SEAS Students Present Progress Reports at AOL Symposium

by Kira Greene, AOL Communications Coordinator

George Washington University students working to help AOL figure out the future of connected-home interactive services recently provided their latest progress report.

The Home of the 21st Century, as the research program is called, began a year ago with funding provided by AOL and supported in part by a grant from Virginia's Center for Innovative Technology. Since that time, students have created a wired home environment within a lab classroom at GW's Virginia campus in Ashburn.

SEAS faculty and students at the AOL Symposium.

The goal of the alliance is to pursue a vision for the typical home of the future in which electronic devices for entertainment, information access, home automation, home monitoring, and security communicate with the residents of the home anywhere and anytime through a computer network and the Internet.

Funding from AOL supports three project areas: wireless and wired sensors, remote management of the home, and personalization technologies.

The symposium was opened with an overview of the Home presented by graduate student Ritabrata Roy of the Department of Electrical and Computer Science Engineering. The mission for the lab, he said, "is very ambitious. We're trying to redefine the concept of the house from passive shelter into an active, dynamic, responsive unit — an interactive home that is also affordable."

Roy said that building the home of the future will require a shift in our perception of computer applications, and that as researchers, they have made every effort to keep their minds open to new ideas.

Our relationship to the computer also will likely change in the future, Roy said. "Right now, we have to adapt ourselves to the environment of the computer, an artificial domain with blinking command prompts. But in the house of the future, these roles may well be reversed. The computer will have to adapt to our environment — we will not be distracted by artificial props like monitors, keyboards, and mice."

Roy said much progress already has been made in the Home of the 21st Century lab where appliances can now be controlled by a variety of techniques including voice-activated commands, motion sensors, or through the Internet. In addition, a music server is in place providing audio-on-demand, and Roy said they hope to expand soon to video-on-demand.

Another area of study, Roy said, is power conservation. The students are designing a network that con-sumes a minimum amount of energy in transmitting data, and it will also maximize the length of time the devices can run on batteries.

An achievement of which the student researchers are particularly proud, Roy said, is the fact that a paper titled "Distributed Wired and Wireless Sensors for the Home of the 21st Century Project," prepared by the Department of Electrical and Computer Engineering, was presented at an international conference of the Institute of Electrical and Electronics Engineers in Cairo last December. "GW and AOL are now known to be among the forerunners of this technology," Roy said.

[Editor's note: This article was excerpted from the article "GWU Lab Continues Buildout for Home of the 21st Century" and reprinted with the permission of *AOL Technologist*].

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Computer Science ranks fifth among all majors at GW in terms of attracting the greatest number of undergraduate students.