

2005 IEEE Systems and Information Engineering Design Symposium

1st Place Award!!

On April 29, 2005 a team of three students from the SIE Department traveled to The University of Virginia to participate in the 2005 IEEE Systems and Design Symposium - is a student-focused international forum for applied research, development, and design in Systems and Information Engineering. The Symposium is the leading showcase for undergraduate and graduate design projects, such as capstone design courses, or as baccalaureate, honors, or design-oriented graduate theses. The team was invited (and financially sponsored) after submitting an abstract on the work in February.

Stephanie Macdonald, Rajnish Chowdhary, and Esteban Morales Escalante made the presentation on their project “Emergency Department Process Improvement.” The paper can be found on the conference website <http://www.sys.virginia.edu/sieds05/default.htm>. **The project was selected for the 1st place award (over 7 other papers) in the category of Human Factors and Human Computer Interface!!** Additional team members Ika Karkam, Nasser Al-Shirrawi, and Afra Afandi remained in Tucson to present the work at the UA Senior Design Day Competition and they did a great job also!

The project was sponsored by Dr. Ken Iserson of the UA Department of Emergency Medicine and the main clients were Mr. Kevin Craven, Mr. Brian Bradley, and Ms. Gerri O’Neill. The University Medical Center’s Emergency Department has faced continually increasing patient numbers and mounting costs while resources have remained fairly static. This phenomenon, termed “crowding,” has been observed as a growing problem nationwide. The purpose of this project was to decrease overall patient throughput time by identifying potential bottlenecks and proposing strategies to alleviate them. A simulation model of the University Medical Center’s ED patient process was created using ARENA software. The model reflected data obtained from the department as well as from in-house time studies and interviews. Following validation of the model with department personnel, alternative solutions were tested by altering various stages of the model and analyzed according to department requirements and preferences. The analysis results and proposed alternative solutions were presented to ED administrators.

We are always looking for interesting senior design projects and this project is a great example of an outstanding experience for both the students and the client. For projects completed during the 2005-2006 academic year, please contact Dr. Terry Bahill at terry@sie.arizona.edu.