ITS Information & Technology Services news

The official source of news from ITS Information & Technology Services

May 2003

Emerging Technologies:

By Michelle Cometa, Office of the CIO, macits@rit.edu

> *"Success in a world of accelerating change requires a culture that values change and can move quickly from one opportunity to another."*
>
> Jorge Lopez, Gartner G2, "Strategy of Acceleration: Time to Change Culture and Architecture," July 2003

In several ITS News issues we have reprinted articles from News & Events, circa 1983 to contrast technology usage then with technology usage now. Twenty years hardly seems so long ago, but in technology years, it seems innovation moves at the speed of light. Each year there are new technology designs and within the next year, there are new editions to the designs.

Our final issue of ITS News has two features – emerging technologies and student employees. It may seem an odd combination. But think about it – the newest technologies for the newest users. And an even more interesting point, often the emerging technologies are developed by these same students!

For example, in this issue, we showcase a group of senior software engineering students who worked this quarter to develop a new application for the portal. Their application, RSS News Generator, allows faculty and staff to post timely information by a more accessible means. **They took on a project and developed an important resource**. Our students have skills we have only just begun to tap.

ITS is developing its newest strategic plan, exploring new and emerging technologies that could eventually be incorporated on campus for both academic and business use. With the vast array of technology in the marketplace, we believe it is our responsibility to explore technology options that could enhance teaching and learning, improve business processes and increase productivity for students, faculty, and staff. We look for innovative applications that can be easily incorporated into existing infrastructure, scalable to grow as the community of RIT grows and accessible for all.

ITS is exploring how the following technologies might improve teaching and learning as well as provide better access through technology: e-portfolios, virtual labs, videoconferencing, streaming video and authentication. We are working through the summer and into the next academic year on these and other technology resources updating RIT on developments in upcoming issues of ITS News. From wireless technology to broadband applications, we look to both RIT and industry to find the best applications to serve our students, faculty, and staff.

R·I·T

News Server *NNTP UseNet* Discontinued

Dave Pecora, Operations Manager, dlpits@rit.edu

For a number of years, ITS has provided a news server on the RIT campus, called NNTP UseNet. With the proliferation of the Internet this service is now rarely utilized, but continues to consume very large amounts of bandwidth on the RIT network. While there are some legitimate uses for the services, the UseNet network is now primarily used to distribute binary information, including the distribution of illegal software (warez) and pornography.

Due to low customer demand, the news server has not been upgraded or enhanced in any way for a number of years. This includes disk space, which, due to traffic, means that the articles that we receive do not stay in the spool very long before they are forced out by new articles.

For these reasons, and because text news groups can be found at a number of free web sites (including http://groups.google.com), ITS is no longer providing this service. For questions, please contact the ITS HelpDesk at 5-4357 (5-HELP), the TTY line at 5-2810, or send an email to helpdesk@rit.edu.

[*This message was first submitted on ritstaff; it is repeated for users who no longer subscribe to the ritstaff mail list.]*

In This Issue

ITS News: What Would You Like to Read About Next?

Enclosed is a customer survey insert about ITS News. Please take a moment and fill out the questions about this past year's issues as well as what you would like to read and learn about for the next season of ITS News production. The survey is brief and can be returned through interoffice mail or by fax to: Michelle Cometa, Eastman Building, Room 3300 or 5-7830 (fax).

SUMMER IS ALMOST HERE...

Disable Call Answer on *RIT Messenger* for Summer Months Until You Return to Campus

Many of you will be taking vacation. Please remember to change your *RIT Messenger* System mailbox greeting to reflect your availability. Messages are retained in your mailbox for 10 days. You may want to consider Call Answer Disable if you are going to be away from your office and will be unable to check your messages. Please call Telecommunications Services at 5-5800 with any questions.

Student Team Enhances News Capabilities of Portal

By Phil Light, RSS News Generator Project Team, phil_light@hotmail.com

As the *my*RIT portal becomes an increasingly important resource for the RIT community, academic departments have more desire to post news to it. Helping them to do so is a team of Software Engineering seniors, called the Even Stevens. They are building a tool that will be used by departments to create news and display it in the portal. The tool, called the RSS News Generator, or RNG, will be available as part of the portal itself, and will be completed by the end of this academic quarter.

The Even Stevens are Becky Vanderhoff, Madura Mahenthiran, Carol Coon, Lars Avery, Chris Mamorella, and are led by Phil Light, all seniors in the Software Engineering (SE) program.

"It's great working with a team entirely comprised of seniors. Every time a new technical need arises, we've got someone there to fill the gap," Light said. The RSS News Generator is being built as the team's senior project, a six-month capstone project that applies many of the techniques and procedures taught in the software engineering program.

Although the project is team-managed from start-to-finish, it is monitored by two faculty advisors. Tom Reichlmayr and Jim Vallino are the SE professors who are overseeing the progress made by the team.

"This is a tremendous opportunity for our students to experience the entire software project life-cycle with an actual customer," said Professor Reichlmayr. "The project is especially noteworthy for our department because the team was able to work on-campus with ITS in adding value to RIT's on-line community."

The RSS News Generator is being built as a series of Java server pages, and makes use of an Oracle database to provide back-end support and user authentication. Login to the system relies on LDAP, which enables the RNG to use existing RIT computer accounts (DCE) as its own user accounts.

Basic functionality of the RNG will allow department staff members to post news items or articles to the *my*RIT portal; the news items may be written on either the tool itself or with a full-strength HTML generation application, such as Microsoft Frontpage. Each department will have at least one administrator who controls the news feed as well.

The final version of the RNG will begin to rollout on May 5. It will be fully functional and available by the end of the academic year.

Software Engineering Students: The Right Opportunity, the Right People at the Right Time

ITS CIO and directors meet on a continual basis with divisions and colleges to discuss their technology challenges and opportunities. Within these meetings, many topics come up about projects that can be of mutual benefit. This student project was one of those occasions.

Dave Hostetter, director of Customer Support Services, saw an opportunity to work with students on a project specifically targeted at the portal. Kristi Davis, also of CSS, submitted a proposal and as things happen sometimes, opportunity and need collide. Jim Vallino, of the Software Engineering Department, had contacted Kristi about getting news in the portal from his department. Since ITS didn't have a tool that made it easy for anyone, Kristi proposed this to the students. The students liked the idea and selected it as their senior project.

Bandwidth Usage at RIT:

File Sharing and Copyright Challenges Could Put Some Users at Risk

By Dave Bradstreet, ResNet Supervisor, dmbdss@rit.edu

Over the last several years a number of peer-to-peer applications have been developed that allow users to participate in a file sharing "community." These programs allow users to search the network for files that may interest them, and to bring those files to their own computers. This downloading generally is not a problem for the Institute, although it puts users at risk personally if they are found to possess copyrighted materials they have not obtained legally.

Most of these programs also automatically share files from the user's disk to other users worldwide if the user does not take specific actions to prevent this. The traffic such sharing generates can easily cause problems for other users at RIT, thus violating the RIT Code of Conduct for Computer and Network Use http://www.rit.edu/computerconduct.

Potentially more serious, sharing copyrighted materials without a license can subject the user and the Institute to legal sanctions. Because most file-sharing programs are installed with worldwide sharing turned on by default, it is very easy for users of such programs to find themselves in serious trouble with the Institute and with copyright holders. RIT ***will not*** protect individuals who distribute copyrighted material without an appropriate license. Federal law requires that the Institute take action when notified that someone on its network is distributing copyrighted materials.

If you are using one of these applications and are on the university's network (including its modem pool), you should consider removing it from your system. If you choose not to remove the application, you should **IMMEDIATELY** ensure that your system is set to prevent the application from acting as a provider of unlicensed materials to other users.

Failure to restrict the application in this way, whether you are aware of the violation or not, may result in your computer being removed from the network until the copyright violation is rectified. It may also cause a report to be sent to Campus Safety and Student Conduct & Mediation Services, as part of a disciplinary action within the Institute. Additionally, legal action may be taken against you by the holder of the copyright for the material that was found on your system. This can be up to $30,000 per copyright-protected item.

The Resnet Office has compiled directions for disabling file sharing in many of these applications:

http://resnet.rit.edu

Plan Ahead for Submitting Telecommunications Service Requests for Summer

By Char Ipacs, Telecommunications Analyst, ccippt@rit.edu

With the summer months quickly approaching, Telecommunications Services experiences an increase in the number of Service Requests (SR) from customers. There are many construction projects and personnel moves that occur in the summer. Due to this increased activity, please allow extra processing time for Service Requests during the busy summer months.

Telecommunications Services encourages everyone to plan ahead. Fill out an SR form as early in your construction or renovation process and be as complete as possible. (This includes current jack information as well as information about jacks in your new site, if known. In addition, contact and account information should be included on the SR form.)

The Service Request form may be found on the following RIT Web site address:
http://www.rit.edu/services/tele/service_request.html

For additional assistance you may also contact the Telecommunications office Monday – Friday (between the hours of) 8:30 AM – 4:30 PM at 5-5800.

Thank you for your understanding and cooperation

Student Employees Support ITS Technology and Customers

by Fran Versace, Manager, ITS Student Employment Program, fcvhelp@rit.edu

ITS employs nearly 250 student workers throughout the academic year in our different office areas and departments. On any given day, these student employees can answer HelpDesk calls, work with students, faculty, and staff in labs in the different colleges or meet and train people in their offices as Mobile Learning Assistants. In addition to student employees, we have co-op students who spend several quarters with ITS working on special technology projects and support efforts.

In many respects, all student employees conduct themselves as our full time staff do – as IT professionals. We appreciate our student employees' talents and the support they provide across RIT to ensure that students, faculty, and staff can use technology effectively.

Over the next few pages is a list of all our student employees and co-ops. We salute them and the wonderful work they've done for ITS and RIT this academic year!

Parag Agarwal
Anuj Aggarwal
Travis Ah King
Milli Ahluwalia
Syed Ali
Eric Alquire
Tahir Attari
Naresh Avasarala
Will Ave
Adam Backstrom
Shibaditya Bagchi
Rishi Bajaj
Aaron Banff
Shweta Bansal
Eric Barner
Manjeet Bathe
Gopal Batra
Ron Bauerle
Pratik Bavishi
Danita Becker
Lauren Bedugnis
Peter Bella
Jeremy Beyette
Mittal Bhatt
Pratima Bijjala
Akhila Bodduluri
Carlton Bonney
Timothy Book
Chris Bopp
Francis Bourdon
Anna Bowne
Scott Brattlie
Joan Bresil
Richard Brown
Stephanie Brown
Laxmikant Budhkar
Shane Bushey
Stephen Byrne
Virgilio Cabrera
Dave Cai
Elsi Caldeira-Mendes
Marvin Carlisle
Neil Carvalho
Jacob Cebula
Ronia Chaar
Grant Chang
Chaipron Chanlimcharoen
Aharon Charnov
Ritesh Chaudhary
Chin-Yu Chen
Honghau Chen
Suryanand Chintalapudi
Nicole Chorney
Neeraj Choudhary
Papia Choudhury
Julie Christopher
Michael Clervi
Douglas Cole
Paul Cooper
Heidi Coots
Brigitte Cornwell
Larry Courtney
Travis Crawford
Stephen Crim
Beth Culver
Daniel D'Alessandro
Justin Davis
Patrick Dempsey
Gautum Desai
Rita Desarkar
Jayant Deshpande
Richard DeTommaso
Andrew DiSalvo
Reema Divatia
Phu Do
Thy N Do
Bryan Dumais
Kim Edwards
Daniel Eldridge
Jeff Engel
James Ferrier
Greg Firestone
Kevin Foster
Chris Fradenberg
Ryan Fraser
Lei Fu
Broc Gailit
Minali Gala
Brian Gallagher
Mitul Gandhi
Rizal Gandhi
Matthew Gauch
John Georges
Emily Getman
Manav Ghildiyal
Nancy Goenawan
Michael Goffin
Natesha Greaves
Marc Gudell
Mili Gupta
Neha Gupta
Nupur Gupta
Collin Hames
Ashish Haralalka
Andre Hardy
Michael Heel
William Heinbockel
Jon Heise
Jennifer Herman
Theresa Hesley
Jason Hills
Isaac Holze
Rohit Hooda
Wei-Mein Hsu
Eugenia Huang
Ethan Hurley
Miranda Johnson
Tim Johnson
Parag Joshi
Shreya Kadu
Philip Kalmes
Sergey Katsev
Sean Keeton
Emily Kent

continued on page 6

ITS Student Employees

continued from previous page

Matthew Kent
Hardeep Kharbanda
Nandita Khera
Kevin Kilcher
Jenna Kimble
Albert Koch
Theresa Kochmanski
Johnathan Kohles
Silas Korb
Regina Koshy
Arina Kotlyarskaya
Raun Krisch
Bill Kuker
Poornuma Kuppa
Michael Kurdziel
Sukhmani Lakhat
Leigh Lambert
Fitzroy Lawrence
Tim Lebo
Herman Lee
Jason Lee
Sonja Lengel
Wai Leung
Jacqueline Licht
Jeffrey Lichtfuss
Simien Lin
Huntz Liu
Doug Llardo
Luke Macken
Greg Madore
Yatish Mamniya
Nick Mancuso
Lindsey Manley
Sid Martin
Jennifer Martorana
Carter May

Julie McCaughey
Seth McCaughey
Ian McCown
Keith McCullough
John McGovern
John McNeil
Anuj Mehta
Bhairav Mehta
Siddharth Mehta
Tamika Messam
Bob Miller
Ritesh Modi
Siddharth Mohta
Joshua Morelli
Marcos Mota
Amit Naik
Barry Nardone
Christopher Newton
Khoad Nguyen
Mary Nguyen
Jeremy Nieman
Gautam Nijhawan
Richard Nimh
Mitchell Noel
Matthew Nuzacco
Keisuke Omi
Suruchi Pahwa
Rob Paisley
Max Palmer
Richard Panek
Ayush Pant
Ravi Parekh
Steven Parish
Keya Patel
Siddhartha Patel
Snehal Patel

Timothy Patterson
Farraht Paul
Ted Pearson
Emma Perry
Sampada Peshwe
Justin Peterson
Mark Peterson
Andrew Pickering
Gaurav Poddar
Alan Prescod
Erin Preston
Rebecca Price
Qinghau Pu
Amina Rab
Thomas Radtke-Sweetser
Stephen Rahavy
Alok Rai
Amy Raia
Darshan Rane
Ashish Rathour
Mayank Rathour
Paul Read
Amanda Richardson
Elizabeth Rider
Jonathan Rivera
Jeffrey Robertson
Peter Roman
Kathryn Romano
Lisa Rosenberger
Rachel Sager
Aditya Sanghi
Ritul Sanghvi
Mary Jo Savino
Ryan Schaefer
Ryan Schneider
Michael Schroll

Mike Schulteisz
Chris Schwartz
Sani Seesuchart
Aksh Sehgal
Christopher Seymour
Daniel Sgranfetto
Himanshu Shah
Kajal Shah
Mitul Shah
Tapan Shah
Ajay Sharma
Pragati Sharma
Suchit Sharma
Shardul Sheth
Eric Shutka
Sean Sicher
Tariq Siddiqi
Bigyan Sijapati
Sean Sims
Chandanjeet Singh
Daljit Singh
Gregory Skinner
Kim Slawson
Alexis Smirnow
Jeremy Smith
Kyle Smith
Reina Smith
Alisa Solovey
Jin Song
Peter Stockham
Pamela Stomel
Felton Strickland
Mike Strobert
John Sullivan
Farzana Sultan
Joe Sunday

ITS Student Employees

continued from previous page

Tiffany Swasta
Michael Szebenyi
Chris Szewczyk
Tejas Tanna
Jason Tavarez
Jignesh Taylor
Brian Teaney
Shawn Thomas
Tiffany Thomas
Kedar Timblo
Abhishek Toshniwal
Thinh Tran
Jennifer Treuting
Amish Trivedi
Alicia Tyrell
Gretchen Vanderlee
Leah Vanwhy
Shashi Varma
Panayiotis Varvarezis
Douglas Vereecke
Anish Vora
Ashley Walker
Aaron Walsman
Yuan Yuan Wang
Michael Weiskopff
Travis Wellman
Tia White
Caitlin Whittington
Ryan Wiedmaier
Ryan Wilcox
Jonah Williams
Patrick Wilson
Mark Woitaszek
Hao Xu
Yi Ning Xue
Emily Yang
Andrew Yanicke
Ding Ye
Benjamin Yonda
Jung Mi Yoo
Fatima Zehra
Sigi Zhang

ITS Welcomes New Employees

In the last several months, ITS added three new staff members to our team.

Denise Lake joins the team as systems administrator to the College of Science. She provides faculty and staff desktop and server support, faculty development lab operations as well as Dean's office technical support.

Pam Stevenson joins the Customer Support Services Team as Senior ERP Programmer, Analyst. She came to ITS in January and supports RIT Financial and Administrative Functions.

Ryan Boyd joins the Customer Support Services Team as Web Architect. He is responsible for upgrading and maintaining the RIT web environment.

Two Student Employees Named Outstanding Scholars for 2003

Congratulations to our student employees, Eric Barner and Julie Christopher who were recently honored as Outstanding Scholars. Eric worked with the Intel Team and Julie worked with Distributed Support Services Team.

RIT Tries to Clarify the Way People do Digital

By Steve Orr, Democrat & Chronicle, sorr@Democrat andChronicle.com

The following article was published January 5, 2003 in the Democrat and Chronicle by technology reporter Steve Orr. The information about RIT's multi-disciplinary program in human-computer interaction studies is timely as we use this issue to discuss emerging technologies and how they are integrated for both educational and business applications. The material is reprinted with permission from the Democrat & Chronicle.

My computer came with software manufactured by Very Large Software Company. I often have multiple applications open at once – say, the VLSC's Web browser plus its word processing, e-mail, spreadsheet and database programs.

The little icons lined up at the bottom of my screen are a variety of colors, to help distinguish one from the other. But the word processing and Web browsing icons are both blue. At least once a day, I hesitate, trying to tell which is which as I flip back and forth between applications.

This bugs me. Why couldn't one icon be red?

Perhaps the VLSC should look to future graduates of Rochester Institute of Technology.

RIT this year started a multi-disciplinary concentration in human-computer interaction studies. It's one of the country's first.

The master's-level concentration combines computer science, graphic design, ergonomics and cognitive psychology to help students learn how to create software and hardware products that are easy to learn and use.

"A program may work, but if it's not presented in the right way so a user knows what to do and how to do it, and it works efficiently and effectively, it's not very useful in the long run," said Evelyn Rozansky, an information technology professor who developed the "HCI" concentration.

Like many fields, the computer industry has taken human-computer interaction principles into account, but not uniformly.

"This is something that has really come into our consciousness over the last 10 years," she said.

The key is grasping the importance of the interface – the part of the product (such as a Windows desktop, or the screen and keypad of a cell phone) with which human users interact.

"You have a lot of developers out there who are not necessarily aware of the impact and effectiveness of an interface," Rozansky said. "A good interface is not something that can be retro-fitted. You can't write a program and…then design the interface. It has to come at the beginning.

"A good interface is not something that can be retro-fitted. You can't write a program and...then design the interface. It has to come at the beginning."

"The human-computer interaction will become even more important as small digital devices and controls become evermore ubiquitous," she said. "Think Internet-linked refrigerators, digitally loaded cars, tiny handheld devices with wireless data and virtual keyboards."

"The challenge is, how do you present the interfaces in a much smaller, compact environment? We're used to these big screens right now. Computing is going to have to change," Rozansky said.

RIT's HCI concentration is one of 15 sub-specialties in the university's information technology master's program. About 25 students have selected the HCI concentration at present, and the number likely will grow.

"There's a lot of work to be done," Rozansky said.

Starting, I hope, with those icons.

Emerging Technology for the Classroom: Virtual ChemLab Impresses with Graphics, Experiments and Explosions

By Michelle Cometa, Assistant to the CIO, macits@rit.edu

"It's not the content, it's the thinking," said guest speaker Professor Brian Woodfield. The Brigham Young University (BYU) professor was at RIT for the April ITS Technology Seminar demonstrating his Virtual ChemLab program, a project he and several BYU peers developed to supplement chemistry course work. His underlying philosophy for the Virtual ChemLab is about presenting material to students in such a way that they develop decision-making skills as well as the ability to analyze information within the curriculum.

In developing the chemistry software, he emphasized that simulations cannot be a replacement for the experience of working hands-on in a chemistry lab.

"Chemistry is a lab science. There IS a place for doing real chemistry work," he said. Yet, he was prompted to develop the software on the premise, "How can you use a computer for teaching and learning?" His response was the development of a series of chemistry labs that focus on the cognitive processes students should be learning in the instructional lab instead of just the step-by-step processes.

The lab series consists of general Inorganic and Organic Chemistry lab experiments. The software program is ingenious for its graphical elements as well as its ability to simulate numerous lab experiments such as titration, quantum mechanics processes and analyses of chemical elements. Additional functions in the database include a student lab book to record experiment information, class management and grading folders for faculty, and a web tool integrated for online access.

The demonstration began in the organic chemistry area and opened to a lab setting complete with experiment tables, the periodic table chart on the wall, a clipboard of the current experiments to be done and a series of virtual products to use for the experiments. A pull down television screen gives students instructions for the experiments as well as provides a help function. "Bottles" of nitrates were emptied into "test tubes," mixed, decanted and centrifuged. The centrifuge, a machine used to separate solids from liquids uses 25K RPMs to force solids to the bottom of test tubes. The process usually takes 10-15 minutes in the lab. Through the software program, the centrifuge process takes several *seconds* to complete.

"It's not hocus pocus we're trying to teach the students," Woodfield said. "We try to teach them the important elements of experiments." He added that the processes being taught are important, yet the ability to think about how to manipulate the various liquids, gases and solids to achieve answers is as important. In some labs, equipment may cost thousands of dollars, and experiments that Nobel Prize-winning chemists performed may be inaccessible for undergraduate students. However, with the simulation in an online medium, the student can view the experiment, approximate using the equipment and then see the outcomes. The focus then would be the student's ability to *analyze why* the elements of the experiment work or do not. "This is a way to simulate outcomes to stimulate thinking."

For logistics, there are more than 75 video sequences of outcomes for experiments; one of Woodfield's math students calculated that there were 10^{16} sequences of mixtures of the chemicals in one of the organic labs. In addition, there are 20 "explosions" and "students like to find them all," he said with a laugh.

After the demonstration, the talk turned to assessment of learning outcomes. Woodfield said that there were more than 1,000 students who have used the Virtual ChemLab series. Of those assessed about its functionality, the software has a high satisfaction level.

In more formal assessments, the BYU team studied personality types of students using the software and presenting test subjects with progressively less structured assignments. Structured learners, they found, did poorer with each successive test and took longer to complete tasks. Their counterparts, creative learners, did progressively better and took less time to complete the series of tasks. With the Virtual ChemLab experiments, designed to be open-ended and less structured, there was a correlation between the success rates of the *type* of learner.

"Who do we cater to?" Woodfield asked. In higher education, the goal is to teach "higher order thinking skills and how to problem solve." He said that while the structured learners might have some difficulty with the openness of the coursework, they *could* be taught the skills necessary to succeed.

continued on page 11

By Tom Dixon, HelpDesk Analyst III, trdhelp@rit.edu

Thanks to all of you who have submitted questions for the column this year. Tom's Tidbits will change the format in the fall to more topic-oriented material. This month's article gives you an idea of what to expect in the fall. I will refrain from the Question and Answer format, and present a different topic each month relating to information a beginning/ intermediate computer user could face. As always, if you have a specific question you would like to see addressed, you can email me at my email address trdhelp@rit.edu. Have a great summer!

Let Search Engines Find the Answers for You

What are Search Engines?
Many people have heard about "Search Engines", but what are they, and what are the benefits? Search engines are an outstanding web resource. Their main purpose in life is to make your life easier! A search engine's power and ability are directly proportional to the number of web pages it indexes. Think of it this way. A search engine is equivalent to a book's index. Now think of the book as the entire Internet! That's a mighty big book!

There is not an authoritative source for every web page on the Internet. That task would be nearly impossible at this point. Some make a pretty good run at the limits though!

My favorite is found at www.google.com. The Google search engine, in my opinion, is probably the most powerful tool on the Internet. At the time this article was written, Google claimed to have indexed 3,083,324,652 web pages!

There are several other engines that do a great job; some even have portals so that you can set up your own home to start each browser session. A great example of this is the "original" search engine, Yahoo (www.yahoo.com). Yahoo has since transformed itself into a wider web tool adding such features as a portal, maps, news and games.

So, you ask, what's so great about being able to index all of those pages? Let me give you some examples. Think of something you would like information about. Let's say the phone number to all the Pizza shops in Modesto, California. Not an easy task is it? Well actually it is! All I need is the Yellow Pages right? I can find that information in three clicks of my mouse. Don't believe me? Try it with me.

Search Engines in Action
First go to www.google.com. In the search bar, type Yellow Pages and click search (click number 1). Google returns matches giving you the best match first. Pretty convenient!

The first link is www.superpages.com. Click on that (click number 2). On the Super Pages web page, type in your information, and click submit (third and final click!). Viola! There are all of the Pizza shops in Modesto, California.

Solutions Close to Home
Here's another good example of why search engines are our friends. Let's say you call the ITS HelpDesk because your computer is giving you some strange error message. Although the HelpDesk staff are familiar with many error messages our customers receive from time-to-time, we don't know everything.

So you tell me that you are getting a *546 error*. I have no idea what that is, so I type it in my Google search and again I get about 100 results in less than a second telling me what that error is and possibly how to fix it. In this case, the first result of my search comes up to a page that tells me that the error *is with synching a Palm device to Outlook Express 4.0*. It goes on to give me the solution to the problem. Now I look smart, the caller is amazed that I am so knowledgeable, and I again get great results from my friend Google!

Try it on your own. Have you lost that recipe for Pineapple Upside-down cake, Google it. Want to find the recommended tire air pressure for your 1978 Chevy Vega? Google it. Search engines are there to make your life easier. Next time you are unsure of something let a search engine find the answer for you.

Virtual ChemLab Impresses with Graphics, Experiments and Explosions

continued from page 9

Prentice-Hall licenses the Virtual ChemLab software. More information about the series can be found at:

http://prenhall.com

At the Keyword Search, type Virtual ChemLab. This will bring up the five titles they have in the series.

Information about Professor Brian Woodfield can be found at:

http://www.chronicle.edu

Or, Professor Woodfield would entertain questions about his virtual labs and can be contacted at EMAIL ADDRESS.

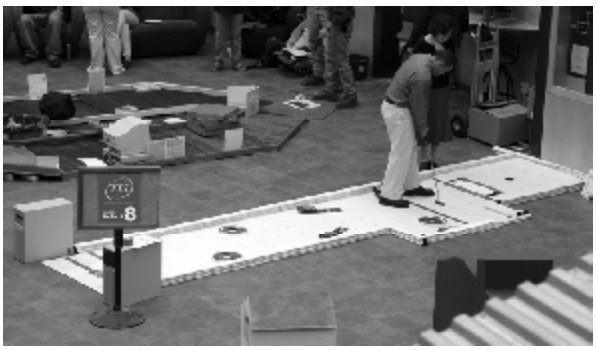
And if there are any doubts about the ability of students to succeed in using the software, you only have to look at part of Woodfield's development team to know that students have the ability to do a great many things. More than 15 of the developers, designers and programmers are graduate or undergraduate students. His core faculty/staff design team consisted of an instructional designer, head programmer, as well as members to assess the materials and design the graphical elements. "We're unique in access to talent," he said. "This is big, but we're still not done with it."

The graphics are designed using Maya 3D, as well as Macromedia Director. The software runs successfully on the Windows series (95-98, XP, NT 4.0) and Mac OS9, OSX. For online interaction, there is also a web interface, although it does not run on a browser (at 450 MB, it's a large program.)

NOTE: ITS does not endorse any one product for the virtual chemistry or other science laboratories. There are other products on the market that can supplement on campus or online coursework in the sciences. This article is about one demonstration that occurred recently; we believed it might be noteworthy in this emerging technology issue.

United Way Golf Event:
Better than Pebble Beach

Members of ITS designed the 8th green at the United Way Golfing Event in the Student Alumni Union in April to add to the many creative holes in the makeshift course. The hole was built with white mouse pads and wrist pads . Comments by those teeing off at the hole, "It was like walking on clouds!" and "It's a fast hole; it's like golfing on ice!"



"It's a fast hole; it's like golfing on ice!"

CIO Diane Barbour tees off on the eighth hole, designed by ITS

ITS Update

New RIT Messenger Subscribers: Training sessions

Voice/TTY messaging training sessions continue this winterfor all new on-campus users. The following is a list of May training sessions available for new faculty and staff.

Date	Voice Mailbox	Dual Language Mailbox*
May 6	2 p.m.	3 p.m.
May 15	10 a.m.	11 a.m.
May 19	10 a.m.	3 p.m.
May 29	2 p.m.	3 p.m.

**Dual language mailboxes can accept voice and TTY messages*

Classes will be held in
building 99, room 1285
Please call Char Ipacs at 5-5858
to register for training.

ITS Contact Information

DSS Computing Labs

Hours, locations, hardware, software, and reservations information available at:
http://www.rit.edu/its/services/computer_labs

Telecommunications Services

Located in the Facilities Mgmt. bldg. (99)
To contact the Telecommunications Services call 475-5800.

ITS HelpDesk

Located in the Gannett building, rm. 7B-1113

To contact the ITS HelpDesk

- Call 475-HELP or 475-2810 (TTY)
- Send e-mail to helpdesk@rit.edu

Regular hours

Sunday	12 p.m.–6 p.m.
Monday–Thursday	8 a.m.–8 p.m.
Friday	8 a.m.–5 p.m.

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