

# Review

**INSTITUTE for  
SIMULATION  
& TRAINING**

## Jacobs honored as "Researcher of the Year"



**D**r. John W. Jacobs, III has garnered IST's "Researcher of the Year" award for his work in distributed interactive learning technology. Jacobs investigates methodologies for evaluating simulation training and automated performance.

A part of the IST research staff since 1993, Dr. Jacobs has over 13 years experience in research and instructional systems development. He received his Ph.D. in Psychology from Florida State University.



## Franceschini to lead DS group

**D**r. Robert Franceschini a senior research computer scientist at IST recently was chosen to lead the institute's Distributed Simulation group. The selection comes not long after his appointment as a visiting assistant professor in the School of Computer Science at the University of Central Florida.

## Voice recognition enhances ModSAF realism

**T**he Distributed Simulation group at IST recently demonstrated "rehabilitated" CommandTalk software, a voice recognition program that will add new realism to the U.S. Army's Modular Semi-Automated Forces simulation. ModSAF is an open modular architecture that supports creation and control of forces on a simulated battlefield.

SRI International originally developed CommandTalk for the Marine Corps' LeatherNet project. It was used in 1997 to add more realism to the Defense Advanced Research Projects Agency Synthetic Theater of War Exercise. A common goal shared by the Army, Navy, Air Force, and Marine Corps is to replace point-and-click and keystroke methods of commanding computer generated forces with actual voice and gesture commands.

IST is conducting its research for the Army's Simulation, Training and Instru-

mentation Command. Whereas CommandTalk originally was a collection of agents (including ModSAF) connected by a facilitator, one of the research objectives is to develop voice recognition as a stand-alone application connected to simulations through the High Level Architecture. This architecture allows voice recognition

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## ADL technology to support courses on M&S

**T**he institute's popular workshop for simulation managers, Modeling & Simulation Basics, soon will be available via the Internet on your personal computer, a product of improvements in Advanced Distributed Learning technology.

ADL is a Department of Defense and the White House Office of Science and Technology Policy initiative to

*...ensure access to high-quality education and training materials that can be tailored to individual learner needs and made available whenever and wherever they are required...By making learning software accessible, interoperable, durable, reusable, adaptable and affordable, the ADL initiative will ensure that academic, business, and government users of learning software gain the best possible value from the materials they purchase.<sup>1</sup>*

IST's developers have demonstrated a Web-based learning module that will

lead to a prototype for the ADL version of M&S Basics. When fully developed the module will provide dynamic computer-based training with added on-line student-to-student-to teacher interaction.

Research into ADL environments is emphasizing the interactivity such a program can provide. Using truly dynamic ADL courses, students can organize their learning depending on their background and experience. Dynamic counseling will enable the program to custom-tailor the course to fit the student's needs and will track what has been learned and is needed.

Student interactivity can be provided when a course is offered concurrently to other learners. Students have the ability, using messaging or chat room formats to "work together" on assignments or can post questions and gain information from on-line forums. Courses can be either instructor-led or instructor-less with moderated forums.

According to research psychologist Dr. John Jacobs, ADL M&S Basics is building on groundwork laid during the institute's recently completed ADL project

for the Florida Department of Education.

"Answering the Florida DoE's questions provided considerable data on both hardware and software requirements," says Jacobs. The course designed for the Florida DoE is intended to help teachers meet English as a Second Language instructional requirements without having to travel to remote class locations. Jacobs' team investigated computer processing and communication capabilities across the DoE's intended audience to arrive at standards for a widely available ADL program.

The institute's ADL research is aiming toward deliverables that will comply with the Sharable Courseware Object Reference Model standard, once it becomes available in mid to late 2000.

<sup>1</sup> Presidential Executive Memorandum Directing Initiatives in "Enhancing Learning and Education Through Technology," January 1998



## IT Center's catalog software gets smarter

**T**he Information Technology Service Center at IST is taking its catalog software development to higher levels of "knowledge management."

The Air Force, Navy and Army already use IST's software for cataloging their modeling and simulation resources. A member of any subscribing military service component can search across the three military services for information and take advantage of a number of automated tools that make searching, developing reports, contributing updates and keeping up-to-date a lot easier.

The next step in the evolution is a database application that "learns" as you interact with it. Based on a user-provided profile, past search and retrieval patterns and other factors, the program software helps guide the user to a logically appropriate set of information resources.

"The project started simply to provide the Air Force with a distributed cataloging method for M&S," says program manager Robert Reed. "It has grown to support M&S cataloging for all three services, the Navy's training technology and, soon, the National Institute of Justice's

Law Enforcement Instructional Technology System."

The beauty of this system, according to Reed, is that it can be applied to most any situation where people need to organize and keep track of information and resources. The system, says Reed, is just as suitable for a local middle school, which plans to apply the software to keep track of lesson plans and volunteer resources.

"Anyone with a lot of things they need to share with others can benefit from this technology," says Reed.

IST's cataloging system has proved to be a big timesaver for the three services. Subscribers at numerous command levels can be authorized to update or add catalog entries. An electronically linked panel of experts provides quality control. Although each of the military services has its own separate database and complete

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## Emergency management: film at eleven

Feature

**D**igital video crews of university film studies students coordinated by IST were on the scene as a simulated aircraft disaster played out at a Central Florida airport recently.

Emergency personnel from 12 agencies participated in Emergency 2000, an all-day, multi-agency, multi-jurisdictional, community mass casualty and family assistance simulation drill. The camera crews got it all on tape.

Orlando Sanford Airport, northwest of Orlando, hosted the exercise. Four area hospitals participated, accepting five "victims" from the crash airlifted from the staging ground by rescue helicopter teams. Even the American Red Cross was on hand to counsel victims' families.

Exercise planners designed the simulation to challenge the entire emergency response network: A report to the Seminole County emergency action center informed dispatchers that a commercial aircraft experienced a cabin fire on approach to the airport. The pilot was just able to land the plane but in the process crashed into a helicopter and a small private plane.

Fire rescue personnel first on the scene found a ramp area strewn with debris, a trio of smoking aircraft and more than 100 injured, dazed or frightened passengers (realistically portrayed by students from Seminole Community College) scattered about the pavement. The situation required emergency crews to

*(Right) IST's Dr. Peter Kincaid, who coordinates the institute's emergency management training programs, advises UCF film department crews prior to the start of the exercise. (Below) Camera crews adjust camera prior to going skyward in a cherry picker for overhead shots.*



included a student documenter who logged time and descriptive information for archiving purposes.

IST, UCF and Seminole County Department of Public Safety plan to use material on the tapes to produce a variety of training and informational products. The most

innovative of these is a computer-based, interactive simulation. The user can activate synchronized video and radio data related to specific stages of the exercise through a graphic interface to be developed as part of the project. By clicking on the actual video image of a cameraperson (taken from an overhead crane shot), the user will see the footage shot by that camera and hear the related radio traffic.

A 30-minute documentary for possible distribution to local and national media is also planned.

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## Army Secretary pays IST a visit

**S**ecretary of the Army Louis Caldera recently paid a visit to IST for a brief overview of several of the institute's Army-sponsored projects.

Army officials included the briefing as part of the Secretary's tour of its Simulation, Training and Instrumentation Command offices in Central Florida Research Park.

STRICOM's Synthetic Environment and Technology Management Division is

housed in the institute's headquarters building.

Deputy Director Brian Goldiez and several other IST senior faculty were on hand to answer the Secretary's questions about the direction of simulation research and Army training.

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*IST Deputy Director Brian Goldiez (right) briefs Secretary of the Army Louis Caldera during a recent visit to the institute.*



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## M&S seminar series gains popularity, new name

**I**ST's series of monthly seminars on current modeling and simulation research recently became the A. Louis Medin Modeling & Simulation Seminar Series in recognition of the institute's past director.

The series features lectures on the theory and practice of M&S, with special emphasis on topics that show how to bring theory into practice. Speakers are experts from throughout the simulation community, including academia, government and industry. The institute will present a "Best of Series" award for the most outstanding seminar this year.

The free, public lectures are held in the IST conference rooms. Director of Distributed Simulation Dr. Robert Franceschini coordinates the seminars.

Lectures on M&S have been a monthly attraction at the institute since early last year. Abstracts of past lectures and a schedule of upcoming seminars are available on IST's Web site at [www.ist.ucf.edu/lectures.htm](http://www.ist.ucf.edu/lectures.htm).

Past director Dr. Medin is credited as having been a driving force behind the growth of the high-tech simulation industry in Central Florida, which now accounts for roughly a quarter of the simulation dollars earned in the U.S. He became IST's executive director in 1987 and retired in 1999. 

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authority over what shows up on the system, to the user the resources function as though they are centrally located.

Users can generate locally defined reports that can be as generic or detailed as needed. Output also can be geared to managers' reporting requirements.

Tammie McClellan, who is administrator of the data, says users will be able to create personalized "search agents" to continuously monitor databases, relevant discussion forums and e-mail. Agents automatically will report new information about user-specified subject matter. It's like having a 24-hour hotline to a research library.

Cataloging is the first step towards knowledge management, a very hot topic in information technology. The cataloged resources are the "facts." The catalog's next generation will add the advanced processes that act upon those facts and produce analyses, communication and a sense of "memory" so the Army, Navy and Air Force can continue building upon what has been learned instead of starting over each time personnel move to new jobs. 

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for multiple players in a distributed simulation.

Another research objective is to support soldiers in an immersive environment. This support will allow soldiers to give commands to and hear responses from computer-generated teammates.

When combined with gesture recognition currently under study at Veridian, Inc., a voice recognition system with standardized protocols could be used in a variety of military, Internet and entertainment applications. 

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