Project 2 Proposal

(Edit this document as needed)

Partner 1: _____Saaif Ahmed_____

Partner 2: _____John Gonzalez_____

Partner 3: _____ (if needed)

Project Title: Electronic Candle Blowout (Switch off with a puff)

Keywords (should be from the topics covered in class):

Transistors, Capacitors, Input, Logic, Diodes, Voltage Dividers, RC circuits, AC Sweeps

Brief description of the project (should be 2-3 paragraphs, no more than one page, less than a page is fine):

The idea of this circuit is to drive a microphone as an input and use it to determine if a light turns on or off with a puff. The driver circuit for the LED changes the brightness of it to resemble that of a candle, and once someone blows into the microphone, the signal will be cut and the LED will turn off. The circuit will use transistors as switches to control the capacitors determining brightness. A candle will also not turn off with ambient wind or noise so the circuit implements a high pass filter to ensure that only loud sounds/wind can "blow out" the LED.

The circuit can be tested in many stages. First we can analyze the circuit operating at low and high frequencies to see the characteristics of the filter. Next we can also monitor the LED behavior itself and how it interacts with the driver circuit and the microphone circuit. Thirdly is the microphone circuit, its simple driver with voltage dividers and the like. We can also monitor the transistors lastly seeing how they play a role in the circuit and what elements they affect. The evaluation of the circuit is seeing if the LED turns off when there is a high sound, and if it can survive ambient noise.

References (document/book titles, website links, etc.):

http://www.redcircuits.com/Page122.htm