Project Title: Java Appliance for Multi-Media Entertainment and Distribution
Faculty Advisor: Dr. Lawrence Miller
Client Advisors/Sponsors: None
Students: Nicholas Maludy and David Sunshine.
Project Description: A java implementation of a media framework in java which dynamically recognizes nodes on a system and adds each nodes media library to a shared distributed library which is accessible from every node in the group. Each node in the system is both a server and a client. Each node is responsible for sharing the media on its system with other nodes in the group. Also, each client is able to view or play media from other nodes in the group.

Project Title: Automated Home Energy Conservation System
Faculty Advisor: Dr. Richard Molyet
Client Advisors/Sponsors: None
Students: Matthew Fein, Matt Takala Nick Terry and Srdan Danic
Project Description: We will be designing a system to help conserve energy in a home. Devices such as televisions, printers, computer speakers, and cell phone charges all draw power while not in use. Although the power that each device draws while in standby mode may not be very much, it all adds up and accounts for a significant amount on a standard electricity bill. There is no need for these devices to be in standby mode while you are not home. We will design a system that will help reduce an electricity bill for a home. The system will be able to detect when you enter and leave your home. When you leave your home, the system will shut off power to these devices so that they will no longer be drawing current. When you are home, the system will supply power to these devices so that they may be used. The system will also be able to shut off these devices when you go to sleep every night.

Project Title: Automotive-powered ATX power supply
Faculty Advisor: Dr. Roger King
Client Advisors/Sponsors: None
Students: Greg Sykes, Greg Arnold and Russ Goodwin.
Project Description: We are developing an automotive-powered ATX power supply. Our product will deliver the required power (up to 400W) to any ATX-compatible computer placed within a motor vehicle. Our power supply will replace the typical ATX computer power supply and inverter combination connected to the vehicle's DC battery. We will deliver increased efficiency with fewer connections, and the device can be easily removed and installed within any standard automotive vehicle.
Project Title: Solar Energy Integration for Energy Efficiency and Sustainability  
Faculty Advisor: Dr. Lingfeng Wang  
Client Advisors/Sponsors: None  
Students: Brian Lynn, Alfred Lagat and Victor Webb  
Project Description: It is our intent to develop conceptual design of a high efficiency, cost reducing site lighting system to be implemented at the University of Toledo. Solar panels will capture free energy provided by sunlight, which will be used to charge battery banks throughout the day. By night, these banks shall be the primary source of power used to drive the parking lot/site fixtures. The design will incorporate a relay based switching mechanism which will transfer the load from battery to the grid in times where sufficient solar power is not available. It is our team’s intent to design the most effective, efficient, and environmentally friendly layout to achieve such a system. In addition to the design layout, cost-benefit analysis and computer modeling/simulation will be presented to quantify energy savings.

Project Title: Portable Entertainment Power System  
Faculty Advisor: Dr. Richard Molyet  
Client Advisors/Sponsors: None  
Students: Jonathan Ferrara, Rich Cutlip, Kevin Flahie and Will Howell  
Project Description: The Portable Entertainment Power System is a device add-on unit that will harness the excess power produced from the internal generator of self powered fitness equipment. The obtained power will be converted and regulated to run entertainment devices that operate on up to 60 W; such as a 15” LCD television. By eliminating the AC power outlet constraints and adding energy savings, the Portable Entertainment Power system offers a large advantage to equipment manufacturers, fitness gyms and home consumers.

Project Title: Production/Payroll and Habilitation Data Collection System  
Faculty Advisor: Dr. Henry Ledgard  
Client Advisors/Sponsors: Mr. Chuck Vogelbacher with Lott Industries and Lucas County Board of Development  
Students: Jon Woyame, Ali Alhashim, Jeff Fetters and Chris Hamburg  
Project Description: Lott Industries, which provides work opportunities and developmental assistance for individuals with disabilities, needs efficient, intuitive, and reliable software to enter important pay and habilitation support information for the people they serve. The Production/Payroll and Habilitation Data Collection System is a joint effort between the University of Toledo College of Engineering, Lott Industries, and the Lucas County Board of Developmental Disabilities, which aims to provide an easy-to-use web-based environment for data entry across the organization. The system improves upon the existing legacy desktop software, communicating with the same back-end databases through a customized interface designed from user interviews and refined from user testing and direct feedback. The intent of the project is to show how careful thought and clear communication with the intended user can be leveraged to create a highly-streamlined interface for performing a repetitive data-entry task.