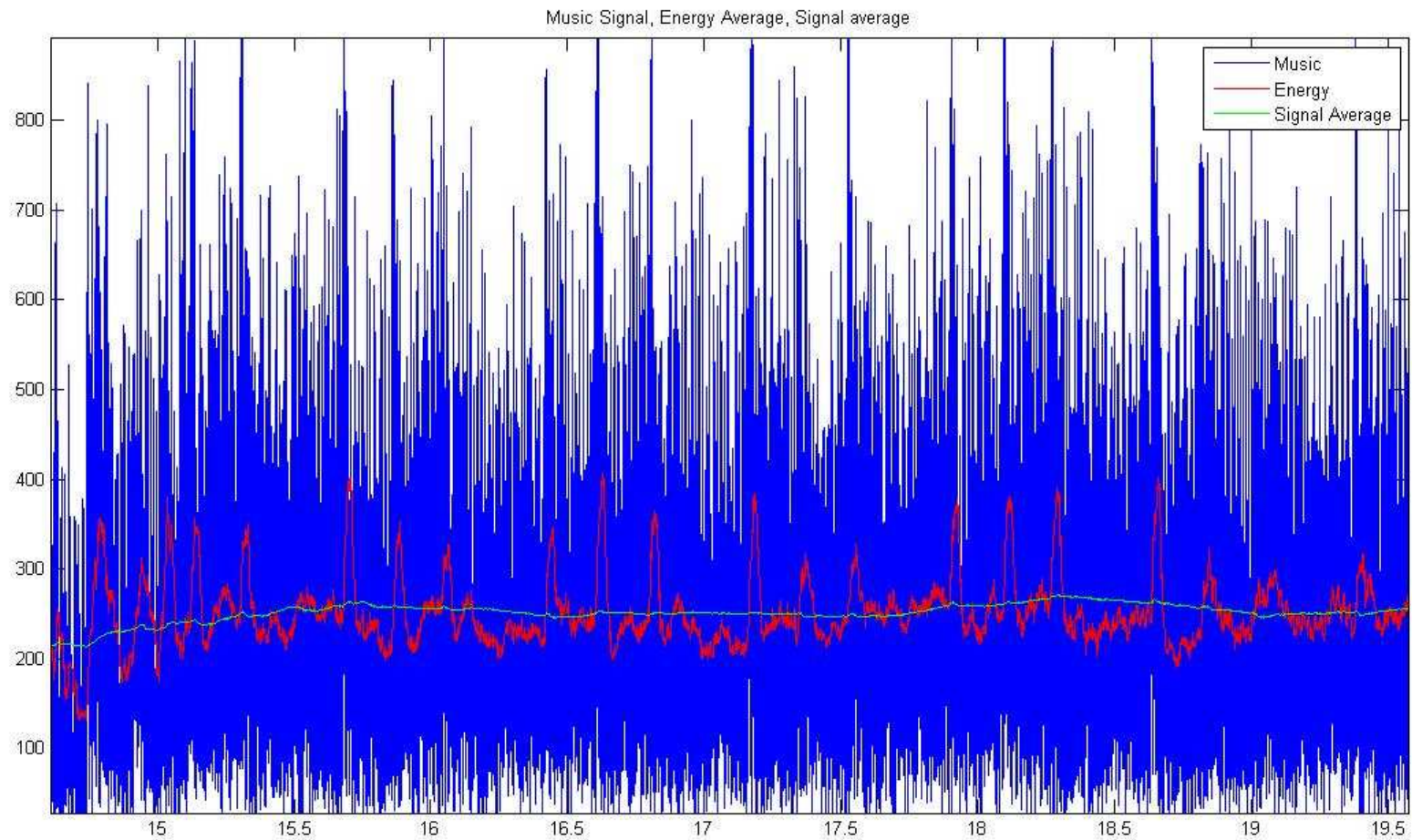
# Motor

- **Hardware Interface**
  - Mitsumi M42SP-5 Unipolar Stepper Motor
  - Darlington Driver ULN2003
- **Software Communication**
  - Apply voltage to ports on driver in proper sequence to achieve desired results
- **Progress**
  - Stepper motor to arrive no later than Nov 18, 2011
  - Movement sequence algorithm completed

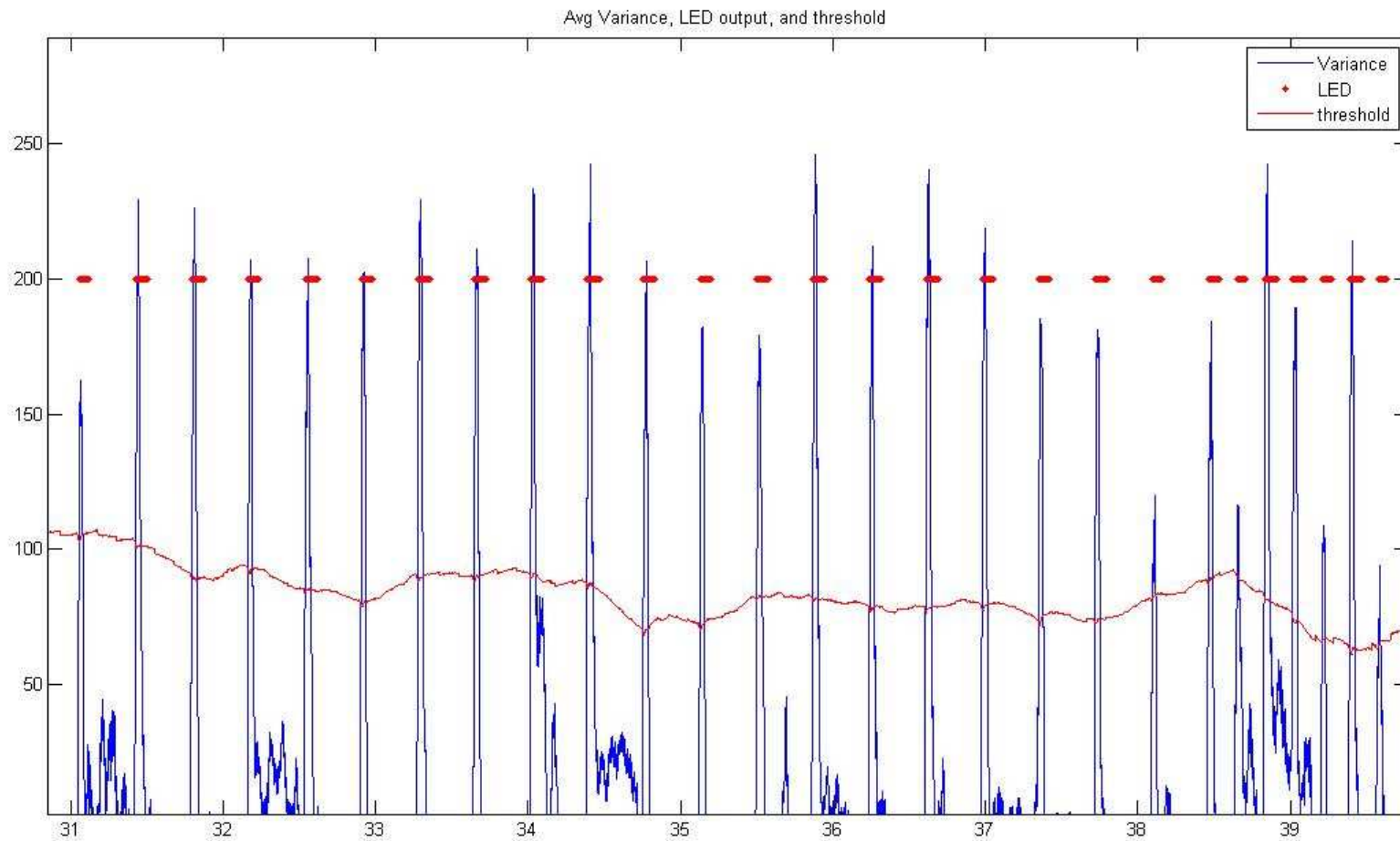
# Amplification and ADC Concerns

- Raw audio levels vary
- ADC reference levels available
  - $-1.4 \text{ V}$
  - $-2.9 \text{ V}$
  - $-V_{cc} = 3.3 \text{ V}$
- Make full use of one or more ADC levels
- Intelligently selecting suitable ADC level

# Plots



# Plots



# Future

- Ryan and Tunde tackle software
- Michael is on electronics
- Stacie is hacking some robotics

Bread boarding has proved successful. It's time to integrate the components!