GVU Expands to New Campus Locations

Computing

The GVU Center has expanded its facilities by approximately 3000 square feet with the addition of new offices and labs in the Centennial Research Building (CRB). The move was necessitated by the Center's growth as well as by the shortage of space in the College of Computing Building (CCB), which until recently housed 16 of GVU's 48 faculty members, as well as the main GVU Lab, and the Animation, Video and Usability Labs.

"We've simply outgrown the space available to us within the CCB," said GVU director Jarek Rossignac. "Our move will enable us to continue to grow and still offer comfortable facilities in which to conduct research." After considering many alternatives, the space planning committee for the CoC decided to relocate several faculty including GVU members Gregory Abowd, Ashok Goel, Larry Hodges, Ashwin Ram, and Bill Ribarsky to CRB along with their labs and students. Researchers Frank Jiang and Brian Wills, and visiting researcher Akira Kobayashi (of Hitachi) have also settled into CRB as their new GT home, and Chris Atkeson—who recently joined GVU—will retain his office there. The new CRB space will house the Virtual Environments Lab and the Future Computing Environments Group, and the Intelligent Systems Group.

While GVU has always, by its very nature as an interdisciplinary center, been spread throughout numerous buildings on campus, our CoC home unit has, until now, been more or less centrally located: Demo Days have been held primarily in the main GVU Lab, and most of the Computing faculty and students could be found there. Throughout the coming year, we will be experimenting with ways to best integrate the CRB labs into the established flow of people, research and events. The CRB labs will be connected to the main GVU Lab via a video conference hookup that will allow real-time interaction between researchers, students and staff.

Psychology

The Psychology Department has completed its move to the old Navy Building located just behind the College of Computing. We look forward to utilizing their close proximity in future demo events to showcase research projects by their faculty and students in Engineering Psych and HCI.

LCC

Our colleagues in Literature, Communication, and Culture have finally moved back into their newly-remodeled space after enduring months of pounding and drilling, dust and debris. The Information, Design and Technology group is looking forward to hosting a dust-free special interest Demo Day on February 26, where they will show off their research in Web design, video production and interactive multimedia.

Audio Lab

The GVU Center has established an Audio Lab in the GCATT (Georgia Center for Advanced Telecommunications Technology) Building. Led by James Oliverio, this lab brings together faculty and students from various campus units to explore the opportunities for digital audio that exist in teleconferencing, electronic commerce, education, entertainment, voice interfaces, dictation, and multimedia publishing and presentation.

FROM THE DIRECTOR

Dear GVU Friends,

It has been over a year since I joined Georgia Tech and took over GVU's leadership. I am pleased to report that the Center has continued to grow over this period in many ways. Twelve faculty members and several visitors have joined GVU, bringing vitality and additional expertise in such diverse areas as educational software, robotics, music, engineering simulation, communication, manufacturing, graphics, and animation. We continue to recruit for faculty positions with primary appointment in computing at all levels, hoping to strengthen GVU in the broad area of HCI. Our weekly GVU faculty lunches are well attended and I see with great pleasure numerous research collaborations between various GVU faculty and students take shape. Several of the supporting units have accepted a record number of outstanding graduate students this year and many of these are already involved in GVU. We collectively teach an impressive number of new...
RESEARCH UPDATES/PROJECT NOTES

Grants and Awards

National Library of Medicine

The National Library of Medicine (NLM), has funded a four-year grant to the College of Computing and Emory University, aimed at exploring algorithms for “mining” medical image databases in order to discover possible new knowledge in the diagnosis of heart disease. The imagebase mining will be done in distributed databases (at six participating centers), and the newly discovered knowledge will be cast in a form that can be integrated with an existing knowledge-based system designed to interpret the imagery—in other words, the knowledge is both discovered from, and then used to interpret, the imagery. The mining and knowledge-based processes will be done through (yet-to-be-invented) WEB-based mechanisms.

Norberto Ezquerra received a call from Peter Clepper, NLM’s director of Extramural Programs, who personally gave his “congratulations on an excellent grant and a beautiful review.” The numerical score, which can roughly be translated into a “high A-plus,” was also somewhat of a coup in the long, highly competitive NIH peer-review process. We are very pleased that this grant will represent the ninth through twelfth years of continued funding of this type of research.

The amount of the grant award (though not yet finalized by NLM) is substantial, funding several investigators and students in CoC and at Emory, beginning in the year 1998 through 2002.

The principal CoC contributors to this grant application were Ed Omiecinski, Levien de Brazil, Carlos Ordonez and Norberto Ezquerra, with help from H. Venkateswaran.

Intel Award

Georgia Tech will receive $3.7 million in computer equipment and services over three years from the Intel Corporation to develop a distributed computing environment that will benefit research efforts in a variety of fields. Scientists and engineers involved in projects that require complicated calculations and visual simulations will be able to reduce the amount of time it takes to complete their research. The network will have the added advantage of being able to handle the demanding needs of several research projects at the same time.

The GUV Center, as well as the Colleges of Computing and Engineering and the Georgia Center for Advanced Telecommunications Technology (GCATT) will actively be involved in developing the high-speed, multimedia computer network.

Georgia Tech is one of twelve universities selected to receive funds from Intel through the “Technology for Education 2000” program, an $85 million project which supports computational research and curriculum development at universities around the country. Intel chose recipients based upon the quality of the submitted proposals, the individual universities’ academic standing, and pledged institutional support for the proposed projects.

GVU Seed Grants for FY98

We are pleased to announce GVU seed grants for the coming year. Seed grants are awarded by the GVU Center for new projects that involve collaboration of faculty/students from two or more campus units. This year we’ve awarded equipment grants for the first time.

Student Support Seed Grants:
- Analysis of Audio and Visual-Kinesic Data for Interpretation of Multi-Modal Communication; Irfan Essa (CoC) and Mark Clements (ECE).
- Training and Assessing Driving Performance of Young and Older Drivers, submitted by Beth Davis (Psych), Andy Quay and Peter Presti (IMTC).

Equipment Seed Grants:
- Moving Away from the Desktop; Irfan Essa, Gregory Abowd, Jessica Hodgins (CoC) and Tolek Lesniewski (Arch) (on behalf of the whole of GVU); “We will deploy in the GVU lab space several large screen displays so that we can experiment with interactive environments and think beyond the desktop...” Equipment: two Mitsubishi 80 inch displays, one from GVU and one from matching funds contributed by the above faculty.
- GVU Sounds Better All the Time; Larry Hodges, Irfan Essa (CoC) and James Oliverio (Music); “We envision three distinct but compatible audio setups. Two identical digital audio and MIDI workstations using Pentium machines will be placed in the GVU/CoC and GVU/CRB spaces. A third, more sophisticated audio editing and processing station would be placed in the new GVU AudioLab in the GCATT Building. (The grant will establish the GCATT setup. The other two are matching contributions by the above faculty.) All three set-ups will be linked over a high-speed network, affording joint project and research development across our three lab areas.”

Georgia Research Alliance

Bill Ribarsky received a Focused Research Commercialization Grant from the Georgia Research Alliance to develop a product, “PC-Based Virtual Landscapes,” a terrain visualization and GIS system with application to real estate, urban planning, tourism, and other markets.

3D Server

Jarek Rossignac is starting a “3D server” project focused on developing and combining 3D compression,
GVU in the Scientific Community

Our faculty and students make a strong showing in the technical community through participation in conferences and professional societies. A partial list:

Conference Chairs:
- Bill Ribarsky—Chair & organizer, Workshop on PC-based Visualization and Computer Graphics (Vis ’97)
- Ron Arkin—Robot Competition Co-Chair: 1997 National Conference on Artificial Intelligence

Journal Editorships/Professional Committees:
- Larry Hodges—Editorial Board, PRESENCE: Teleoperators & Virtual Environments
- Jessica Hodgins—Associate Editor, ACM Transactions on Graphics
- Bill Ribarsky—Chair, IEEE Technical Committee on Computer Graphics

Conference Committees:
- Gregory Abowd—Program Committee: AAAI Spring Symposium in Intelligent Environments ’98; International Conference on Software Engineering (ICSE ’99), also on the Doctoral Consortium panel for the same conference.
- Jessica Hodgins—Program Committee: VRAIS ’98.

Conference Papers & Presentations

Eurographics:
- Finally Everyone Can Work with Highly Complex 3D Models (keynote address); Jarek Rossignac
- Simplification and Compression of 3D Scenes (tutorial); Jarek Rossignac

Siggraph:
- Adapting Simulated Behaviors for New Characters (paper); Jessica Hodgins, Nancy Pollard (CoC)
- A Model for Managing Level of Detail with Head-Track Peripheral Degradation (sketch) Ben Watson, Larry Hodges (CoC), Neff Walker (Psych).
- Texture Maps from Orthographic (sketch); Brian Jones (IMTC)
- The Haptic Lens (sketch); Mike Sinclair (IMTC)
- Combining Active and Passive Simulations for Secondary Motion; Jessica Hodgins, James O'Brien, Victor Zordan (CoC).
- Display of High Contrast Images Using Models of Visual Adaptation (sketch); Jack Tumblin, Jessica Hodgins (CoC), Brian Guenter.
- Dynamically Simulated Characters in Virtual Environments (sketch); Dave Brogan, Ron Melroyer, Jessica Hodgins (CoC).
- Transitions between Dynamically Simulated Motions: Leaping, Tunneling, Landing, and Balancing; Wayne Wooten, Jessica Hodgins (CoC).
- Multiresolution Surface Modeling (course); Paul Heckbert, Hugues Hoppe, Jarek Rossignac (CoC), Will Schroeder, Mark Soucy, Amitabh Varshney.

UIST ’97
- Computational Perception for Future Computing Environments; Gregory Abowd, Chris Atkeson and Irfan Essa (CoC) and Prosody Analysis for Speaker Affect Determination; A. Gardner and Irfan Essa.

Miscellaneous:
- COOLVR: Implementing Audio in a Virtual Environments Toolkit; Jarrell Pair and Rob Kooper (CoC), at the International Conference on Auditory Display at Xerox PARC.
- The Acquisition and Transfer of Perceptual Decision Making Skills, Victoria A. Spaulding (Psych) and Donita A. Philps (Psych), at the 41st Annual Meeting of the Human Factors and Ergonomics Society.
- Bill Ribarsky: Time Critical Visualization of Scalably Large Data, at the Schloss Dagstuhl Workshop on Visualization (Germany), and Virtual Design and Large-Scale Data Visualization at the Delft Technical University in the Netherlands.
GVU and industrial affiliate NCR have joined forces to form a WWW Corporate Council to foster communication between Georgia Tech researchers and administrators, and corporate executives from industries that are heavily involved with the Web. Over the past 4 years, GVU has sponsored a series of semi-annual WWW User Surveys that have garnered wide response and much media attention. Our surveys have moved beyond the subject of user demographics to wider issues of privacy, politics, and Java programming. In an effort to expand these topics and try to gain a clearer understanding of how the Internet will affect our industrial and consumer business practices, we are putting our heads together with industry leaders in an effort to improve and expand the surveys to cover electronic commerce on the Internet. We hope that the Council will eventually include providers of computer systems, market research, internet service, internet software, telecom equipment, network, cable, satellite, banking, retail, systems integrator, content, and more.

The first meeting of the Council was held in July, with representatives from Andersen Consulting, Coca-Cola, FIND/SVP, NationsBank, Sun Microsystems, CNN and NCR attending. Each representative talked about his/her own company's objectives and experiences concerning Internet usage, and discussed suggestions for issues to be addressed in future user surveys. The interests of the participants spanned a wide range of Internet-related issues.

In addition to co-sponsor NCR, Sun Microsystems, Andersen Consulting and FIND/SVP have officially joined the WWW Corporate Council, which is co-chaired by Bill Read, Jarek Rossignac and Dennis Robeson (NCR). The Survey team includes Jim Pitkow (PhD'97), Colleen Kehoe, Kim Morton and Li Zou. For more information on joining the Council, contact Tonya Dunson <dunson@cc.gatech.edu>.

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Director...

graduate courses and regularly engage our students in team projects and in creative brainstorming sessions. Our HCI Master's program was approved in record time and successfully launched ahead of schedule with 10 students this fall.

We have remodeled several of our labs and have expanded our facilities to two new labs (CRB and the newly created GVU AudioLab). We have installed new equipment (including a Virtual WorkBench and 32 Dual Pentium Pro PCs donated by Intel), BellSouth, Motorola, NCR, and Siemens have joined our Industrial Affiliates Program. With help from NCR, we have created an industrial council which helps us fund the GVU WWW Survey program as well as to expand its scope to electronic commerce and inter/intra business applications.

We are playing an increasingly central role in conferences in GVU-related fields. Last May we hosted more than 70 participants for a very successful NIST workshop on collaborative tools, and we demonstrated our research to more than 350 of the CHI '97 participants and about 150 participants in the ACM Solid Modeling Symposium. We will host, in Atlanta, VRAIS '98 (chaired by Larry Hodges) and Interactive 3D Graphics '99 (chaired by Jessica Hodgins Jim Foley, and myself).

Having bragged enough about all this, let me now turn toward the future. The U.S. economy is dominated by information processing. The demand for professionals who build and sell computers and for those who know how to maintain and use them calls for drastic actions from academic institutions. The immediate reaction is to train more experts in software development and to offer life-long training for computer users. GVU's longer term goal is to train our students to invent and engineer technologies that make computers easier to use and in time diminish the needs for training all users into computer experts. But the profound impact of the computing technologies on our lives will not come from trained users, nor from making easy-to-use, or even obvious-to-use computers. Our objective should not be to make all people effective computer users. A person's goal should not be to interact with a computer. We all want and need to interact with other people and with data. To help us, computers must disappear. By that, I mean to become invisible servants always ready and trying to guess how they can serve us better without requiring that we spend much attention on the technology or the interface. If we only could match technologies with human capabilities and needs, and engineer compelling solutions that will make people immediately more productive...

The collective expertise of GVU members and our ties with industrial partners give us a unique opportunity to understand 1) the needs of individuals and organizations, 2) the natural limitations and capacities of humans and processes, 3) emerging technologies, and 4) usability and product deployment issues. I hope that, by exposing our students to these complementary aspects of solution development, we will help them lead the information revolution to the new level of productivity based on ubiquitous and humanly aware computing and on real support for computer-assisted interaction with people and information.

Jarek Rossignac
Ubiquitous and Aware Computing

by Gregory Abowd and Irfan Essa

Recently, there has been a growing interest in using computing technologies to build systems that support our daily activities: smart homes and rooms that allow controlled access to the premises, and systems that make homes energy efficient, monitor children, and allow the elderly to remain self-sufficient. In educational settings, such systems with intelligence can be used to recognize if students are interested or bored and respond accordingly. These systems don’t have to be fixed to the environment, but can be mobile, even worn as part of our daily clothing. They can provide documentation and support for on-site repair technicians, memory augmentation and navigation for business people, and supplement the capabilities of challenged individuals through lip-reading, sign-language recognition, translation, and visual assistance.

Research and development efforts for building such intelligent and interactive human-centric systems that support and augment our daily lives rely on the concepts of ubiquitous and aware computing. We will outline very briefly these two concepts followed by a description of our attempts to build futuristic systems at Georgia Tech.

The defining characteristic of ubiquitous computing is the attempt to break away from the traditional desktop interaction paradigm and move computational power into the environment that surrounds the user. The challenge of ubiquitous computing not only involves distributing the computation and networking capabilities, but also includes providing a natural interface to the user. Ubiquitous computing advocates a complete shift from relying on the traditional interaction—where the user is forced to search out and find the computer interface—to an interaction where the system itself takes on the responsibility of locating and serving the user.

Aware computing is aimed at serving the system by providing knowledge about the user and the environment that surrounds the user. Such awareness can be achieved by incorporating perceptual abilities into the environment. This form of computational perception can be used to identify the users, locate them, determine their focus of attention, and attempt to ascertain their intentions, i.e., be aware.

We are interested in combining these ideas of ubiquitous and aware computing to achieve computational augmentation of our everyday activities. This coupling can be achieved by instrumenting the environment with computational power, networking capabilities, and sensor technologies. Such instrumentation can be used for capturing and processing audio, video and other sensory data, and control the input, output and information flow in an environment. The sensor technologies with the distributed computation will provide the system the ability to perceive the environment. This computational perception will help identify users, determine what the user is doing, and aid in prediction of user needs and interests. Present developments in computational hardware, input/output devices, and sensor technologies suggest that building of such environments will be a major focus of research and development in the upcoming years.

The FCE Group at Georgia Tech is working to build interactive environments to augment daily activity. The research method is application-oriented, meaning that we identify the everyday activity we wish to support before considering how to augment the environment. Our mission is to identify, investigate, and invent technologies and environments that can be prototyped quickly and evaluated in real-life situations. In the past two years, the FCE group has developed a number of applications that rely on the concepts of ubiquitous and aware computing. These applications have involved three different domains: the classroom, the home, and the space immediately surrounding a user.

We describe these different examples below in the context of ongoing FCE projects. More information can be found at http://www.cc.gatech.edu/fce.

The Classroom
The Classroom 2000 project is investigating the educational experience in the classroom. Typically, a classroom session generates a number of different
Horizons...

GVU Industrial Affiliates & Advisory Board Members

- BellSouth
  Lee Friedman
- Digital Equipment Corporation
  Gary Cantwell
- Fuji-Xerox
  Palo Alto Laboratory
  Joseph Sullivan
- Hewlett-Packard Research Labs
  Tom Christian
- Hitachi Research Laboratory
  Yasushi Fukunaga
- IBM Corporation
  Paul Borel
- Intel Corporation
  Roger Ray
- Mitsubishi Electric Research Labs
  Richard Waters
- Motorola Cellular Infrastructure Group
  Allan Willey
- NCR Human Interaction Technology Center
  Tom MacTavish
- Siemens AG
  Wolfgang Friedrich
- Sun Microsystems
  Bob Glass

Associate Members

- Bentley Systems, Inc.

Streams of information—people talking and demonstrating; presentations on a whiteboard; software simulations; lecturer's gesticulation and the like. Students can spend a lot of time frantically taking notes to capture their understanding of all of the information. Classroom 2000 enables the environment to assist in class record-keeping, freeing the student to engage in understanding and participating in the experience as opposed to stupidly scribing. The environment also provides the lecturer with richer modes of presentation, improving the content and spontaneity of the educational experience. We have built a special classroom that can easily capture the activities of a lecture and have been using this environment on a regular basis for 9 months.

Classroom 2000 provides the ability to integrate different streams of activities together. For example, words that are written on an electronic whiteboard are automatically linked to a digital recording of the audio and video in the class. Further analysis of the audio and video recordings provides for content-based understanding of the lecture. Spreading computational services around the physical classroom environment results in a room that is more aware of what is going on within it. When a student reviews a lecture, the captured experience serves as a more effective reminder and memory cue. Future interests with the classroom are to build more awareness into the environment to track the professor and the students' gestures, expressions, and audio interactions.

The Home

The Domesilsica project is aimed at producing a virtual community that mirrors and supports some real physical community. Our initial efforts are targeted toward the home and the extended family. We have built a prototype virtual home environment that is tied to a home setting of a number of researchers in FCE. We are making the two worlds, physical and virtual, work in concert with each other. So, for example, when some produce is placed inside the physical refrigerator in the kitchen, the contents of a virtual refrigerator, Cyber-Fridge, is automatically updated as well. We are also experimenting with how activity in the virtual world can affect the physical world. For example, when multiple people virtually visit a room in Domesilsica that is associated to a physical room, say a living room, the physical environment is enabled to produce more ambient noise to inform the physical occupants of the room of the presence of the virtual visitors.

In the future, we are interested in developing more automatic ways to communicate between the virtual and the real worlds. This will be achieved by adding sensors to the environment that will identify the user and the activity in the environment and update the virtual representation of this environment.

Personal space

The previous two examples dealt with fairly well defined physical spaces, the classroom and the home. We are also interested in pursuing the concepts of ubiquitous and aware computing in environments where the physical space is defined as the unfamiliar territory that surrounds a mobile user. The Cyberguide project is aimed at developing mobile assistants, more specifically, tour guides that are aware of the location and orientation of their user and provide information about the surrounding space. Our initial work in this area has relied on using different forms of hand-held computers with position sensors. So far we are concentrating more on software development issues with the hope of keeping it platform independent. We are also pursuing research on wearable computers within this context.

Conclusion

Ubiquitous and aware computing will play a dominant role in defining how we think about computing in the upcoming years. It represents a complete shift from thinking about computers as extensions of the desktop to the environment in which we live in. Applications of awareness and ubiquitous computing are many and include systems that can support our daily activities, monitor children, track the elderly, and augment challenged individuals. It is our intention to pursue these applications and the extensions of the above-described projects in the upcoming years.

[About the Authors: Gregory Abowd is an Assistant Professor in the College of Computing and Associate Director of External Affairs of the GVU Center. He founded the Future Computing Environments group in 1995. Along with Professor Chris Atkeson, Irfan Essa is an Assistant Professor in the College of Computing. In addition to participating in the FCE group, he is currently establishing a Computational Perception Lab at GVU.]

INDUSTRIAL AFFILIATES

Welcome

BellSouth joined GVU's Industrial Affiliates Program in June. Lee Friedman will represent the company on the Industrial Advisory Board. Lee was instrumental in cementing the relationship between GVU and BellSouth—he was formerly on our advisory board several years ago when he was with NCR. BellSouth will support Larry Hodges and his Virtual Environments research.

Research Review Day

All IAP members: mark your calendars for February 3-4, 1998—those are the dates for our annual Research Review Day and Industrial Advisory Board meeting. RRD is open to all members of our Industrial Affiliates. More information will be forthcoming via email later in the fall. We don't want to leave anyone out, but as it is almost impossible to keep our email address list current, please feel free to contact us at <gvu-info@gvu.gatech.edu> for more information.
John Stasko hosted a visit in May by Wim De Pauw of the IBM T.J. Watson Research Center. He gave a talk entitled "Visualizing the Execution of Java Programs—JavaVant.”

In July, Gregory Abowd met with four researchers from the Corporation for National Research Initiatives (CNRI). Two of Gregory’s students spent the summer at CNRI, helping to install Classroom 2000 technology and modify it for the organization’s own interests. The visit was for the purpose of discussing that project, the possibility of future collaboration, and student internships.

Several GUV members gave demos for a group of August visitors from Mitre including Andrea Weiss (VP and CIO), and several members of Mitre’s Information Systems & Technology Division: Reza Eftekhari (Technical Director) Howard Carpenter (Associate Technical Director), and Richard Weatherly (Chief Engineer).

Five representatives from SGI visited CoC in August on a recruiting visit. While they were here, they spoke with Al Badre about internships for our HCI Master’s program students.

In July a group of students sponsored by the Florida/Georgia Alliance for Minority Participation (FGAMP) visited GUV to learn more about our programs and opportunities for minority students.

Sangho Park of the Systems Engineering Institute in South Korea, visited GUV and ME’s Systems Realization Lab for 6 weeks. He was interested in geometric modeling and tolerancing in mechanical engineering design.

In October GUV welcomed postdoc Julian Flores from the Universidad de Santiago de Compostela in Spain. He will spend 15 months as a visiting professor with the Virtual Environments group. Daniel Salber of Genoble, France is a postdoc working with Gregory Abowd.

Richard Catrambone (Psych) spent four months at the Human Communications Research Centre at the University of Edinburgh (Scotland), collaborating on research directed at helping students learn transferrable skills among academic disciplines, particularly in terms of using representation types (e.g., graphs, tables) in multiple domains.

Research Updates...

simplification, and progressive refinement techniques to support Internet-based interactive viewing of highly complex 3D models. Much progress is needed to enable remotely connected PC users to benefit from the availability of detailed 3D models of cities, plants, battlefields, automobiles, human organs, shopping malls, or consumer products. The 3D server will extract the minimum information needed by the client to provide realtime graphics feedback. The work is supported by hardware donations from IBM and Intel, and it is closely tied with other projects involving Drs. Essa, Ribarsky, and Turk. Jack is teaching some of these advanced techniques in his "3D Foundations" course and also in the newly created "Computational Geometry" course he created with Leonard Schuman.

Classroom 2000

The experimental classroom of the future in the College of Computing went live during the Winter quarter of 1997. The room is equipped with state-of-the-art electronic whiteboards, audio/video capture capabilities, ceiling projectors, shared workstations and fully networked student seats. Classroom 2000 supported 5 classes during the Spring quarter of 1997 and is supporting an additional 6 classes during Fall quarter of 1997. Further information on the project as a whole can be found at www.cc.gatech.edu/cci/c2000.

Classroom 2000, which was recently featured on CNN Newsroom, is supported by a 5-year NSF CAREER faculty grant of approximately $388,000; a Mobility Foundation grant for $21,000, equipment loans and donations from Proxima Corp ($60,000), Xerox ($20,000) and sponsorship of GUV Industrial Affiliates Fuji-Xerox PAL and MERL.

Other FCE Activities

Anind Dey is supported on work for the CyberDesk project by a grant from Motorola’s University Partnerships in Research. The CyberDesk project has had work published in the CHI ’97 and Intelligent User Interfaces ’98 conferences. Motorola also supports work on voice-only interaction and wireless Internet services. This sponsorship is part of Motorola’s IAP membership.

Jen Mankoff, Joe Bayes, and Jonathan Somers work on the Domisilica project, an attempt to augment the physical environment of the home with a virtual community. Domisilica is also sponsored by Georgia Tech’s Broadband Telecommunications Center (BTC) and has received a grant from Intel. Part of the Domisilica project, CyberFridge, was highlighted during Jim Foley’s keynote address at SIGGRAPH ‘97.

Welcome

New Graduate Students

CoC:
Joshua Berman
Douglas Davis
Priscilla Dodds
Jason Elliott
Michael Farmer
Antonio Haro
Pam Hassebroek
Cindy Leismer
Michael Malley
Heather Richner
Marcia Riley
Matt Sanders
Rodney Walker

Psychology:
Fleming Sea

LCC/IDT:
Michael Chamberlain
Mark Demard
Ben Hall
Tal Herman
Jenny Jacoby
Patrick Liedwell
Lori Levy
Karen Luk
Mike Merrill
Ron Raymond
Joshua Schornwald
Shannon Shelton
Suad Shih
Jennifer Smith
Sheery Strickland
Beau Teague
Claudia YiLeon
Cai Ying

HCI:
Gabriel Brosiow (CoC)
May Cheng (CoC)
William Dover (CoC)
Teresa Hubsher-Younger (LCC)
Sean McCrohan (LCC)
Rob Morgan (CoC)
Kim Morton (Psy)
Jarrell Pair (CoC)
Michelle Romero (LCC)
Kevin Scott (CoC)

Personal Best

Richard Catrambone (Psych) is now ranked #5 in the state of Georgia for men’s tennis (35 and over category).
Internships...

John Akers (Psych) worked at Eastman Kodak in Rochester NY, helping to design and prototype software for downloading, modifying, and distributing images from digital cameras. Ron Metoyer (CoC) worked in the Animation division (long term software developers group) of Dreamworks SKG Animation, developing tools for the first feature length animation and other general purpose tools to facilitate behavioral control of animated creatures and particle rendering. Victoria Spaulding-Johnson (Psych) interned with the AT&T Laboratories Human Factors and User Interface Design Group, where she traveled to different workcenters conducting usability evaluations of the switch maintenance use interface. Rodney Walker (CoC) worked in the Naval Research Lab in Washington DC, where he created a GUI using Java which allowed for creation of test networks that incorporated ATM and PNNI information. John Cobb (Psych) worked at BellSouth Science & Technology this summer in the Humans Factors Group; he also works on an ongoing basis for Lockheed Martin Aeronautical Systems on the design and development of the cockpit on the C-130 Hercules II. Jason Brotherton (CoC) was at Fuji Xerox Palo Alto Labs (FXPAL) this summer working on Ink Interchange and ubiquitous ink. Teresa Ann Hübscher-Younger (LCC/IDT) worked in the Siemens Energy and Automation Usability Lab, evaluating the usability of their Web development projects and developing some multimedia pieces for the group. Bill Curtis (LCC/IDT) interned with PBS Online, where he assisted editors and producers with the conceptualization, design and production of Web content related to special PBS programs: drafting site architecture/navigation ideas, writing content, creating graphics, and coding HTML. Thomas Browne spent six months (spring and summer) at Prentice Hall Publishers in NJ, working on Web-based applications and the design of interactive Web pages. Sherry Mead (Psych) was a usability intern at Oracle Corporation, where she conducted usability tests on their new Java development environment and a set of utilities included with Oracle 8. Robert Orr (CoC) interned at Xerox PARC, where he designed and built two devices to support infrared communication between mobile devices and the network. Richard Stit (Psych) interned as a Usability Engineer at Microsoft; he worked with product teams on software interface design and usability testing of various Microsoft server applications and operating platforms. Jason Ellis (CoC) interned at Xerox PARC, where he built the infrastructure for the Audio Atlas audio-augmented reality system. Gary Boone (CoC) worked at IBM, developing a learning algorithm for a multiagent optimization system (applied to the paper industry, optimizing the scheduling, trimming, and shipping of paper orders). Lindsey Moshy (LCC/IDT) did two internships: she worked for GT’s CEISMC (Center for Education Integrating Science, Math & Computing) as a webweaver for the Irasshau and Georgia Stories Online Learning Courses; and she is also the webmaster for the Odyssey Online site at the Michael C. Carlos Museum of Natural History at Emory University. Suzanne Suddath (LCC/IDT) interned at Porter Novelli (an international PR firm) in Washington DC, where she contributed to the design, content, and technical aspects of Websites for various clients. Ian Seymour (LCC/IDT) worked at Siemens, analyzing various corporate Websites as part of a major site reconstruction effort and at GT’s Building Construction Department, developing their Website and teaching seminars for faculty and staff on Website design. Rhonda Nelson (LCC/IDT) worked for Cox Interactive Media in San Francisco on Web and multimedia projects.

Graduating soon....


Wayne Wooten (PhD, CS, Fall ’97) Advisor: Jessica Hodgins; research area: computer animation. Wayne has taken a position with Pixar.


Kelly Balcom (MS, IDT, Spring ’98) Advisor: Anne Balsamo; research area: educational technologies. Kelly would like to work for a multimedia company that creates educational materials for children and/or adults.

Ed Curry (MS, IDT, Spring ’98) Advisor: Jay Bolter; research area: electronic media in organizational communication.

Vicky Pickens (MS, IDT, Spring ’98) Advisor: Greg VanHoozer-Carey; research area: interactive educational technologies. She is interested in creating educational products, either through interactive multimedia exhibits for museums or individual educational media.

John Tolva (MS, IDT, Spring ’98) Advisor: Terry Harpold; research area: interface design, distributed media, hypertext. John is looking for a career in networked media production.

Lindsey Conner Moshy (MS, IDT, spring ’98) Advisor: Matthew Causey; research area: educational technology and multimedia design. Lindsey wants to use educational technologies and their application in our current classrooms to breathe new and constructivist life into a highly instructional environment.

Debra Levin (MS, IDT, Spring ’98) Advisor: Richard Grusin; research areas: gender issues and virtual environments. Debra wants to develop educational multimedia software for children.

Ian Seymour (MS, IDT, Spring ’98) Advisor: Terry Harpold; research areas: large site design, information structuring, usability.
Amy Bruckman joined GT and GVU in September from the MIT Media Lab. She is the founder of MediaMOO (a text-based virtual reality environment or “MUD” designed to be a professional community for media researchers) and MOOSE Crossing (a MUD designed to be a constructionist learning environment for kids). Amy says she was surprised to discover that many computer science departments are so conservative that basic interface design isn’t even taught; i.e., “interface design isn’t a science so it has no place in a computer science department.” “If interface design is considered radical, imagine how these folks react to work in virtual reality and technology and education,” says Amy. “It was a pleasure to discover that at Georgia Tech there’s a general understanding that these subjects are important and worthy of serious study.”

Wendy Newstetter (CoC) is a Research Scientist with the EduTech Institute, whose expertise, expertise and interests lie on the boundary between social and cognitive science. Trained as a sociolinguist and ethnographer, Wendy’s research interests include learning, technologies for learning, and design. “My goal is to push HCI beyond traditional concerns for usability and better interface design to include a focus on the social and cultural practices of users in systems design,” says Wendy. “To that end, I co-teach a Qualitative Methods course aimed at introducing designers to ethnographic methods for requirements capture, and an interdisciplinary Introduction to Design course with three other instructors from across the institute.” She is also working with Gregory Abowd in evaluating the Classroom 2000 experiment, and welcomes the opportunity to talk with students interested in using ethnographic methodologies in their research and in the design and evaluation of interactive systems.

Tian-Yue (Frank) Jiang, Research Scientist in CoC, joined GVU in September. A native of China, he has been in the U.S since 1992. A holder of two M.S. degrees from Georgia Tech, he is expecting his PhD soon in Aerospace Engineering. “After I looked through the research work in GVU, I deeply impressed by it. I enjoyed the cutting-edge research and working environment here in GVU and Georgia Tech,” says Frank. Before joining GVU, he worked for The Torrington Company, a wholly owned company of Ingersoll-Rand, doing research in adaptive fuzzy logic control and industrial plug-and-play Open Architecture Control technology.

Joseph Petraglia-Bahri (LCC) joined the Center during spring quarter. His primary research interests include the rhetoric of inquiry, comparative methodology, socio-cognitive approaches to learning, international education, and the rhetoric of educational technology. Current collaborative GVU research projects include Reality Check, a software project designed to facilitate constructivist learning.

Chris Atkeson (CoC) joined GVU during the summer. His research focuses on machine learning, and uses robotics as a domain in which to explore the behavior of learning algorithms. He has been involved for several years with Gregory Abowd and the Future Computing Environments group.

On leave

Ron Arkin (CoC) is on leave through August 1998. He is spending the year as the STINT Visiting Professor of Autonomous Systems at the Royal Institute of Technology, Centre for Autonomous Systems, in Stockholm. His position is funded by the Swedish Foundation for International Cooperation in Research and Higher Education.

Farewell...

Scott Hudson (CoC) has joined the HCI Institute at Carnegie Mellon University... Kurt Gramoll (AcroEng) accepted a position at the University of Oklahoma as the Hughes Professor of Engineering, where he continues his work in multimedia for engineering education... Postdoc Amnon Shabo (CoC) has returned to Israel for a position at the Institute of Technology in Haifa.

Kudos

Several GVU faculty members received awards at the annual Faculty/Staff Honors luncheon. Gregory Abowd (CoC) received the Georgia Tech Sigma Xi Chapter Junior Faculty Research Award; Nelson Baker (CE) and Mark Guzdial (CoC) received awards for Outstanding Innovative Use of Education Technology.

Dr. Abowd also received the College of Computing “gus” Baird Outstanding Teacher Award at the annual awards ceremony in May.

Norberto Ezquerra was awarded tenure within the College of Computing.

James O’Brien and Gary Boone, PhD students in the CoC, were recipients of the 1997-98 Intel Fellowships. This is the second year in a row that Intel has awarded two fellowships to GVU students. James and Gary will each receive a 12-month stipend and an Intel microprocessor-based computer system.

Victoria Spaulding-Johnson (PhD student, Psych) was awarded an AT&T Laboratories Fellowship in 1997. She also worked in their Human Factors and User Interface Design group this summer.

Former GVU director Jim Foley received the Steven Anson Coons Award for Outstanding Creative Contributions to Computer Graphics at the annual Siggraph Conference in August for his strong and sustained leadership in computer graphics education and research, and for his dedication to the profession. This award is presented only in odd-numbered years, and is accompanied by an honorarium.
Eileen Kraemer (PhD, CS, '95) was recently appointed director of the Computer Visualization Laboratory at Washington University’s School of Engineering and Applied Science in St. Louis. She is involved in two research projects that recently received NSF funding: Query-Based Visualization, which permits users to explore and learn about the workings of a distributed computation in a purely graphical and interactive manner (i.e., without looking at the code), and Network Monitoring, Visualization, and Control (NMVC), a prototype system for a highly scalable NMVC system that will allow network administrators to calibrate and fine-tune network and application parameters in real-time, with the goal of ensuring quality of service (QoS) to network users while maintaining high network resource utilization.

Ray Johnson (MS, CS, '92) has been with Sun for about 2 1/2 years, working on porting the Tcl/Tk scripting language to the Macintosh. That project is wrapping up as Tcl/Tk 8.0, which is about to go beta, will be fully cross-platform on UNIX, Macintosh, and Windows. Ray is moving onto a new project, managing a group that will be creating an integrated development environment (IDE) for Tcl/Tk. The environment will include a debugger, a graphical user interface builder, a project manager, etc.

Drew Kessler (PhD, CS, '97) has accepted a position as Lecturer in the Computer and Information Science Department at the University of Pennsylvania. He has also joined the Center for Human Modeling and Simulation at Penn.

Hamish Caldwell (MS, CS, '97) is working with the BellSouth Exploratory Development group where he helps design and develop the applications and services that BellSouth will make available to consumers in the next 3-5 years.

Erika Rogers (PhD, CS, '92) will leave Clark Atlanta University to become an Associate Professor in the Computer Science Department at California Polytechnic Institute in San Luis Obispo in January. She will be teaching AI and HCl courses and continuing her research into visual cognition and intelligent agents for assisting visual problem solving, and also doing work in educational technologies. Her new email address will be erogers@phoenix.calpoly.edu and URL: http://www.csc.calpoly.edu/~erogers

Ben Watson (PhD, CS, '97) has accepted a position as an Assistant Professor at the University of Alberta in Edmonton, Canada.

Mike Pinkerton (MS, CS, '97) recently completed the first Master’s thesis from the FCE group: “Ubiquitous Computing: Extending Access to Mobile Data.” He is now employed at Netscape. For more information on the system Mike developed, Llamashare, see www.cc.gatech.edu/fce/llamashare.

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Send inquiries to:
GVU Center
Georgia Institute of Technology
Atlanta, GA 30332-0280

404-894-4468
404-894-0673 (FAX)
gvu-info@cc.gatech.edu

To learn more about GVU via the World Wide Web:
www.cc.gatech.edu/gvu/