

Project Title:
A Soccer Playing Robot

Team Members:

Mr. Matthew Saylor (EE)
Mr. Torrey Frank (EE)
Mr. Ted Siegel (ME)
Mr. Josh Apple (ME)

Faculty Advisors:

Dr. Yanfei Liu (ECE)
Dr. Jiaxin Zhao (ME)

Area: **Multi-disciplinary**

Sponsored by: [Raytheon & IPFW](#)

Raytheon and IPFW have teamed up for the development of a robot soccer player to compete in the RoboCup Middle Size League. This project began last year using a purchased Pioneer robot and adding a kicker to enable it to play soccer. However, after the evaluation of last year's design it was determined that the Pioneer robot is not fast enough to be competitive. The goal of the project this year is to design and build a kicking robot, which has the speed and mobility to be competitive. When the project is completed, the robot should be mobile in all directions, and have a speed of at least two meters per second. It should have an integrated kicker, and be capable of easily incorporating a communication and a vision system. The robot will also comply with the rules and regulations for the RoboCup Middle Size League as of 2008.

[Final Report](#)

Project Title:
Solar Cooling Demonstration Unit

Team Members:

Mr. Dan Ferrier (ME),
Ms. Ashley Gardner (ME),
Mr. Stuart Lash (ME),
Mr. David Lynall (EE),
Mr. David Mockus (EE)

Faculty Advisors:

Dr. Abu-Mulaweh (ME),
Dr. Wang (CmpE)

Area: **Multi-disciplinary**

Sponsored by: **ASHRAE**

Indiana Purdue University of Fort Wayne commissioned the design and development of a solar cooling demonstration unit through grants from ASHRAE. They have required the use of an absorption cycle and a desiccant. The unit will operate entirely on solar power.

Final Report

Project Title:**“i-Sprinkler”**: An Embedded Sprinkler System with Graphical User Interface**Team Members:**

Mr. Adam Neuenschwander (ME)
Mr. John Frauhiger (ME)
Mr. Nicholas Brown (CmpE)
Mr. Ryan Stephens (CmpE)

Faculty Advisors:

Dr. Bongsu Kang (ME)
Dr. Hossein Oloomi (ECE)

Area: **Multi-disciplinary****Sponsored by:** **IPFW**

The i-Sprinkler is a portable, fully-automated sprinkler system, capable of spraying any plant within its range. This design incorporates an embedded system that controls the angular position of the nozzle and the water flow with two or more motors. No user intervention is required after initial setup. Moreover, since plant locations are programmed in by the user, no water is wasted on areas where it is not needed. This project requires a close collaboration between the mechanical and electrical team members.

Final Report