Statement of the Problem

Background:
The University of Illinois at Chicago educates the minds of many individuals from a variety of backgrounds. Studies have shown that in the early years of continuing education, the motivation of students is generally high and that class attendance is as well. As the semester passes and as the classes grow in size, attendance takes a drop. Professors and the parents of students would like to know who shows up to class. With classes numbering past one hundred and most courses having duration of only fifty minutes, taking a daily roll call wastes valuable learning time. Having a sign in sheet is another idea that has been used but studies also show that students will sign in for one another if asked. An attendance machine that is similar to a time clock using the university’s I-Card system was proposed. As students walk through the door with their card, the machine will take note that they have entered the class. The university came to senior design team 16 to realize this idea.

Team 16 proposes to deliver a working prototype and the documentation necessary to manufacture the device. Manufacturing and after sales repair (including the warranty) will be outsourced. Team 26 expects that after implementation of the device, other colleges worldwide will follow UIC’s lead and thus create a new standard.

The Design: Following is a functional description of the design.

The design must be completed and the prototype delivered in early April 2004.

The proposed budget is a per unit cost of $50 or less.

The attendance aids will be located inside the entrances to the classroom and mounted to the wall and need not be portable.

The interface will be simple. A 3 X 5 LCD and a swipe terminal to be located near each other.

Students shall swipe their I-Card after entering the room. Confirmation of their admittance to the class will be realized by displaying a welcome message with their name on a 3 X 5 LCD screen.

The device will read the magnetic stripe of the students’ card and store to memory the time entered.

Professors will be able to download a list of those who have attended their class as well as the time entered.

The device will operate over the range of temperatures that occur in the building.

The failure rate will not exceed more than 2 servicing a year.
Deliverables of the Design Project:

Team 16 will provide the system design and detailed documentation to have the device manufactured under an outsourcing arrangement. The quality of the documentation will not be examined. Team 16 will have to answer any and all questions posed by the University.

A sufficient number of prototypes shall be build to verify the design and functionality. The prototypes shall be placed into classrooms around the campus to observe the attendance rate change. If finding concur with that of the university, full scale implementation will be proposed the following academic school year.