



entials

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ACE Surveys Electronically

The Engineering Faculty Council decided for this fall semester to have all faculty use the electronic ACE EASY system in which students perform their evaluation on the web (unless individuals opt to use the paper ACE system). The ACE EASY system was tested last spring and proved to be easy for the students to use and for the faculty to view the results.

The ACE EASY system includes the same questions as the paper ACE in a slightly different format adopted for web implementation. Faculty can optionally add questions from the UI ACE item pool or the UISG Student Core questions. Only the faculty member teaching the course can review the on-line survey responses of the entire survey. The Dean and DEO will receive an electronic version of responses to questions 4-10, as indicated on the survey.

The on-line ACE surveys are easier for students because they can take the surveys any time within the stated time; this year students have 10 days to take the survey, Friday, 5 December-Sunday, 14 December. If the paper ACE survey is used, students must fill out the forms during class. The EASY program sends the students in each class email with the link to the survey for the class. A reminder email is sent four (4) days before the survey is due.

Students with an engineering account can connect to the survey URL using that login ID and password. Students without an engineering account should use **iowa\HawkID** and password to connect to the survey.

...*"ACE Surveys" continued on page 2*

Home Networking

What's a broadband router? A cable modem? Why do I want one? Why should I have a firewall? If you want to get answers to these questions, see some of the aforementioned devices, and ask questions, then come to one of the two brown-bag lunch sessions CSS will hold to talk about networking at home. The same information will be presented at each session; session contents will differ by the questions you ask.

Thursday, 20 November, 11:30am-12:30pm
and
Monday, 24 November, 12:30-1:30pm

Both sessions in 1258 SC.



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Mozilla 1.5 and Other Improvements



Later this fall, probably at the semester break, CSS will install a new version of Mozilla on the Windows computers on the Engineering Computer Network. This installation will include more than just version 1.5 of Mozilla; Acrobat Reader will be upgraded to version 6; a new version of Java 2 SE will be installed, and several codecs* and media players will be updated or added.

Mozilla 1.5 Improvements

Mozilla 1.5 has improved tabbed browsing, a way to have several sites open in the same window. You can also save a set of tabs as a bookmark. Mozilla 1.5 allows you to block popup ads, images, and cookies on a site-by-site basis. Mozilla Mail includes trainable junk mail filters. Composer has several improvements including better handling of tables and cascading style sheets (CSS).

Media Players and Codecs

New versions of current players and new players and codecs will be included. Below is a partial list of what we intend to install. If you regularly use a player or codec not listed below, please send mail to the webmaster (<mailto:webmaster@css.engineering.uiowa.edu>) with the name of the player/codec. CSS will try to install it.

- Alternatiff (for viewing the patent site)
- Authorware
- Camtasia
- DivX
- Flash
- Indeo
- iTunes
- Quick Time
- Real Player
- Shockwave
- VRML player (Cortona)
- XVid
- Windows Media Player

* a codec **com**presses and **de**compresses data. Camtasia, DivX, and Indeo are examples of codecs.

~ Dan Mentzer

...*"ACE Surveys"* continued from page 1

The EASY system sends email to each instructor stating the number of students to whom the survey was sent, along with a web address of a live web report that can be run to tally the number of students who have taken the survey as of that point in time. After grades are due, EASY sends email information to the instructors on how to run the resulting reports.

Read the EASY web site, <http://css.engineering.uiowa.edu/easy>, for information about EASY survey software and <http://css.engineering.uiowa.edu/easy/WhatsNewMain.htm> for information about the specific use for ACE forms.

~Carrie Hogarty

Bash Shell

During the summer of 2003, CSS began creating new Unix accounts with a Bash shell instead of a C Shell. The Bash shell is based on the Bourne shell and incorporates useful features of both the Korn shell and the C shell. It offers functional improvements for programming and interactive use.

The current Bash shell on the HP-UX workstations was delivered with the operating system and does not conform to the standard login and start-up file sequence. For this reason, CSS will build a Bash shell from scratch and install it over the semester break.

You can find an introduction to the Bash shell on our web site at http://css.engineering.uiowa.edu/tools/etudes/bash_shell.html. If the Bash shell is not your default shell and you would like it to be, send email to consultant@engineering.uiowa.edu.

~ Susan Beckett

New Webmail

Just after classes started this fall, CSS made available a new web-based email client called Webmail. It is from the open-source group Horde (www.horde.org). IMP (Internet Messaging Program; <http://www.horde.org/imp/>) is the Webmail client that Engineering and ITS are using. If you have used the new Webmail, you know that it has the same URL as the previous web-based email program:

<http://webmail.engineering.uiowa.edu>

The new Webmail has lots more functionality than the old one and many more options you can set. For example, you can specify what Webmail does with messages you delete, what it does after deleting a message, where to save copies of sent messages, and how often to check for new messages. You can set up filters to automatically move messages to a mailbox or delete them.

In addition to reading and writing email, the new Webmail includes a personal task list and calendar. Note that the calendar is not useable or viewable by other people, so cannot be used for group scheduling.

The new Webmail always runs in secure mode. That means that you don't have to remember to use the secure URL when you are using Webmail outside the Seamans Center.

There are several web pages with information about Webmail (css.engineering.uiowa.edu/email/webmail.html), including a PDF document about Using Webmail (css.engineering.uiowa.edu/tools/etudes/email_using_webmail.pdf). There are some FAQs (css.engineering.uiowa.edu/email/eud_moz_webm.shtml) written in response to questions CSS answered many times when Webmail was launched.

~Diana Harris

??Address Book ??

If you had an address book in the old WebMail and want to use it with the new Webmail, write email to the webmaster (<mailto:webmaster@css.engineering.uiowa.edu>) and request the old address book.

Use SFTP

On 1 October 2003, CSS removed FTP. File transfers must be done with SFTP, secure FTP. Use the same hostname, [ftp.engineering.uiowa.edu](ftp://ftp.engineering.uiowa.edu), but select SFTP as the server type. If you are using WS_FTP to transfer files, see that e-tude (http://css.engineering.uiowa.edu/tools/etudes/ws_ftp.html) for information on setting or editing a site to use SFTP.

Getting the Word Out

The CSS staff participated in the annual Big 10 Engineering IT Centers conference in October. (See the article "Big 10 Engineering IT Conference", page 4.) Taking a cue from a University of Michigan presentation, CSS intends to present informal information sessions from time to time. The first session on home networking is announced on page 1. Everyone is welcome to come and listen and ask questions.

Other sessions will cover:

- * wireless computing
- * all kinds of things about digital music
- * storage – cd, dvd, memory stick, backup
- * USB devices
- * gadgets –memory stick, digital camera...
- * Itanium compilers (see the "CISC to RISC to EPIC "article on page 5)

Suggest other topics. Send email to webmaster@css.engineering.uiowa.edu

~Diana Harris

Software Showcase

As part of the spring research day, CSS will sponsor a software showcase. We expect to have faculty demonstrating their use of software and CSS staff available to answer questions. Look for an announcement from the Dean's Office about this event.

CSS has created Engineering Email Lookup, a set of programs that make it easy to mail to a specific group in the Engineering College. Mailings can be sent to undergrads, grads, TAs and RAs, faculty, staff, and subsets of those entire groups.

How to Use

If you have information for the entire college, both students and faculty/staff—for example, an announcement about Research Day—talk to Wendy Brentner in the Dean's Office. If you want to notify everyone in your department about an event, talk to the departmental secretary, who does (or will) have access to the Engineering Email Lookup program. Mail sent from these lists will come from the College of Engineering or from the department, rather than from the sender.

Categories and Caveats

Here is the menu from which authorized users can select:

- Undergrad Students
- Graduate Students
- Both All Undergrad and All Grad Students
- Voting Faculty
- Professional & Scientific Staff
- Merit Staff
- Student Teaching & Research Assistants
- All Org 15 Faculty & Staff

Students can be selected by department and class; faculty and staff by department. Only the Dean's Office (Wendy) can send mailings to all students; departments can send only to their own students, faculty or staff in the entire college, or subsets of those groups.

Voting Faculty are all faculty (job code FS* or FT*) with primary appointment in the College of Engineering (org 15). If a student's first major is a non-engineering program but has a second major in Engineering, s/he will NOT appear on any Engineering email list. For other details about student majors and what lists they appear on, or the contents of any list, consult with Carrie Hogarty, 384-0812.

Help

To send mail to people in the college or students in your department, talk to your departmental secretary. Faculty and staff do not have access to the Engineering Email Lookup; you must go through your department or the Dean's Office to use this tool. Secretaries should call Carrie Hogarty, 384-0812, 3016 SC, for help.

~ Diana Harris

Big Ten Engineering IT Centers Conference

Three years ago the IT departments of the Big Ten engineering colleges gathered in Madison, Wisconsin, to share ideas and solutions. The conference proved so useful that the group decided to have an annual conference. Last year's conference was held at Michigan State, this year's at Penn State. Three of the CSS staff attended in person and the rest stayed here and participated over an Internet audio-video link.

Dave Funk's presentation covered router IP filters designed to protect users from external probes and attacks. Chris Fomon talked about computer lab design and operation. Matt McLaughlin gave a presentation over the Internet from his office in the Seamans Center on a secure tunneling configuration for Windows.

These conferences have given us ideas for improving our operation. One idea we got from Wisconsin and are working to implement is tethered software, a system to allow remote users access to software on the engineering network. Another idea is hosting informal information sessions on a variety of topics; see "Getting the Word Out" for information about possible session topics, and see the notice on page 1 about our first session on Home Networking.

~Doug Eltoft

CISC to RISC to EPIC

Synopsis: Cool, fast, new Itanium Unix hardware is coming to the computer labs. 8^) Check out the units in Elder lab south and help us tune the environment. Recompile your code with the right compiler options to get significant performance improvements.

No Tears Version

The College has started the migration of our Unix server and desktop equipment to a new hardware architecture that changes fundamentally the way programs run. This new hardware has special instructions that allow the compiler (the program that translates the human-readable programs called source code into machine executable numbers) to analyze computer programs and instruct the computer to execute the code in the best way. The hardware can execute different parts of a program at the same time as long as they do not interfere with each other. This new architecture is called EPIC for Explicitly Parallel Instruction Computing. HP and Intel developed an EPIC processor that Intel is manufacturing called Itanium.

Over the Thanksgiving break we will put three ZX2000 Itanium-based workstations in Elder lab south. The computing environment will function but will not be complete. We encourage you to use them and tell us how to improve the environment. Over the semester break we plan to install 17 more such machines, replacing all the existing Unix workstations in Elder and Hering labs. Existing programs will run on these new computers, but if programs are recompiled properly, they will run faster. Documentation will be available on the new compilers.

Grubby Details



The central processing unit, CPU, is the hardware component that executes the instructions from computer programs. Several factors determine the performance of a CPU. The clock frequency (currently expressed in gigahertz as in 2.4 GHz or 2,500,000,000 steps per second) determines how many discreet steps will be executed per second. The greater the clock frequency, the faster the CPU will run programs. The number of steps required to execute an instruction is a factor. Fewer steps means faster execution. Another factor is the size of the data bus, the computer

word length. Early PCs had a word length of eight Binary digITS or bits. Our current Windows computers have a 32-bit word length, and our current HP Unix computers have a 64-bit word length. The larger a CPU's word length, the more data the CPU can process per clock step. Yet another factor for CPU performance is the number of instructions the CPU can execute at the same time.

Windows-based computers use a CPU based upon a large instruction set where there is a different instruction for each operation. This CPU architecture is called Complicated Instruction Set Computing, CISC. The Intel CPUs like the Pentium series are CISC architecture with a 32-bit word, 2-200 clock steps per instruction, and a current maximum clock frequency around 3 MHz. These CPUs execute only one instruction at a time.

Our HP Unix workstations use a CPU based on an instruction set reduced to a core set that take fewer clock steps per instruction. By eliminating the complicated instructions, the number of steps required per instruction is reduced, allowing the CPU to execute more instructions per second. This type of CPU architecture is called Reduced Instruction Set Computing or RISC. The CPU in the lab Unix workstations has seven clock steps per instruction, a 64-bit word length, and a clock speed of 0.552 GHz. The CPU is also four-way superscalar, meaning it can execute four instructions at the same time.

HP is now selling both servers and workstations with a new HP/Intel CPU, the Itanium Processor Family or IPF. The ZX2000 workstations run at 1 GHz, are 11-way superscalar (11 instructions at the same time), have a 64-bit word length, and an instruction length of eight clock steps. The feature that sets the Itanium EPIC CPU apart, however, is its ability to let the compiler control how the CPU executes instructions. The compiler can optimize the code and instruct the CPU how to do out-of-order execution and predictive branching to improve performance.

With proper use of the compiler, these new computers are very fast. The new Itanium CPUs have an emulator mode to execute native RISC code and the Pentium instruction set. They can run existing applications but recompiled code greatly improves the performance. Enjoy!

~Doug Eltoft

Down Time at Semester Break 2003

During the week of December 29, CSS will upgrade a number of services in order to improve performance and add new functionality. We will upgrade file service, email, web service, DHCP service, local backup services, operating systems, productivity applications, and authentication (the service that handles your login).

Closer to the week of the 29th we will provide a specific schedule for each service. During the upgrade of a particular service, that service may be temporarily unavailable, or you may notice that the service is slow. For example, when we upgrade email, you may have to wait several seconds for a message to be sent or to see your mailbox updated.

The one possible exception to having only temporary interruptions is the upgrade for the

authentication service. Currently we are testing that upgrade procedure. If the tests go as we expect, there will be no break in the authentication service. If the tests reveal any problems, it may be necessary to shut down the authentication service while we upgrade it. Shutting down the authentication service means you could not login to your computer during the upgrade.

Though we do not expect this to be the case, but wanted to inform you of the possibility so that you can plan accordingly. If an hours-long break in service would cause you a major problem (e.g., you have a grant due on December 30), please contact Doug Eltoft immediately, 335-5751, daeltoft@engineering.uiowa.edu

We will post and update information about the upgrades as it becomes available.

Wireless?

Do you have, or want to have, a wireless network at home? There is a new web page discussing how to make your wireless network as secure as possible. Read it at http://css.engineering.uiowa.edu/tools/etudes/wireless_know.html

Essentials is a publication of Computer Systems Support (CSS) in the College of Engineering at the University of Iowa. Essentials is published during the year whenever there is sufficient news to report to the user community. You have permission to reprint all or part of this newsletter for nonprofit purposes if you 1) acknowledge this source, and 2) send a copy of your publication with the reprinted material to: Newsletter Editor, College of Engineering, Computer Systems Support, 1256 SC, University of Iowa, Iowa City, IA 52242.

This issue:

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Jargon Rating: 0-2 ++. No image means there is no jargon and it should be easy to read and understand. Two plus signs mean lots of jargon. One plus falls between. All 2 plus articles include a no jargon summary at the top.

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Hours

Computer Labs — The Hering (1220 SC) and Elder (1231 SC) labs are open 24 hours/day, 7 days/week except for maintenance. With an access card, you can enter the building and the labs after the building closes.

Consulting, 1253 SC — M-Th 8am - 9pm; F 8am - 5pm; Sun 5pm - 9pm

CSS Main Office, 1256 SC — M-F 8am - noon, 1-5pm

Web Sites

This newsletter is published first to the CSS web pages at

<http://css.engineering.uiowa.edu/news/essentials>

The CSS pages are found at

<http://css.engineering.uiowa.edu>

The College of Engineering pages are at

<http://www.engineering.uiowa.edu>

The University of Iowa pages are at

<http://www.uiowa.edu>

CSS mission: to provide a secure and productive computer environment that supports the ability of the College of Engineering to achieve its educational mission.