ECE 411
Group 11
Project Ideas

Top idea

Mechanically programmable music box. The leading ideas for the input will be a rotating plate with LEDs in the center. A fixed sensor attached to the motor will receive modulated signals from the led, either by means of color filters or punch cards. The processor will processes these analog signals and output square waves to a small ¼ watt speaker, within one or two octaves depending on the type of input received. The processor used for all projects discussed will most likely be an AVR microcontroller or something similar. The motor's speed will also be controlled by an input pot.

Other ideas

Motion Controlled light up clothing/wearable actuators. The sensor would sense specific movements and the processor would output signals to LEDs or motors. Some ideas that the team turned over were; wearable lights that react to motion and handsfree windshield wipers for glasses in the rain, useful for biking.

Another project idea that was discussed was an ultrasonic distance measurement device. This would have an ultrasonic speaker and microphone to send and measure a reflected signal and output distance measurements. The processor would receive the analog signal and measure it's envelope and time difference between the output signal. After some math, the distance and other measurements would be displayed or saved.