Registration Form

TEAM INFORMATION

Team Name/Project Title: Logic LID

Department: Electrical Engineering

Faculty Advisor: Brian Atkinson

Team Members: Yasin Ibrahim, Carlos Munoz, William Naslund

PROJECT INFORMATION

Description:

The Logic LID is a luminous, interactive, learning device that helps students visualize digital circuits.

Abstract:

In our experience as students learning digital electronics, one of the greatest challenges we faced was visualizing the operation of digital circuits. The Logic Luminous Interactive Device (LID) addresses this challenge by providing a truly hands-on experience while building digital circuits. With their hands, students can connect boxes that look like digital devices to a base development board and to other boxes. After a student builds a circuit by connecting boxes together they can interact with certain boxes and see how the digital circuit works. Connections between the boxes are made using side emitting fiber optic cable which allows students to see the digital state of the connection. When the output of a device is high the connection lights up and when the output is low the connection is dark. The base development board also communicates the state of the digital circuit to a computer while the student interacts with it. This allows for software to provide additional insight into the circuit’s operation such as drawing timing diagrams or extra device configuration.