Work Completed

The goals for this week were to complete the PCB layout, test the integration of the circuit and PIC, and order the PCB. Work continued on the PCB layout for the beginning part of the week until it was discovered that the current size of the board would be too expensive. PCB Express is currently offering a deal of 51 dollars for three boards of a specific size. Because the circuit involves many components, it was necessary to find many of the electrical components in surface mount so that they would all fit on the new size board. A plastic enclosure with the appropriate dimensions was also found to house the PCB from a company called Polycase. Once these items were found, work could continue on the PCB layout. When the PIC was ready, testing began on the integration between it and the circuit. Since this did not go as planned, work stopped momentarily on the PCB. Although portions of the electrical system work correctly, some are still not working properly. It is unclear whether the circuit, PIC, or both are to blame.

In addition to this, the new sound chips were also assembled. Once assembled, a test circuit was set-up. With the exception of the Lion chip, everything worked as desired. The Lion chip simply needs a quick debug and it will be working fine as well. This set-up can now be used to test the PIC program more completely. The following is a picture of the sound chip circuit test set-up:
Figure 1: Sound Chip Test Circuit

**Future Work**

From “Work Completed,” it is apparent that a working circuit needs to be developed. Once this is developed, the PCB layout can be completed accordingly and ordered. While the PCB is on order, time can be spent finishing up the actual device casing and installation of the various components such as LEDs and speakers.

**Project Review**

With only two weeks left of working time, the schedule is getting tight. In order for the project to be completed on time, it is essential that the PCB be ordered as soon as possible along with other related components including resistors, capacitors, and power supply to ensure enough time for assembly. Before the PCB can be ordered, however, the complete electrical system has to be working completely and correctly. This will be the team’s first item of business next week. Once these major items are completed, it will hopefully only be a matter of assembly and installation to achieve a final product.

**Hours Worked**

Total = 28 hours