Computing senior design project aims to ‘Cut Out Hunger’ while reducing grocery bills

Elizabeth Campbell
Institute Communications and Public Affairs

Students in Georgia Tech’s College of Computing have figured out a way for their programming knowledge to help feed the hungry. They collaborated on a project that helped a local non-profit, Cut Out Hunger, dramatically improve its Web site with new, more effective and convenient features so cost-conscious grocery shoppers can save money and donate food to charity.

For their senior-level computer design course, computer science majors at Georgia Tech are required to complete a significant team computer project for their degree. Some students pick a project of personal interest, working for a campus organization they are a member of. Others select a project for an off-campus client. One group of students — Karl Zipperer, Max Blinder, Daag Alemayehu and Rick Arnett — chose the Cut Out Hunger project.

“The most appealing aspect of this project was the fact it’s for a good cause,” says Zipperer, a recent computer science graduate. “To me, it was a lot more motivating to know the system I was designing might help put food on some family’s table than to be writing a new system for an insurance firm.”

“I enjoyed applying the principles I’d learned in my psychology and human-computer interaction classes to this project to make the software useable,” says Blinder, a graduating senior in computer science.

The project teams usually consist of four students who spend up to 1,000 hours working on the project over the 15-week semester. Many students include this capstone project in their portfolio, so they tend to seek challenging projects.

Stephanie Nelson, the founder of Cut Out Hunger, approached Georgia Tech because she knew her Web site was inefficient and using old

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New steam whistle is a blast from the past

Lea McLees
Georgia Tech Research Institute

Georgia Tech without the hourly voice of the whistle would be akin to a class roll without George F. Burtell, a less feisty Buzz, or a campus without Junior’s.

Tech Power Plant Superintendent Harold Cash knows that, which is why he became concerned toward the end of 2002 when the bell of the current industrial steam whistle cracked at a football game. He used his last spare part to fix the existing whistle.

“We didn’t have any spare parts left, and we also go through periods when people ‘borrow’ the whistle,” Cash said. “If they had borrowed the whistle at that point, we’d be in a fix.”

So Cash became a man with a mission, one he fulfilled during Spring 2003 — to get Georgia Tech an appropriate, back-up, industrial steam whistle. This was not an easy task. Most companies that make steam whistles have gone out of business, and the ones that are still around may charge $10,000 per device, Cash said.

Then one day while taking a management class at the Alumni House, he glimpsed a battered but authentic Georgia Tech whistle from the 1900s on display.

“I thought, ‘You know, that is as close to the original Tech whistle as you can get,’” he recalled. “We don’t want to change the tradition or the sound or anything — we want to have a whistle people are used to.”

He asked Dennis Brown, manager of the Georgia Tech Research Institute (GTRI) Machine Services Department, to create the whistle for him. Brown’s shops have designed, fabricated, built or modified parts for everything from a special antenna for the airclock on the International Space Station to parts for the Olympic torches made for the 1996 Centennial Olympic Games. The shop also creates research and functional items for students, faculty and staff on campus to use in research or on the job, as well as for those at other schools around the state.

“Dennis and his group have manufactured many replacement parts for us,” Cash said. “The last renovation of Georgia Tech’s steam plant was in 1952. A lot of the equipment we need for repairs is no longer made, or the companies have gone out of business.”

The designers and machinists in GTRI Machine Services measured and fabricated in GTRI Machine Services Department. With replacements rare and expensive, staff copied the design of one of the whistles the Institute used in the early 1900s.

Whistle continued, page 2
New HR system gives employees greater access to personal data

The HR upgrade creates a Web-enabled architecture for Tech’s business operations. For employees, it means improved access to:

- Personal information, such as name, address, phone number, e-mail and emergency contacts;
- Benefits information, such as earnings, direct deposits and tax withholdings; and
- Payroll and Compensation information, such as insurance, retirement and savings options.

publicly available computers on campus to view and update their information.

Initially, system access will be restricted to campus computers. The Office of Information Technology is implementing a number of initiatives to help safeguard and ensure the security of employee information. Once these strategies have been successfully put into practice, it is anticipated that employees will also be able to access the system off campus.

The HR System Upgrade team,

located at 811 Marietta Street, is responsible for the design and implementation of this system. The team is comprised of employees from several departments, principally the Office of Information Technology (OIT) and the Office of Human Resources (OHR), with leadership from the PeopleSoft Management Group. The project directors are Jim O’Connor, OIT Operations & Engineering executive director, and Ceci Duwall, OHR Information Services director.

Presentations, demonstrations and other opportunities to learn about the new system will be offered over the next few months. Information about Employee Self-Service is currently provided on the PeopleSoft HR Upgrade Info Web site, accessible from the Georgia Tech Administrative Service Center, GTASC. If you have any questions or comments about this new system, e-mail kara.tillman@success.gatech.edu.

For more information...

GTASC
www.gtasc.gatech.edu
System 2000 Upgrade
www.trainsweb.gatech.edu/HR/Upgrade/1200info/120Center.htm

WWW.WHISTLE.GATECH.EDU

Whistle, cont'd from page 1

photographed the whistle on display in the Alumni House. Because the bell of the whistle is missing, they also studied photos and patterns of whistles from that era in an effort to recreate the part.

"In the past, the chambers of whistles were cast from molten metal. The newer ones are welded construction and a lot of them would crack from the stress of the sound vibration," Brown said. "We designed this one from two bars of solid brass. Using solid billets reduced the need for weld joints, so the whistle is less likely to crack. Plus, we wanted to be as traditional as possible with the whistle we were building."

The machinists in the shop used computer numerically controlled (CNC) lathes and mills and a new four-axis, computer-controlled wire electrical discharge machine (EDM) to create the whistle. They also treated the surface of the whistle chemically to slow oxidation and tarnishing.

Brown said his whole team was proud to be part of the project. "We enjoyed doing this, especially because we were able to add to Georgia Tech’s heritage," he said.

The gleaming new brass whistle is 17 inches tall, 5.5 inches in outside diameter, and weighs about 25 pounds. It cost just more than $9,000. With the research and design complete, future versions will be even less expensive.

The new industrial steam whistle has three chambers, compared to the one-chamber whistle the Tech community hears now. However, it is, without question, more traditional.

The new whistle is being installed this month — and Tech will then be back on track with a blast from the past.
technology, but didn’t know what needed to be done. Nelson realized there are thousands of store and manufacturer coupons that never get used and that these unused coupons and in-store specials could be used to fill community food banks and soup kitchens. A free service, Cut Out Hunger is a volunteer effort that provides a Web site listing the best deals at grocery stores in 10 nationwide markets, matching sales with grocery coupons available in the newspaper. Her idea was that since in-store specials make some products practically free, even if the item isn’t something one’s own family uses, buy it anyway and donate it to a food bank.

“We push our students to find a project that’s interesting technically but also has real world impact,” says John Stasko, associate professor in the College of Computing and faculty adviser for the team. Nelson says the new Web site and database system designed and built by the students has reduced her data-entry time from 15 hours per week for just the Atlanta market to 5 hours per week for 10 markets. The estimated savings for those using the Cut Out Hunger site is $200 a month per family. With 10,000 current users, it amounts to $24 million each year, according to Nelson.

“I am deeply grateful to Georgia Tech and these students for their creativity, their many hours of work, and their determination to improve the functionality of this Web site. Their contribution is worth thousands of dollars, and it will help retain more long-term Web site users. As a result, more people will save money and donate food to feed the hungry,” says Nelson.

For more information...
Cut Out Hunger
www.cutouthunger.org

Last meal

Students, faculty and administrators gathered last week for one last meal before final exams. Above, Billiee Pendleton-Parker, assistant director of the Center for the Enhancement of Teaching and Learning, chats with industrial engineering undergraduate Paul Supawanich.

The midnight breakfast has proved to be popular with the student body, as hundreds turn out to fill up before a late-night cram session. The event is made possible by a Student Life Fund allocation and sponsored by the Student Center Programs Council, Student Government Association, Office of Student Affairs and Dining Services.

Kolodner, Wang named newest Regents’ Professors

College of Computing Professor Janet Kolodner and Materials Science and Engineering Professor Z.L. Wang have been named Regents’ Professors effective July 1. Faculty who are promoted to the rank of Regents’ Professor are recognized on the Tech campus as intellectual and educational leaders of the highest order.

Kolodner’s research addresses issues in learning, memory and problem solving, both in computers and in people. Kolodner was the founding director of Georgia Tech’s EduTech Institute, whose mission is to use knowledge about cognition to inform the design of educational technology and learning environments.

Wang is the director of two interdisciplinary centers: the Center for Nanoscience and Nanotechnology and the Electron Microscopy Center. His research centers around the design and synthesis of new nanoscale materials and systems.

Tech is allowed to nominate two individuals per year for appointment as Regents’ Professors. They hold the distinction of professor and are nominated by their colleges based on excellence in research and teaching and contributions to their profession over a period of time. A committee made up of Regents’ Professors and other chaired professors representing the six colleges considers the nominations and makes a recommendation to the provost.

GT lacrosse earns berth in national championship tourney

The Georgia Tech Men’s Lacrosse team is headed to the U.S. Lacrosse Intercollegiate Associates National Championship Tournament for the first time in the team’s history. The team advanced by beating Tennessee, Florida and top-seeded Florida State to win the Southeastern Lacrosse Conference Championship (SELC) held at Tech last month. According to Head Coach Ken Lovic, the win makes them the lowest seed ever to win the SELC tournament. The national championship tournament runs from May 11-15 in St. Louis.

Tech Beautification Day

If you’ve noticed how good the campus looks lately, it’s probably due in part to a contingent of nearly 500 volunteers who spent a Saturday morning last month participating in Tech Beautification Day.

The event, which was held in conjunction with National Youth Service Day, is in its fourth year and is organized and managed by students. Facilities supplied flowers, pine straw and supplies for painting benches and covering graffiti. For more about the event, visit cyberbuzz.gatech.edu/tbd.

WWW.WHISTLE.GATECH.EDU

IN BRIEF:

Road honors late professor

A section of state Route 120 has been renamed to honor the late Georgia Tech professor and Fulton County Commissioner, Robert Fulton.

The mechanical engineering professor joined Tech in 1985 and was serving his third term as commissioner for Fulton County District 3 when he died in February. The Bob Fulton Memorial Highway runs between Old Milton Parkway and Parson Road.

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**Classifieds**

**Appliances**  
Kopper large capacity electric clothes dryer, beige color, new, heating element, excellent condition, asking $150. Call 404-379-9730 or e-mail juststrong@excite.com.

**Auctions**  
1996 Honda Accord LX. Great condition, 4DR, automatic a/c, cassette, power everything. One owner, dealer maintenance, 116K miles, $5,200. E-mail kelley.hundt@edi.gatech.edu.

**Brown Bags/Conferences/Lectures**  
May 11-12  
The Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities (Wireless RERC) is hosting its international conference on the State of Mobile Wireless Technology for Persons with Disabilities. The conference will be held at the GCATT building and is jointy sponsored by The National Institute on Disability and Rehabilitation Research (NIDRR), the Federal Communications Commission (FCC), and the National Center for Dissemination of Disability Research. For more information, visit www.wirelessrec.gatech.edu.

**Faculty/Staff Development**  
May 6  
The Office of Organizational Development sponsors a one-day seminar on “Polishing Your Presentation Skills,” beginning at 8:30 a.m. in room 308, Savant Building. To register, visit www.trainsweb.gatech.edu/mastcal.

May 12  
The Office of Organizational Development hosts a free brown bag called “Fish!” on how to bring more energy and passion to your work place, at 11:30 a.m. in room 308, Savant Building. To register, visit www.trainsweb.gatech.edu/mastcal.

May 27  
The Office of Sponsored Programs hosts a workshop on “Writing an NSF CAREER Proposal,” from 9 a.m. - noon at the Research Administration Building. To register, e-mail nadia.zitman@osp.gatech.edu or call 894-6944.

**Miscellaneous**  
May 8-9  
The Campus Recreation Center is closed.

May 10  
Summer semester classes begin.

May 14  
A Fidelity representative will be on campus conducting confidential consultations concerning planning for retirement. To arrange a meeting, call 800-642-7131.

May 31  
Campus closed in observance of Memorial Day.

**Ongoing**  
Techmasters — Tech’s chapter of Toastmasters International for faculty, staff, students, alumni and spouses — meets every Thursday at 7:30 a.m. in room 102, MRC. For more information, visit www.techmasters.gatech.edu or e-mail terry.nolan@business.gatech.edu.

**Appliances**  
Moving sale: oak living room furniture w/lamps, $400; oak dining room table w/chairs, $100; bookshelves, $100; beveled glass breakfast table w/chairs, $300; cherry bedroom suite, queen size, perfect condition, $2,500. Solid oak futon frame with futon mattress. Converts from couch to double-size bed. $75. Call 404-329-0630.

**Real Estate/Roommates**  

3BR/2BA home in historic Berkeley Park. Minutes from Midtown and Tech. Washer, dryer, dishwasher, hardwood floors. $2,575 or e-mail david.gilford@gatech.edu.

3BR/1.5BA condo for sale in Marietta, large bedrooms, nice patio, $78,000. Off Hwy. 41, close to 1-75, Cumberland Mall, 20 minutes to GT. 5 minutes to Life College. Quiet community w/ pool, good schools. Call Beverly, 678-581-9701.

1BR/1BA in Midtown, 1 mile from campus. Sunny, spacious, quiet neighborhood near park. Washer/dryer, dishwasher, fireplace, balcony, huge closets, parking, gated community. $925/month, available immediately. Call 870-9165 or e-mail michele.gordon@oe.gatech.edu.

Vacation rental in Grayton Beach, Florida. 3BR/2BA, w/2 porches available weekly or nightly. On Gulf Coast between Panama City and Destin. E-mail lodgestay@mindspring.com or call 404-656-5146.


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