Benchmarks Online

Volume 4 - Number 8 * August 2001

Feature Articles

Campus Computing News

Kenn Moffitt, Director of University Online Communications, discusses UNT's new Website in this month's column. Also highlighted on this page are some currently open positions in the Computing Center.

Renew PRAS Accounts Now

If you purchased a Premium Remote Access Service subscription for the summer -- or had paid through the summer -- and you want to keep it, you will need to renew it **before** August 23.

SirCam Virus, Others Continue to Plague UNT and the World

In case you haven't noticed, computer viruses of various sorts continue to plague the world. According to the UNT Anti-Virus Website, the "911" alerts this week are for the Code Red Worm and the SirCam Virus. Read all about it.

The SmartForce Server is on Course!

The SmartForce CBT system is now fully functional and, at last, the UNT community again has easy access to comprehensive training for a variety of computer skills.

Lab-of-the-Month

hich lab do you think is featured this month?

Benchmarks Online

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Computer Purchase Information Now Online

Find out about one of the best kept secrets of the last 12 years by reading this article.

ACS Summer News

Important ACS computing information from this summer is re-capped in this article. Also on this page is the announcement for EduTex 2002, including the deadline for proposal submissions.

Migrating Queries from Microsoft Access to an Access Project

Learn all about migrating from Microsoft Access to an Access Project in this informative article.

Today's Cartoon

Click on the title above for an information age laugh.

Don't forget to check out our monthly columns. This month's topics:

- **RSS Matters** -- "An Introduction to the Percentile Bootstrap Using GNU S" Last month Dr. Herrington wrote about robust measures of location, this month he demonstrates the Percentile Bootstrap using the GNU S language, "R".

- **SAS Corner** -- "What's new in SAS 8.2 ? II" SAS 8.2 is finally here! Details inside ...

- **The Network Connection** -- "Only in America... " When technology and greed collide, the result may surprise you.

- **List of the Month** -- "WWW.UNT.EDU" Enough said!

- **WWW@UNT.EDU** -- "How secure are *your* services?" If you're going to take the time to setup Web services from home, take the time to do it right.

- **Short Courses** -- Find out about Academic Computing Services (ACS) short courses here.

- **IRC News** -- Minutes of the Information Resources Council are printed here when they are available. May, June and July Minutes are included this time.

- **Staff Activities** -- New employees, employees that have resigned, employee recognitions, and other staff activities are included in this article.

Research and Statistical Support
University of North Texas

RSS Matters

An Introduction to the Percentile Bootstrap Using GNU S

By Dr. Rich Herrington, Research and Statistical Support Consultant

Last month we looked at robust measures of location, this month we demonstrate the Percentile Bootstrap using the GNU S language, "R". R is a statistical programming environment that is a clone of the S and S-Plus language developed at Lucent Technologies. In the following document we illustrate the use of a GNU Web interface to the R engine on the "rss" server, http://rss.acs.unt.edu/cgi-bin/R/Rprog. This GNU Web interface is a derivative of the "Rcgi" Perl scripts available for download from the CRAN Website, http://www.cran.r-project.org (the main "R" Website).   Scripts can be submitted interactively, edited, and be re-submitted with changed parameters by selecting the hypertext link buttons that appear below the figures. For example, clicking the "Run Program" button below samples 100 random numbers from a normal distribution, then generates a histogram. To view any text output, scroll to the bottom of the browser window. To view the histogram, select the "Display Graphic" link. The script can be edited and resubmitted by changing the script in the form window and then selecting "Run the R Program". Selecting the browser "back page" button will return the reader to this document.

The Bootstrap

Bootstrapping is an approach to statistical inference that makes few assumptions about the underlying probability distribution that describes the data (Efron, 1993). This approach assumes that the empirical cumulative distribution function is a reasonable estimate of the unknown, population cumulative distribution function (or put another way, the empirical density function approximates the population density function). Using the data as an approximation to the population density function, data is re-sampled with replacement from the observed sample to create an empirical sampling distribution for the test statistic under consideration. If we knew the population density function (e.g. normal probability distribution function), we could just sample from this probability density function, as in a Monte Carlo simulation, and generate the sampling distribution to within any degree of precision (or, we could make a normality assumption regarding the

population). Lacking this information then, we assume that the observed data is a good estimate of the population density function. The empirical cumulative distribution function of the observed data is a step function, taking jumps of height 1/n at each of the sample points. As n increases, the function becomes smooth, and looks more like the population cumulative distribution function. As n increase to infinity, the observed cumulative distribution function converges to the population cumulative distribution function. Now, using the observed data sample as a proxy population, we resample with replacement to produce another data set whose length is equal to the length of the original observed data sample. This re-sampling scheme is known as bootstrap re-sampling, and the re-sampled data sets are known as bootstrap samples. In this re-sampling scheme, bootstrap samples may contain duplicate copies of the original data points in the new sample. For example, an observed data set (our proxy population) that consists of the data points: 4,3,5,6,7,2,2,1,7,9 (mean=4.6), could produce the following data with re-sampling (with replacement): 2,4,3,6,1,7,9,5,5,1 (mean=4.3). For each bootstrap sample generated, we would calculate a statistic (e.g. location parameters: mean, median, M-estimator, etc) that is of concern. The empirical distribution of these calculated statistics is referred to as an empirical sampling distribution. This empirical sampling distribution can be used as an approximation to the theoretical population sampling distribution. To calculate scores that correspond the 2.5^{th} and 97.5^{th} confidence intervals, we simply find the scores that correspond to the upper and lower α and (1- α) percentiles of the distribution. For example, for 1000 bootstrap samples of the sample mean, we can calculate confidence intervals by finding the upper and lower 2.5^{th} and 97.5^{th} percentiles using the following approach: round((.05/2)x(1000))=25 for lower percentile; and round((1-(.05/2))x(1000))=975. Moreover, the standard deviation of the bootstrapped test statistics is an approximation of the standard error of the test statistic under consideration. This approach to calculating bootstrap confidence intervals is called the Percentile Bootstrap method (Efron, 1993). The bootstrap distribution, as outlined above is centered around the estimated population value of the test statistic. Other variations of bootstrap re-sampling center the bootstrap distribution around zero, depending on how the null hypothesis is being tested.

Bootstrapping the Difference of M-estimators

Doksum & Sievers (1976) report data on a study designed to assess the effects of ozone on weight gain in rats. The experimental group consisted of 22 seventy-day old rats kept in an ozone environment for 7 days. The control group consisted of 23 rats of the same age, and were kept in an ozone-free environment. Weight gain is measured in grams. The following GNU S code (R code) assigns the data to the vectors x and y and then plots the quantile-quantile plots for the normal distribution for each group. Notice that each group has heavy tails, and do not conform to a normal distribution.

The Algorithm

<u>Step 1:</u> Generate the bootstrap alternative distribution. A) Re-sample with replacement from vector x with replacement to generate a bootstrap sample, x1, with length of original vector x. **B)** Re-sample with replacement from vector y with replacement to generate a bootstrap sample, y1, with length of original vector y. **C)** Calculate measures of location for both bootstrap samples x1 and y1. **D)** Subtract the two measures of location. This is one bootstrap difference, and represents the difference between measures of location under the empirical alternate distribution. This empirical distribution is centered on the population difference under the alternate hypothesis. **<u>Step 2:</u> Calculate the critical scores that correspond to the 2.5th and 97.5th critical alpha regions under the empirical alternate distribution**. The critical scores are the scores that correspond to the 2.5th and 97.5th percentiles of the empirical alternate distribution. We can calculate the percentiles using the following approach: round((.05/2)x(#bootstrap samples)) for lower percentile; and round((1-(.05/2))x(#bootstrap samples)). Next, locate the scores that correspond to those

percentiles. The following GNU S code implements this algorithm:

The 95% confidence interval that is reported represents our best estimate for the lower and upper bounds of the difference in M-estimators for the two groups. This interval captures the true population difference in M-estimators 95% of the time assuming that the null hypothesis is true (no difference between the groups). If this interval contains zero, we fail to reject the null hypothesis of no difference in the population. If the interval doesn't contain zero, we take this as a rejection of no difference in the population. Additionally, the narrower the confidence interval the more precise our estimate is (less error in our estimation).

A Cautionary Note on Computer Intensive Procedures

The Bootstrap re-sampling process is a very computer intensive procedure. Additionally, the iteratively re-weighted least squares algorithm that the M-estimator procedure uses is also computer intensive. Run times for the GNU S code may take a few minutes to run. Allowing the program to finishes before resubmitting will keep the GNU S server from slowing down. In general, having larger numbers of bootstrap samples increases the accuracy of the confidence intervals. However, the cost of increasing the number of bootstrap samples can be substantial.

References

Doksum, K.A. & Sievers, G.L. (1976). Plotting with confidence: graphical comparisons of two populations. Biometrika 63, 421-434.

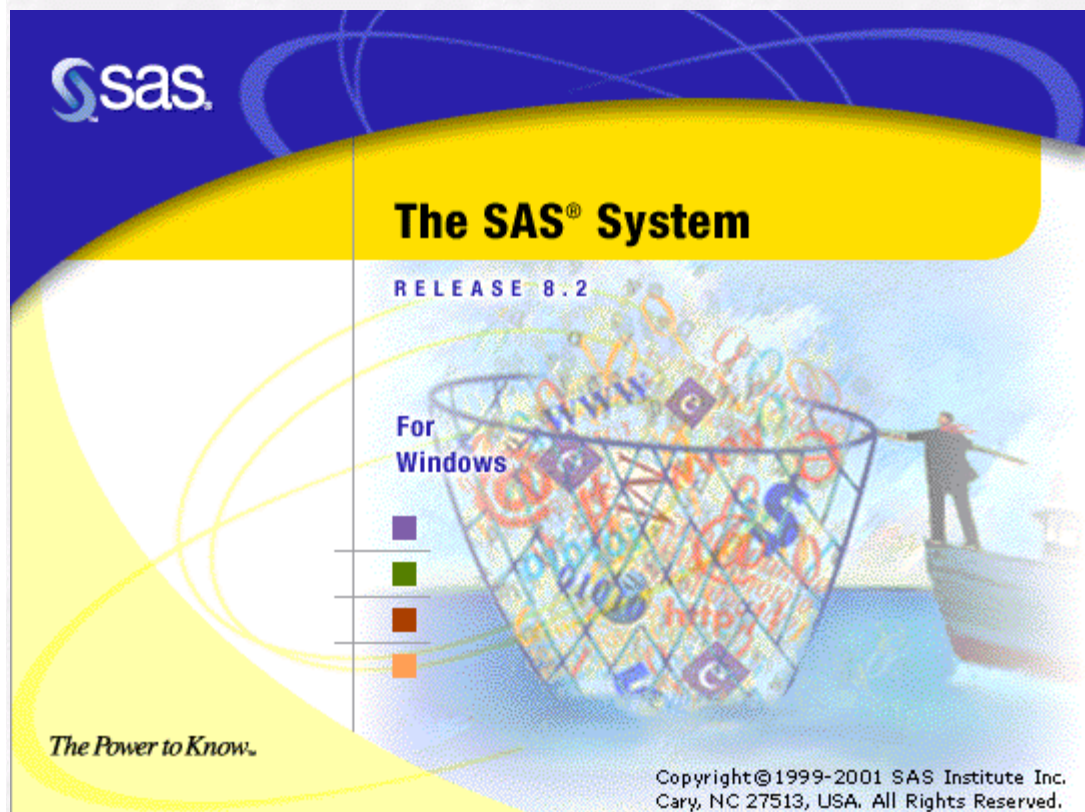Efron, B. (1993). An Introduction to the Bootstrap. New York: Chapman and Hall.

Research and Statistical Support
University of North Texas

SAS Corner

By Dr.Karl Ho, Research and Statistical Support Services Manager

What's new in SAS 8.2 ? II

In a March 2001 *Benchmarks Online* article, I outlined the new features to be introduced in the then upcoming SAS 8.2. Guess what? Now, SAS 8.2 (or official version SAS 8.2 TS2MO) is out. It took me by surprise when I received the nine-CD pack, loaded with software that will take me weeks to evaluate and work out the installations. From the new avant-garde logo, I can only wonder if we will be netting more money or getting dragged down by too much stuff :). That being said, SAS is still the software of choice if you want the versatility and scalability, but don't mind the size.

The package comes with five installation configurations: Personal Use, Client, File Server, Application Server and Terminal Server. For individual researchers like us, we are concerned with the first configuration, and leave the rest for the network managers. In fact, the new setup CD allows more freedom for choice of various installation modes. Three new wizards also guide through the checkup of the

system components and amount of sources installed on the system. Installers however have to make decision on whether to update system components to accommodate the new SAS installation.

The two new features that have drawn my attention are the Cross-Environment Data Access (CEDA) and Email capability via SMTP. CEDA allows directly reading SAS data files created from any directory-based operating environment such as UNIX, OpenVMS or Windows. Despite that, users from other environments such as CMS can still take advantage of this new features by creating the file in a UNIX format Windows users can read the data by downloading the file via ftp (in binary mode) without any file conversion effort or needing to use a specialized data transfer mode SAS/CONNECT.

Another new feature, which was experimental in 8.1, is the built-in email capability in SAS to directly email SAS files and output via a SAS session or program. Using Simple Mail Transfer Protocol (SMTP, Outlook Express mostly in Windows environment), SAS programmers now can set up routine programs to route output unconditionally or conditionally to a list of email recipients. You can also attach files and have conditional messages to different groups of recipients based on the output of each submission.

In the future column articles, I will report more new features in the new SAS 8.2 including a new product that helps "cleanse" raw data. Stay tuned.

P.S. If you are using SAS 8.1, your license will expire on October 31, 2002. Don't panic, SAS has a three month grace period so the actual expiration will be Feb 1, 2002. So, lay back and drive.

Network Connection

By **Dr. Philip Baczewski**, **Associate Director of Academic Computing**

Only in America...

Perhaps this story is familiar to you. A visiting scholar presenting research findings at a conference of scholars and professionals is arrested and held, charged with violating the laws of the country he is visiting. His crime? Apparently, researching and speaking on a subject which is of academic interest and has no legal consequences in most countries around the world.

He is held against his will by the government of that country at the behest of one of that country's powerful organizations. He is prevented from returning to his homeland until a trial is held (presumably to confirm his guilt?).

Unfortunately, this is a too familiar story. Where did this happen? China? Russia? In this case, no. The country of the above story: the United States of America; the complainant organization: Adobe Systems; the crime: violating the Digital Millenium Copyright Act (DCMA). On July 16, 2001, Dmitry Sklyarov, a Ph.D. student researching electronic security at a Moscow University, was arrested by the FBI while preparing for his return to Russia.

He was in Las Vegas to give a presentation on his research at a conference called DEF CON, at which over 4000 researchers and professionals gather to exchange information on computer security and cryptography. The story is complicated and involves many points of fact and law. A good summary is found at the Electronic Freedom Foundations' "US vs.Sklyarov" FAQ site.

Sklyarov was at DEF CON to discuss weaknesses in Adobe Systems' copy protection scheme for their Electronic Books (eBook). Adobe has implemented copy protection in their eBook format to prevent eBook purchasers from duplicating their purchase, even for purposes of backup or other fair use. The DMCA, part of the Copyright act of 1998, makes it "an offense to engage in an act of circumvention of a technical protection (section 1201(a)(1)), to develop and provide tools to others which would allow them to access a technologically protected work (section 1201(a)(2)) and to manufacture, import, provide or traffic in tools that would enable another to circumvent protection to 1201(b)(1)(A))." [1]

Use a decryption program, go to jail

It appears that Sklyarov was targeted mainly because of his relationship with a Russian company called Elcomsoft which created a program to allow for the copying of Adobe eBooks. This program was available in the United States until it was withdrawn on July 3, 2001, seemingly in reaction to a cease and desist letter from Adobe. [2] Rather than pursue Elcomsoft, it was apparently more convenient for Adobe to place Sklyarov in the FBI's sites. The result was the arrest of a scholar because of his activity in conveying his knowledge to fellow scholars and professionals in order to advance the understanding of concepts of data security. That's essentially a thought crime. Right here. In the good ol' U. S. of A.

The Sklyarov case is the first to involve criminal prosecution under the DMCA, however, a number of civil cases have already been brought or threatened. The most widely publicized is the threat by the RIAA (Recording Industry Association of America) to sue, under the DMCA, Princeton Professor Edward Felton if he and his graduate students presented the results of their efforts to break the encryption format of the industry's SDMI copy protection. This work was done at the invitation of the RIAA via a three week contest they held to see if anyone could break that very format. The threat by the RIAA, resulted in the withdrawal of a paper on the topic from an April 2001 conference The paper was recently read, without incident, at a recent USENIX conference session.

These recent events have brought to light a situation which could have a tremendously negative impact on the science of cryptography and data protection. Science is advanced by testing concepts and placing the results of those tests in front of the scientific community for review and replication. The DMCA allows no provision for scientific study or any other activity in regard to to technical protection of works. The act of circumvention is a crime. Period. Think of a way to decrypt information -- go to jail. Science cannot be advanced rapidly or effectively in a climate of information suppression.

Who's Next?

Perhaps equally disturbing about the Sklyarov case is the extent to which it has been ignored by the commercial media in the United States. Ask your average American who is Dmitry Sklyarov and they will likely tell you that he is the President of Russia (of course, the average American barely knows that George W. Bush is President of the United States). There certainly has not been the same coverage afforded the Sklyarov case as there has been to the case of Chinese-born U.S. academic Gao Zhan recently released from China, or that of John Tobin, U.S. Fullbright scholar recently released from Russia.

This law also raises questions of free speech and censorship in America. The DMCA provides corporations with the legal right to stifle speech in regard to technologies that they consider to be protective of their electronic intellectual property. How soon will it be before the FBI has wire taps in Computer Science departments around the country? Far fetched? Perhaps, but so was the arrest of Dmitry Sklyarov. Upon his return to the U.S., John Tobin told reporters, "It's great to be back in the land of the free." Tell that to Dmitry, John.

[1] See,
http://www.eff.org/IP/DMCA/US_v_Sklyarov/us_v_sklyarov_faq.html#WhatIsDMCA

[2] See,
http://www.eff.org/IP/DMCA/US_v_Sklyarov/us_v_sklyarov_faq.html#WhyArrested

List of the Month

Each month we highlight an Internet, USENET Special Interest Group (SIG), or similar mailing list(s) or Website(s).

WWW.UNT.EDU

That's right, our "list of the month" this month is our very own University Website, WWW.UNT.EDU.

In case you haven't noticed, it is new and improved just in time for the fall semester. As you can see from the screen snapshot below, this is not your last year's Website. It is dynamic, with lots of information changing on a daily, weekly, and monthly basis. You can use the site as a portal, choosing views that fit your status as a current student, future student, faculty or staff member, etc. Information is better organized and easier to access. Check it out, you'll be glad you did!

How secure are *your* services?

By Shane Jester, Campus Web Administrator

It's amazing to me how much easier it is getting for people to run there own Web services in today's networked community. With the advent of affordable, always-on connections in the common household, the number of people running Web services from home has sky-rocketed. DSL and cable service make it possible to setup Web services that allow you quick access to your computer resources from almost anywhere. The problem is that most people just install a quick Web server such as Microsoft IIS without properly securing it. Not to imply that IIS is the only Web server that is insecure. It just happens to be one of the easiest to obtain and install. I think that the true problem is that most people don't realize how visible that server is to rest of the computing community. You can't protect you identity by simply not telling people about your server. It's going to be seen by other people whether you like it or not. Just the other day I had set up a Web server and it was scanned three times in the first 30 minutes that it was activated! If you have any desire to protect you information on your computer, you must secure your Web server before you place it on the Internet.

But perhaps you don't care about your information being protected. Well, there are still other implications to consider. If you are running a server that can be easily compromised, you risk the possibility of someone using your computer to hack into other computers. At the very least this makes you look bad in the computing community and has the potential to cause you possible legal headaches. A good example is the recent outbreak of the **Code Red virus**.* This virus was specifically designed to take advantage of IIS Web servers that have not been properly patched and secured. It's a simple procedure to patch the server, but the majority of people it affected where uneducated about the process or simply didn't bother to make the updates.

If you're going to take the time to setup Web services from home, take the time to do it right. There are tons of resources on the Internet that explain how to secure your servers and your Web services for almost any OS or Web application that you wish to use. You just simply have to take the time to read the information and stay up on the latest issues. Who knows, maybe you'll even learn something!

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* For more information about virus protection see "SirCam Virus, Others Continue to Plague UNT and the World" in this issue of *Benchmarks Online*.

Short Courses

By [Claudia Lynch](), *Benchmarks Online* Editor

ACS Short Courses are are over for the summer. Please consult the [Short Courses]() page to view the types of classes that will likely be offered in the fall.

Customized Short Courses

Faculty members can request customized short courses from ACS, geared to their class needs. Other groups can request special courses also. Contact ACS for more information (ISB 119, 565-4068, [lynch@unt.edu]()).

Especially for Faculty and Staff Members

In addition to the [ACS Short Courses](), which are available to students, faculty and staff, staff and faculty members can take courses offered through the [Human Resources]() Department, the [Center for Distributed Learning](), and the UNT Libraries' [Multimedia Development Lab]().

Center for Distributed Learning

The Center for Distributed Learning offers courses especially for Faculty Members. A list of topics and further information can be found at [http://www.unt.edu/cdl/training_events/index.htm]() The center also offers a "Brown Bag" series which meets for lunch the first Thursday of each month at Noon in ISB 204. The purpose of this group is to bring faculty members together to share their experiences with distributed learning. One demonstration will be made at each meeting by a faculty member with experience in distributed learning. More information on these activities can be found at the [Center for Distributed Learning]() Web site.

UNT Libraries'

The UNT Libraries' Multimedia Development Lab has also offered free training to all University of North Texas faculty and staff in the basics of FrontPage and information architecture in the past. For more information see [http://www.library.unt.edu/media/services.htm#Distributed]().

Technical Training

Technical Training for campus network managers is available, from time to time, through the [Campus-Wide Networks]() division of the Computing Center. Check the CWN site to see if and when they are offering any training.

UNT Mini-Courses

These are a variety of courses offered, for a fee, to UNT faculty, staff and students

as well as the general public. For additional information surf over to
http://www.unt.edu/ccecm/cont_ed/Minicourse/Courses/UNT_Minicourse_Page.htm
.

Alternate Forms of Training

The Training Web site has all sorts of information about alternate forms of training. Training tapes, Computer Based Training (CBT) and Web-based training are some of the alternatives offered.There are also handouts for computer training on the following topics:

- GroupWise 5.2 Handout for Win95/NT
- FAQ for GroupWise 5.2
- Computers - Back to the Basics
- Introduction to Windows 95 /98/NT
- Introduction to Word 97
- Advanced Word 97 - MailMerge It Together
- Introduction to PowerPoint 97 (Creating a Slide Show)
- Introduction to Remedy (THE Call-Tracking Program)

-

StudyWeb

AND, the award winning Introduction to Excel 97

Adobe Acrobat Reader Format only for the following:

- Introduction to Microsoft Word 2000
- Introduction to Microsoft Excel 2000
- Creating a Slide Show with PowerPoint 2000
- Using Netscape Communicator & the UNT Home Page

Use the Internet to search for answers to Microsoft Office problems. See
http://www.zdnet.com/zdhelp/filters/office/ December 1999's "List of the Month"
offers links to free Microsoft Word and Excel information also.

IRC News

Minutes provided by Sue Ellen Richey, Recording Secretary

IRC Regular and Ex-officio Voting Members: Judith Adkison, College of Education; Ginny Anderson, Fiscal Affairs; Donna Asher, Administrative Affairs; Craig Berry, School of Visual Arts; Sue Byron, Faculty Senate; Bobby Carter, UNT Health Science Center; Jim Curry, Academic Administration; VACANT, Student Association, Don Grose, Libraries; Jenny Jopling, Instruction Program Group; Joneel Harris, Administrative Program Group; Elizabeth Hinkle-Turner, Standards and Cooperation Program Group; Abraham John, Student Affairs; VACANT,Graduate Student Council; VACANT, University Planning Council; Ramu Muthiah, School of Community Services, GALMAC; Jon Nelson, College of Music; Robert Nimocks, Director, Information Technology,UNTHSC; Patrick Pluscht, Distributed Learning Team; Mark Rorvig, Research Program Group (Acting Chair); Paul Schlieve, Communications Program Group; Kathleen Swigger, College of Arts and Sciences; Philip Turner, School of Library and Information Science and University Planning Council (Chair, IRC);; Virginia Wheeless, Chancellor; John Windsor, College of Business. IRC Ex-officio Nonvoting Members: VACANT, Telecommunications; Bill Buntain, Computing Center Networking; Jim Curry, Microcomputer Maintenance Shop; Richard Harris, Computing Center; Coy Hoggard, Computing Center; Joel Lanpher, UNT Health Science Center; Maurice Leatherbury, Computing Center; Sue Ellen Richey, Computing Center (Recording Secretary). [As of 10/2000]

May 15, 2001

VOTING MEMBERS PRESENT: CHAIR: PHILIP TURNER, JIM CURRY, LOU ANN BRADLEY (for PAUL SCHLIEVE), ELIZABETH HINKLE-TURNER, JUDITH ADKISON, MARGARET HUDNALL, PATRICK PLUSCHT, JONEEL HARRIS, ROBERT NIMOCKS, DONNA ASHER, CENGIZ CAPAN, CRAIG BERRY, DON GROSE, JENNY JOPLING, RAMU MUTHIAHNON-VOTING MEMBERS PRESENT: RICHARD HARRIS, MAURICE LEATHERBURY, SUE ELLEN RICHEY (Recording Secretary)

MEMBERS ABSENT: KATHLEEN SWIGGER, MARK RORVIG, JOEL LANPHEAR, ALLEN LIVINGSTON, VIRGINIA WHEELESS, JON NELSON, BOBBY CARTER, MIKE IMPSON, GINNY ANDERSON, COY HOGGARD

GUESTS: JAMES STRAWN,JENNIFER LAFLEUR, BETTY TOMBOULIAN

The minutes of the April 17, 2001 IRC meeting were approved with the following correction:

Second to last paragraph on page 2: "Cengiz Capan reported **favorable** results of an Auditor's review of the General Access Labs."

Administrative Program Group

Joneel Harris reported for the Administrative Program Group that she had just come from a meeting with Oracle at which they presented their proposal for the establishment of the

technology infrastructure for whatever application-independent Enterprise Information System that UNT may eventually select. Oracle is offering UNT substantial discounts for their database and data warehousing components. In response to a question from the Chair, Joneel stated that UNT would not make the move to Oracle's foundation piece unless there was certainty that a later purchase would be made of a product that would run on Oracle's database (which could be SCT, PeopleSoft, or Oracle).

Richard Harris stated that this move would be a commitment to a fundamental change in UNT's infrastructure, and once the move is made, there would be an incentive to get off the mainframe due to continued expenses in the maintenance of the mainframe. Joneel pointed out that UNT already has a considerable investment in Oracle database licenses and Oracle's proposal does include a campus-wide site license, as a side benefit.

Joneel reported that the committee was excited to find that companies are coming out with new generation products that are internet-architected and e-business focused. The problem is that every one of them is in its infancy; there is no single vendor that has all of the products and components running in production in higher education. This has set the committee back in their estimation of when a recommendation can be made.

Richard further explained that if it was decided to go ahead with the foundation piece, the datawarehousing, etc., implementing that would take a year or so; by that time, there may be other higher education institutions using the rest of the systems. So they are looking for useful things that can be done to move forward in the interim while the rest of the products are being developed.

Cengiz Capan asked if new staff requests have been included in the planning for the implementation of the Oracle database system. Richard Harris responded that the Computing Center had an increase in technical staff last year; he is aware that a few more will have to be added, for example: a full-time Oracle dba and a backup; a project manager – possibly 3 or 4 fte.There is more concern on the user side as to whether they can provide support personnel. In fact, Oracle recommends 4-6 people from ½ to ¾ time dedicated for six months on just the purchasing part of the project.

Joneel further reported that since the last IRC meeting, four different consultant groups have been interviewed regarding the implementation of a new EIS. As a project oversight consultant, UNT has hired a consultant from NCHEMS on a limited scale.

Instruction Program Group

Jenny Jopling reported that Dr. Turner was asked to present a request for the management of the the distance learning and testing facility at the Gateway Center.Jenny said she revised a previous recommendation made by the Instruction Program Group so that it reflects agreement by the Counseling & Testing Services to be the managers of this facility. Dr. Turner will present the revised recommendation to the Provost. Jenny distributed copies of the revised recommendation.

Research Program Group

Mark Rorvig asked Maurice Leatherbury to report for the Research Program Group that the committee plans to meet to consider a request for research programmers.

Standards & Cooperation Program Group,Computer Use Policy

Elizabeth Hinkle-Turner reported that the Standards & Cooperation Program Group met and has finished their draft revision of the Security Policy and when they have finished their revision of the Security Standards document, they will present both for approval by the IRC. Elizabeth deferred to Richard Harris to discuss a suggested revision to the newly approved Computer Use Policy. Copies of the revised policy were distributed. Richard explained that he'd had a meeting with Steve Miller and Donna Asher in Human Resources as a result of a request to extend benefits to surviving spouses of retired faculty members.

The proposed change would be to allow Premium Access Accounts and use of computer facilities by surviving spouses of retired faculty members, together with a note at the end of the document that states "Other remote access accounts, for the benefit of the University, may be approved on an individual basis by the Associate Vice President for Computing and Communications Services." Human Resources will keep a list of those who are eligible. In addition, it is suggested that a wording change be effected making it acceptable to share remote access accounts with immediate family members residing in the same household. Richard proposed that these changes be voted on today.

In order to vote on these revisions to the policy at today's meeting, the Chair explained that it would be necessary to waive the rule that a new issue must be introduced at one meeting and voted on at the following meeting. The Chair asked for a motion to waive the rule; Cengiz Capan moved to waive the rule; Judy Adkison seconded the motion and the motion passed.

Cengiz Capan then seconded the proposed changes to the Computer Use Policy. Maurice Leatherbury suggested additional wording to clarify that the account holder of the remote access account should not share their password, even though they can share their account. It was agreed that following the statement regarding sharing of remote access accounts by immediate family members residing in the same household is allowed, the following wording be added: "Account holder is ultimately responsible for the security of his or her account." The suggested revisions were accepted by a vote of the Council.

The Chair stated that he would present these approved changes to the Vice Presidents and the Faculty Senate.

Distributed Learning Team

Patrick Pluscht reported for the Distributed Learning Team that they have 23 courses under development for web-based courses in addition to those already developed. They have 17 video-conference courses this summer and close to 30 for Fall, many of which are new courses. In addition they have received a memo from the Coordinating Board stating that a state-wide electronic portal to assist individuals who are seeking distance education courses and programs is being created. They are modeling it after the Southern Regional Electronic Campus (http://www.electroniccampus.org/) which was created by the Southern Regional Education Board (http://www.sreb.org/) as a way to share courses back and forth between states that are members of the SRC. They collect from all of the institutions information about each of the courses in order to market them. The web site for this portal is www.collegefortexans.com

June 19, 2001

VOTING MEMBERS PRESENT: RICHARD HARRIS, CHAIR, LOU ANN BRADLEY (for PAUL SCHLIEVE), SANDRA BURKE (for ELIZABETH HINKLE-TURNER), JON YOUNG (for JUDITH ADKISON), JON NELSON, MIKE IMPSON, MARK RORVIG, MARGARET HUDNALL, COY HOGGARD (for JONEEL HARRIS), CENGIZ CAPAN, DON GROSE, RAMU MUTHIAH, MAURICE LEATHERBURY (for JENNY JOPLING)

NON-VOTING MEMBERS PRESENT: BILL BUNTAIN, JAMES STRAWN, SUE ELLEN RICHEY (Recording Secretary)

MEMBERS ABSENT: CRAIG BERRY, PATRICK PLUSCHT, PHILIP TURNER, JIM CURRY, ROBERT NIMOCKS, DONNA ASHER, KATHLEEN SWIGGER, JOEL LANPHEAR, ALLEN LIVINGSTON, VIRGINIA WHEELESS, BOBBY CARTER, GINNY ANDERSON, PAUL SCHLIEVE, ELIZABETH HINKLE-TURNER, JUDITH ADKISON, JONEEL HARRIS, JENNY JOPLING

GUESTS: JENNIFER LAFLEUR, BETTY TOMBOULIAN, MELODY KELLY, PAM HIGHT

Distributed Computing Support Management Team

Maurice Leatherbury reported for the Distributed Computing Support Management Team that they have been meeting regularly. He reported that there is a subcommittee looking at MAC OS X and the support issues involved. The subcommittee's initial opinion is that MAC OS X is not ready for distribution because there are a number of applications on campus that won't work under it. At the last meeting of the DCSMT, Bill Buntain made a report on the progress of the data communications infrastructure upgrade.

Maurice Leatherbury also reported that it has been announced that UNT is eligible for another round of TIF grant monies; one allocation to be used for general university projects, and another allocation solely for use by the library. He stated that there would be 1.3 million dollars available to UNT. He welcomes input on how best to use the funds and proposals will be considered and placed in priority order by the IRC's Strategic Planning Committee. To fulfill the purposes set forth for use of the monies, projects will be considered if they fall under the following 4 general categories:

1. Projects to foster collaboration between UNT and K-12 schools and other universities for teacher training;
2. Support for distance education;
3. Data communication and inside-the-walls connectivity;
4. General computing on campus

Those projects already suggested are:

1. Put together a number of classrooms each with 25 laptops using wireless connectivity;
2. Multi-media production workstations;
3. Training people in distributed education technology as well as technical people in support of network and equipment;
4. Video-conferencing rooms and equipment (the Center for Distributed Learning has put together a list of items worth $360,000, including two new video-conferencing rooms and replacement of equipment in Chilton Hall and ISB.
5. DCSMT has been talking about putting in wireless connectivity points on campus (ex: University Union and some large classrooms) where students can connect their laptops.
6. Providing area Storage Area Network connection to Novell so that students could have larger file space for their own use. (Maurice explained that the Computing Center wants this for use in storage of GroupWise backups, etc., so adding on some additional storage space for students could be included in that project;
7. Upgrade student computer labs in terms of connectivity; Purchase additional Web CT servers to provide a clustering system;
8. Purchase additional streaming video licenses
9. Develop a small video-conferencing center in the ESSC. Maurice explained that the grant proposal deadline is the end of July and that the IRC Strategic Planning

Committee will meet prior to that time to prioritize the proposals for use of the funds.

EIS Planning Group

Coy Hoggard reported for the EIS Group that after several vendor presentations and site visits, the group determined that all the vendors whose applications are being considered for use at UNT will support the running of their applications in the Oracle database environment. In fact, some of those vendors support <u>only</u> the Oracle database environment. At the end of May Oracle presented UNT with a proposal to expand UNT's current Oracle licenses and give us a large discount on their database and selected other products. The administration approved this action; an agreement was signed and a purchase order issued. This was possible due to a 15-day "bailout" provision in the Oracle agreement, which provided time to seek Board or Regents approval for the purchase. Board approval was granted with the understanding that this was just the first step in the process to implement the planned Enterprise Information System at the UNT System institutions. The agreement with Oracle does not indicate a commitment to Oracle applications except for the acquisition of a data warehousing building tool as well as a component called CRM. But the offered price for several products that, including the Oracle applications are "locked in" at the same discounted amount for a period of three years.

Richard Harris read the recommendation that was approved by the Board of Regents:

> "The Presidents, with the concurrence of the Chancellor, recommends that the Board of Regents authorize the UNT System to enter into the necessary contracts for the purchase and implementation of the Oracle system as described above. It is further recommended that the Board of Regents authorize the Budget and Finance Committee to approve any additional software and consulting contracts in excess of $500,000 related to the full implementation of the EIS system. All other contracts related to the full implementation of the EIS system may be approved by the UNT System Administration."

It was reported that the initial expenditure for the Oracle database was $931,800 and that another million dollars is expected to be spent on hardware. Richard Harris stated that it is hoped that the entire project can be accomplished for under $20 million. In response to a question regarding training of existing staff, Coy explained that some training was taking place now but that more intensive training would be planned for a time closer to the actual implementation of the new software.

Standards & Cooperation Program Group

Sandy Burke reported for the Standards & Cooperation Program Group that they did not meet in May or June but plan to meet in July to continue work on the revision of the Computing Security Policy and Guidelines.

There was a short discussion about the use of existing video classrooms and it was reported that the rooms are consistently booked; however it was acknowledged that video classrooms are seen as a bridge to future distributed learning technologies. Departments are encouraged to be cautious in planning any large expenditures in the expansion of existing video classrooms, or development of new ones.

Margaret Hudnall expressed some concern about the use of web based courses to provide high quality teacher certification classes. Her concern was duly noted by the Council.

July 17, 2001

VOTING MEMBERS PRESENT: RICHARD HARRIS, CHAIR, LOU ANN BRADLEY (for DON GROSE), ELIZABETH HINKLE-TURNER, JUDITH ADKISON, COY HOGGARD (for JONEEL HARRIS), JENNY JOPLING, CRAIG BERRY, PATRICK PLUSCHT, JIM CURRY, DONNA ASHER, ALLEN CLARK (for VIRGINIA WHEELESS), PAUL SCHLIEVE

NON-VOTING MEMBERS PRESENT: MAURICE LEATHERBURY, JAMES STRAWN, SUE ELLEN RICHEY (Recording Secretary)

MEMBERS ABSENT: PHILIP TURNER, ROBERT NIMOCKS, KATHLEEN SWIGGER, JOEL LANPHEAR, ALLEN LIVINGSTON, BOBBY CARTER, GINNY ANDERSON, JON NELSON, MIKE IMPSON, MARK RORVIG, MARGARET HUDNALL, CENGIZ CAPAN, RAMU MUTHIAH, BILL BUNTAIN

GUESTS: JENNIFER LAFLEUR

Information Resources Steering Committee, Computer Use Policy

Richard Harris reported that the Information Resources Steering Committee met and reviewed the Computer Use Policy. They accepted the changes that had been made by the IRC but they found another area of the policy regarding computer resources that they wanted to change. The portion of the policy referring to use of computer resources for political or religious purposes was amended to include a reference to the existing policy concerning use of state resources by employees. With that one change, the committee approved the policy.

Distributed Computing Support Management Team

Maurice Leatherbury reported for the Distributed Computing Support Management Team that C.R. Chevli and Bill Buntain had spoken to the group regarding multicasting and the problems associated with doing that on campus. Tests were planned for the College of Business and Jim Curry's shop, which have subsequently been conducted with problematic results.Cisco Systems will be consulted about the problems, but it was uncertain whether or not they have been consulted yet.

Maurice Leatherbury reported that about $800,000 has become available to UNT, and after collecting numerous requests for portions of the funds, a meeting was held by the Information Resources Strategic Planning Committee to prioritize the requests. Maurice distributed a spreadsheet entitled (Attachment #1) which shows how the projects were prioritized by the Strategic Planning Committee. Maurice will use this prioritized list when preparing the grant proposal.

Communications Program Group

Paul Schlieve reported that the Communications Program Group has not met but they are still actively evaluating wireless network solutions. It has been determined that a wireless network is desirable and would be extremely useful; however, issues that must be dealt with are security and implementation of security without having to increase staff to support it. They have looked at a Cisco Systems solution that may work, but they are continuing to investigate. Paul explained that College of Education is setting up a wireless network in Matthews Hall and it seems to be working well.

EIS Planning Group

Coy Hoggard reported for the EIS Planning Group that the Oracle software that was ordered

May 31, 2001 has been received. Included in this purchase was their Advanced Recruiting / CRM (Constituent Resource Management) and Data Warehouse building and query software. Fortunately, an order had already been placed for a Sun computer because the Computing Center is in the process of migrating some administrative applications from Windows NT running on Intel servers over to Unix (Solaris) running on Sun machines. It is believed that the machine already on order has adequate capacity to support the initial phases of the Advanced Recruiting / CRM and Data Warehousing projects as well as the applications for which it was ordered. That machine has arrived and the process of loading software onto it has begun. Joel Daboub from Undergraduate Admissions and Robert Jones, a programmer analyst in Administrative Computing, are both attending a meeting of Oracle partner schools who are involved with CRM implementation. But the primary focus of the EIS group's effort is currently on getting the Request for Proposal (RFP) document for the entire EIS software ready for distribution to vendors. The plan is to release the RFP in early August.

Standards & Cooperation Program Group

Elizabeth Hinkle-Turner reported that the Standards & Cooperation Program Group had met to work on a draft of the Security Policy and the Security Guidelines. They will finish the draft in September and hope to provide a reading copy to the IRC at the October meeting.

Distributed Learning Team

Patrick Pluscht reported for the Distributed Learning Team that they have discussed TIF funding opportunities and will meet again Thursday, July 19th.

UNT's Privacy Policy

Donna Asher remarked that there is new legislation that may affect UNT's Privacy Policy and asked if the IRC would be dealing with the policies affected. Maurice Leatherbury responded by stating that the new legislature doesn't change what UNT is already doing, and adds email addresses to the information that falls in the category of private information. Maurice explained that Standards & Cooperation would most likely be reviewing the existing policies in light of new legislation that might affect them.

Miscellaneous Business

Richard Harris announced that unless there were any objections, there would be **no August meeting** of the IRC.

Richard also announced that there is a TASSCC meeting August 5-8 in Addison if any IRC members are interested in finding out what is going on around the state in other State Supported Computing Centers.

IRC Meeting Schedule

The IRC generally meets on the third Tuesday of each month, from 2-4 p.m., in the Administration Building Board Room. From time to time there are planned exceptions to this schedule. All meetings of the IRC, its program groups, and other committees, are open to all faculty, staff, and students.

IRC News

Staff Activities

Transitions

The following are new employees:

- **Chantez Knight**, I/O Consultant (part-time).

- **Jason Gutierrez**, Support Specialist on GroupWise Team, Campus Wide Networks.

- **Silvester Montalvo, Jr.**, Telecommunications Specialist.

- **Stephen Parmer**, I/O Consultant (part-time).

- **Elise Waltman**, Tape Librarian, Computer Operations (part-time).

The following people no longer work in the Computing Center:

- **Saleh Lajkem**, part-time operator in Operations group.

- **James Martin**, Production Services (part-time).

- **Andrew McGregor**, Computer Support Specialist on the GroupWise and Electronic Messaging Team.

- **LaQuita Nichols**, part-time operator in Operations group.

- **Blas Rodriguez, Jr.**, Tape Librarian.

Awards, Recognition, Publications, Performances

- **Steve Minnis**, Director, Mainframe Technical Services, was recently honored for his 30 years of service to the University.

- **Mike Maner**, Communication Systems Manager, was recently honored for his 20 years of service to the University.

- The following people will be honored at the Chancellor's staff lunch on October 16 as "Soaring Eagles," for their outstanding service to UNT:
  - **Doug Alders**, Computer Equipment Operator, **Philip Baczewski**, Associate Director, Academic Computing Services, **Kory Booth**, Computer Equipment Operator, **Nola Campbell**, IBM OS Systems Programmer, **Rory Rivoire**, Communications System Manager, and **Don Swatloski**, Team Leader, Database/Central Programming Support-- for their "extra mile" effort in assisting an employee's return to work after a life-threatening illness.
  - **Don Butler**, Team Leader, Student Records Data Systems, quickly helped a department handle large data files they had received.
  - **Darren Dugan**, NetWare 4.1/NDS Support, went "above and beyond" in assisting the campus server team.
  - **Dowel Morrow** and **David Walde**n, Telecommunications

Technicians, helped out ID systems on short notice.
- **Panagiotis Russos**, Microcomputer Consultant, for his help in recovering an important file for an individual.
- **Bob Saringer**, CATV/Communications Technician, for his unfailing wilingess to help a co-worker when she needs unusual help on a project.

- **Coy Hoggard**, Senior. Director of Administrative Computing, was the guest columnist in the July 6 issue of *inhouse*. His article, "Why the UNT System needs a new information system," can be read at http://www.unt.edu/inhouse/july62001/hoggardguestcolumn.htm

- **Dr. Karl Ho**, Research and Statistical Support Services Manager, attended the International Studies Association 2001 Hong Kong Convention between 7/26 and 7/28. The theme of the conference was "Globalization and Its Challenges in the 21st Century". At the conference, he presented a paper (co-authored with Alexander Tan and Max Yu) titled "Asian Values and Beyond: Democratization, Human Rights, and Economic Growth in East Asia, 1976-1993". He also chaired and discussed at two panels titled "Asian Political Economy" and "Coping with Financial Liberalization" (for Alexander Tan). For more details, please consult the convention's on-line program at: http://csf.colorado.edu/isa/hongkong/hkprog2.txt

- **Rich Herrington**, Research and Statistical Support Consultant, is now *Dr.* Rich Herrington, having graduated with his Ph.D. in Psychology this month.

- **Dr. Elizabeth Hinkle-Turner**, Student Computing Services Manager -- Her multimedia work, "A Stitch in Time," will be presented at Yonsei University in Seoul South Korea in September during a national conference of the Korean Society for Women Composers.

Campus Computing News

By **Kenn Moffitt**, **Director of University Online Communications**

UNT's New Website

This month, I was asked to write a feature about the new UNT Website. I wanted to speak briefly about the history behind this new site and some of the influences that have affected the new design.

The new Web design really started immediately after the previous Website was published. After three years of E-mail from students, faculty, staff and the Web community, it was pretty clear what needed to be changed to better serve the UNT audience.

A majority of the E-mail asked for information on events such as commencement, parent's day, homecoming, etc. Users were also having trouble finding information about academic deadlines such as the last day to add-drop. The new site was designed to incorporate these events and reminders throughout the top levels of the site for easier user access.

The E-mail also suggested that the UNT top-level site was difficult to find information on because the scope of the links weren't broad enough. Commonly accessed links needed to be surfaced on the UNT Website. These commonly accessed links needed to be easily available from the top of the Website. For example, instead of sending users to the UNT helpdesk site to find links, the most common helpdesk links should also be presented directly from the UNT home page to help the user not only find the UNT helpdesk, but also give the user a sense of the various areas that the helpdesk supports. Contact information for people and departments was also added as its own category on the home page so that users could contact departments directly.

The next step ...

The next step was to look at how Internet usage should influence our Internet presence as a whole. The Web used to be treated like print's ugly step-child. Since the last Website was published, the Web has become an increasingly legitimate force for information and communication and is often the university's primary point of initial contact. A person will check out UNT's Website before contacting UNT to request information and ask questions. The information for the new site needed to be easily accessible to all audiences and al experience levels.

Web philosophies and technologies have also changed greatly since the last time the site was designed. Web user data and statistics have been published in studies showing how most users use a Website.Most Web visitors will scan a Web page quickly for the information that they need and will not try to read long content online. The new Website is designed to promote scanning of information.

Web technologies and philosophies have also been influenced by portal sites

such as Yahoo! and other dynamic sites such as Slashdot. The UNT Website can be viewed as a portal (like Yahoo!) that directs the user to one of the hundreds of Websites at UNT. With all of the various categories of information about UNT on the Website, the site design needed to support dynamic customization of features and contents so that new services, sites and events could be added quickly and be highly visible. Websites need to be designed with some level of flexibility in mind so that the site can be changed to communicate information in a timely manner. Users expect dynamically changing content to be updated regularly instead of the more traditional, static Web page design.

Other site design considerations

Finally, new state and federal regulations have gone into effect that enforces standards for accessibility. The state and federal standards had to be applied so that every user of the UNT Website can still get the information provided. Although the state guidelines have been in effect for more than a year, the new federal guidelines that went into effect June 21, 2001 make accessibility a priority for all UNT Websites. The new Website needed to be designed and coded with accessibility in mind.

Once all the site design considerations were addressed, we needed to figure out the mechanics of the site promotion and maintenance and which department would be responsible for various tasks. Web Support has become more specialized in server technologies, backend maintenance and technical support and will continue to support these duties. UNT Public Affairs and Information Services would use existing news and event resources to become responsible for the day-to-day site updates and dynamic content, including site organization and the creation of links.

Ta da!

The actual technical creation of the site took less time than all of the planning mentioned above. Once the pages were created, the site was finally a more dynamic tool that we could use to communicate with our broad audience and to promote the hundreds of UNT Websites which combined make up all of UNT's Web presence.

Check out the new site now: http://www.unt.edu/ and see what you think about it.

Come to Work in the Computing Center

Part-time Position: Statistical Consultant

Description: Academic Computing Services is looking for a part-time Statistical Consultant in the Research and Statistical Support Office. The Statistical Consultant is responsible for providing consulting and software support services in the office. Duties include statistical consulting (supporting statistical packages including SPSS, SAS, S-

Plus, LISREL and Eviews), supporting operating systems (including Windows, MacOS, CMS, OS/MVS and UNIX) and database management. S/he will also work on special projects as directed.

Requirements: Candidates must be able to speak excellent English and deal effectively with the public and have experience in using two or more of the above-mentioned statistical packages and operating systems. S/he must have a Bachelor's degree and have completed upper level research method courses that involve statistical applications.Possession of a Master's Degree will be an advantage.

Wage: $8.5 - 12 an hour, commensurate with working experience.
Hours: 15 hours per week.

Renew PRAS Accounts Now

By [Claudia Lynch](#), *Benchmarks Online* Editor

If you purchased a **P**remium **R**emote **A**ccess **S**ervice subscription for the summer -- or had paid through the summer -- and you want to keep it, you will need to renew it. You may also need to take action to ensure the continuation of your UNT Internet Account, under certain circumstances. Details for renewal of both these services follows.

Premium Remote Access Service Renewals[*]

Renewals may be purchased in person or over the phone at the software department of the Union Bookstore (940/565 3185). Basic subscriptions for the fall are $45. Year-long subscriptions may be purchased for $120. ISDN (128K) subscriptions cost $90 ($240 for a full year).

All subscriptions that have not been renewed by Wednesday, 22 August 2001 will be deactivated on Monday, 27 August 2001. Please E-mail any questions regarding renewal to pras@unt.edu

Internet Service Account Renewals

People who are no longer associated with the University lose their eligibility to have access to many services, including various computing services. If you have been notified that your account is going to be disabled and you are still associated with the University, please contact the Computing Center Helpdesk at (940) 565 2324 or to helpdesk@unt.edu. Retirees may continue to have a UNT Internet Service account, however these accounts must be renewed annually. You may be asked to provide documentation of eligibility for this service due to the absence of available data on retirees at this time.

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[*]Questions about PRAS? We answered some common ones in our [August 1998](#) PRAS renewal article. The [Remote Access](#) area of the Helpdesk Website is also chock full of information on that topic.

SirCam Virus, Others Continue to Plague UNT and the World

By [Claudia Lynch](#), *Benchmarks Online* **Editor**

In case you haven't noticed, computer viruses of various sorts continue to plague the world. According to the UNT Anti-Virus Website, http://cwn.unt.edu/virus/, the "911" alerts this week are for the Code Red Worm (not generally a problem for individual PCs, only "unpatched administrator's Microsoft IIS severs") and the SirCam Virus. SirCam is a nasty mass-mailing virus that attempts to send itself and local documents to all users found in the Windows Address Book and email addresses found in temporary Internet cached files (web browser cache). It might delete files on 16 October and/or fill up hard disk space by adding text entries over & over again to a SirCam recycle bin file.

There is a program on the UNT Anti-Virus Website that will remove SirCam if your computer is infected.

Unfortunately, right now, according to [Mike Williams](#), UNT Anti-Virus Coordinator, McAfee has a problem detecting the SirCam (W32/SirCam@MM) virus before the machine is infected. The problem. is that McAfee VirusScan 4.5 does not include scanning for the .pif or the .lnk extension by default. Even if you have applied SP1 to McAfee it does not scan for these extensions. A person was recently sent the SirCam virus with a .doc.pif extension and when it was double clicked the virus infected the machine.

The current fix for this, according to Williams, can be done two ways:

1. Right click Vshield in the system tray and select PROPERTIES>SYSTEM SCAN in the "What to Scan" options select the "All files" option. This could slow performance on your system if you do a lot of file manipulation. This option will assure that users are not caught off guard by other extensions that are not currently in the list.
2. Right click Vshield in the system tray and select PROPERTIES>SYSTEM SCAN in the "What to Scan" options select the Extensions button. Check to make sure that pif and lnk extensions are not listed in the "Program file extensions" window. Then click the add button and add the pif and lnk extensions to the list. This option should not slow the performance of your computer however other extensions may need to be added to the list in the future.

Future versions of McAfee will have the extensions pif and lnk already entered into the list however version 4.5.1 is still currently being tested here at UNT. UNT Computing Center staff are also looking at ways to automate the changes to McAfee.

How do I get help with Virus Protection?

Here at UNT the Network Managers are generally responsible for keeping the people in their departments informed about such things, but if you're unsure

about the status of such software on your computer, you probably ought to contact your Network Manager and ask. If you're not sure who your Network Manager is, check here http://www.unt.edu/helpdesk/netman.htm.

UNT's Anti-Virus Website (http://cwn.unt.edu/virus/), mentioned above, is accessible to anyone on campus or who comes into campus via the UNT dial-up lines. If you satisfy those requirements, the anti-viral software is available to you from there free-of-charge.Once you have the software it is wise to set it to run every time your computer is re-started (you can always cancel it if you have to re-start several times). You should also set it to automatically update.

The SmartForce Server is on Course!

By **Dr. Elizabeth Hinkle-Turner**, **Student Computing Services Manager**

The SmartForce CBT system is now fully functional and at last, the UNT community again has easy access to comprehensive training for a variety of computer skills. SmartForce is an innovative computer-based training system offered free of charge to all UNT faculty, staff, and students on the main campus, at the System Center and at the Health Science Center. It offers courses on a large variety of information technology topics such as Java Programming, Novell NetWare, Microsoft Office, and UNIX on your own machine through the Internet.

I would like to open this article by expressing my thanks to the UNT Library staff who have maintained this system for several years and who provided me with invaluable information to help me continue with the new SmartForce implementation. Additional collaborative help was provided by Dr. Philip Baczewski and Craig Terrell (Computing Center) and Dr. Michael Vanecek and Mike Hatch (College of Business).

SmartForce services

As SmartForce administrator, I have developed two services in this system and am beginning experimental work on a third service. The most convenient and powerful of these services is the "SmartForce Campus Server". Running on a Windows2000 server, SmartForce Campus provides a seamless interface to all training topics. However, after several faculty noted that many off-campus students do not have access to high-speed internet connectivity (which might severely degrade online course performance from the SmartForce Server), I created pre-packaged CD-ROM versions of the training software covering the more popular topics of Office 2000, UNIX, Java and JavaScript as well as several others. The initial scripts for these CD-ROMs were taken from applications already developed by Krysta Kaye of the UNT Library which I updated to take advantage of new features in the SmartForce training software.

What do these training services mean for UNT?

Perhaps most importantly, now training in many of the latest software packages (for example, Microsoft Office, Visual Basic, and Oracle database systems) can be accessed quickly and easily by those on campus whose productivity depends on the effective use of these products. New administrative assistants who need to train in Office 2000, students wanting to extend the usability of their desktop workstations with vb-scripting, or network managers who need to train new tech personnel on Novell server software now have a way to get such information

immediately and for free. SmartForce courses can provide valuable tutorial materials for faculty to use as a resource in the classroom and for outside study. Staff members wishing to update their job skills for future promotion will also want to use this resource.

How can I access SmartForce?

A special informative Website has been created at http://www.unt.edu/smartforce/, providing login access to the SmartForce Campus Server and containing links for course contents, FAQs, and other tech support. Additionally, a link is provided to the SmartForce **Player** application which must be loaded on a user's machine before course playback can be initiated. The SmartForce Player is similar to the Flash Plugin. SmartForce courses can be played back using either Internet Explorer or Netscape, however **they do not run on the Macintosh or Linux platforms**. See the FAQ portion of the SmartForce Website for more information about loading the SmartForce player and logging in to the courses.

Who is eligible to use SmartForce?

All faculty, students, and staff at the main campus and the System Center have user accounts and passwords pre-loaded into the system. Faculty and staff at the Health Science Center also have accounts. Non-benefits eligible employees and Health Science Center *students*, however, will need to register for an account with the SmartForce administrator. See the account registration information Website for instructions about this.

Custom CD-ROMs

Faculty and staff are welcome to contact me for more information about creating custom training CD-ROMs. Using the administrative tools available on the SmartForce server, I can design curriculum, create special student groups, and generate progress reports for grading and evaluation purposes. **Faculty are asked to please contact me at least a half-semester in advance for these services.** SmartForce has already been successfully used this summer in several BCIS courses and in many staff training situations. See the CD-ROM request Website for more information about these services.

Plans for the future

It is my hope that by streamlining the login process and providing an informative Website and customized technical support that the UNT community will begin to take full advantage of this digital training opportunity. Additionally, you are encouraged to thoroughly explore the course table of contents of the server and to send me suggestions for course titles that we might order from SmartForce E-Learning Company in the future. My immediate plans for the system include experimentation with making SmartForce available via WebCT, therefore opening up the possibility of building "custom course Websites" for distributed learning programs. For more information, technical support, and suggestions feel free to email me at ehinkle@unt.edu.

Lab-of-the-Month: System Center at Dallas General Access Lab

By Wil Clark, Information Technology Manager

The newest general access computer lab is located at the UNT System Center at Dallas. System Center students have been using the lab since it opened in January 2000. **Did you know that it is available to all UNT students regardless of which campus you attend?** That's right you can visit the lab during open hours, show your UNT ID and compute without the commute.
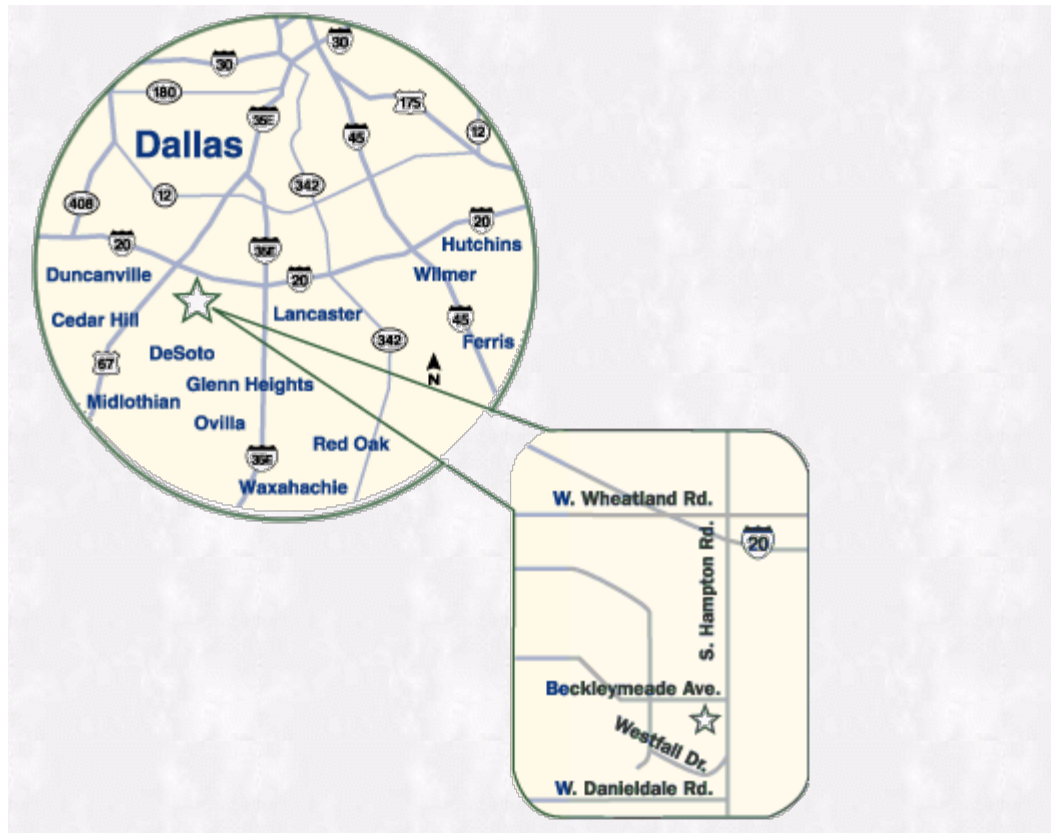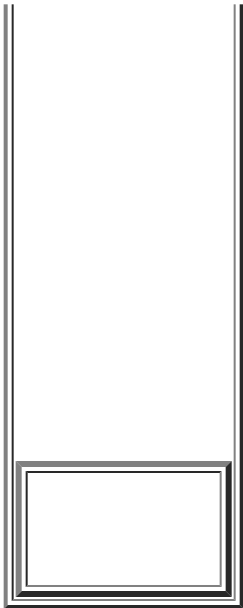
The System Center at Dallas General Access Lab (SCDGAL) officially joins the General Access Lab System this Fall. This is great for students that commute to UNT from Dallas. Instead of driving to Denton just to use a computer lab, students may find everything they need at the Dallas campus.

At this time SCDGAL offers software such as Office 2000, FrontPage, SAS, SPSS, SSH, PhotoShop, Premiere, Authorware, Dreamweaver, Fireworks and AIBS. You can access Library on-line services, ASSIST, WebReg, My Financial Aid, EagleMail and WebCT. The lab hardware includes a scanner, video digitizing equipment, a Braille printer and a laser printer. Also each workstation has a CD-ROM drive, Zip drive and sound card.

The lab hours for Fall 2001 will be:

Monday through Thursday	8:30 a.m. – 10:00 p.m.
Friday	8:30 a.m. – 6:00 p.m.
Saturday	9:00 a.m. – 5:00 p.m.

You can find the UNT System Center at Dallas at 8915 S. Hampton Rd in room 155A.

Computer Purchase Information Now Online

By Dr. Philip Baczewski, Associate Director of Academic Computing

Perhaps one of the best kept but unintentional secrets of the last 12 years is that UNT has had an agreement with Apple Computer to receive special educational pricing on Apple Macintosh computers and software, both for University purchases as well as individual personal purchases. In the last year, this opportunity has become even more advantageous, with educational pricing at a lower level than most commercial purchase opportunities.

In an attempt to make the Apple agreement and other opportunities less of a secret, we have created a web page to highlight some of these offers to our higher education community. The web page, http://www.unt.edu/helpdesk/purchase/, is part of the Computing Center's HelpDesk site and currently provides links to information about Apple, Compaq, and Dell computer higher education pricing.

This page is not meant as an exclusive endorsement of any of these company's computers, but rather to highlight these pricing agreements, where they are in place, or to provide information and links to vendors who support higher education with special discount programs for individual purchases. Hopefully, it will be a useful source of information, and perhaps an opportunity to do some comparison shopping, for UNT students, faculty, or staff who are considering a computer purchase.

ACS Summer News

By [Claudia Lynch](#), *Benchmarks Online* Editor

In case you have been away for the summer or otherwise engaged, please be aware of the following items:

- ["Important Academic Mainframe News"](#) -- It appears that funding will be available next year to continue operation of the VM/CMS system. You may recall that IBM discontinued its Higher Education Software Consortium program under which we were licensing the VM/CMS software. IBM finally announced a replacement program and it appears that the new discount for licensing the software will be sufficient to allow us to continue use of that operating system and most of its associated software. Work continues, however, on identifying a replacement Administrative data systems processing platform. Since it is unlikely that the new platform will be an IBM Mainframe. **It is likely that Mainframe services will be discontinued sometime within the next 2-3 years**. Please contact Dr. Philip Baczewski (baczewski@unt.edu), Associate Director of Academic Computing, if you have any questions in this regard.

- ["Secure Communications to be Required for ACS UNIX Hosts"](#) -- As of September 1, 2001, access via telnet and ftp to the ACS UNIX hosts sol, jove, and terra will no longer be possible. After September 1, you must use an SSH-compatible client for access. See the article for more information on this topic.

- ["BulkMail gets an Update"](#) -- As of Thursday, June 7, BulkMail has been changed to use the same authentication server as is used by EagleMail and Web publishing. Included in this change is an option to set a password if no password exists. Faculty/Staff who have activated UNT Internet Services will use that ID and password for logging into BulkMail. Faculty/Staff who have not activate UNT Internet Services can enter their EUID in the login page and will be routed to a set of pages where they can set a password which will work with bulk mail. Consult the article for further information on this topic.

- ["Simeon Support to be Phased Out"](#) -- Over the next year, starting September 1, 2001, support for the Simeon E-mail client will be gradually withdrawn. Those who wish to can continue to use Simeon as long as it will run on their computers, however, after September 1, Simeon will no longer be made available for download. Questions or comments about Simeon can be directed to Dr. Philip Baczewski (baczewski@unt.edu), Associate Director of Academic Computing.
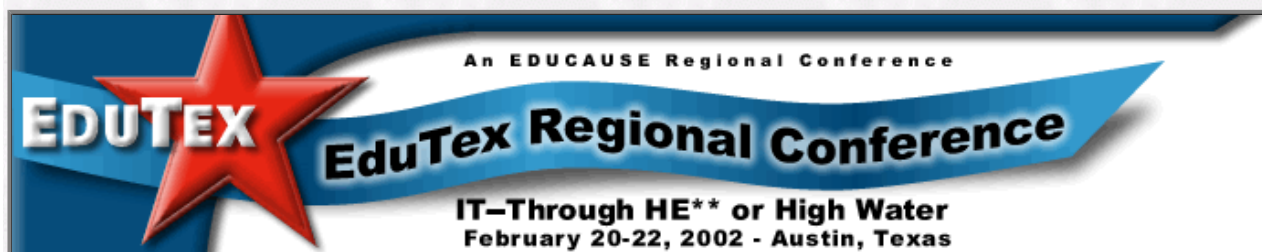
Join EDUCAUSE and your colleagues from the Southwest for EduTex, the second annual EDUCAUSE Southwest Regional Conference for IT professionals in higher education. Technologists, managers, and executives from all higher education institutions in the Southwest -- small and large, public and private -- are invited to attend this conference.

EduTex will be held February 20-22, 2002 at the Hyatt Regency Austin on Town Lake, Austin, Texas. This year's theme is "IT -- Through HE** or High Water." The conference will feature practical, "how-to" sessions, a management and leadership focus, and region-specific issues organized around the following four tracks:

- Technology and Applications/Infrastructure
- Management Skills and Leadership
- Support

- E-Learning

In addition, corporate and higher education participants will present information on new developments in technology and software.

Follow the links at the EduTex Website for more information about this exciting event.

If you would like to give a presentation at EduTex, the deadline for proposals is October 1, 2001. See http://www.educause.edu/conference/edutex/2002/cfp/guidelines.asp for more information.

Migrating Queries from Microsoft Access to an Access Project

By Shannon Eric Peevey, UNT Central Web Support

This month, I want to talk about an important part of the migration from Microsoft Access to an Access Project. An Access Project is an upgraded Access database, that allows the end-user to use Access as a front-end for what is essentially a SQL Server database. This is nice for end-users, because they do not have to learn a new interface and can use the same tools that they are accustomed to using with Access databases. After testing migration from Access to an Access Project, I have found that the migration is relatively painless, except the fact that the upsizing tool does not know how to deal with queries very well. This can make the relatively "painless" migration into a "painful" migration in a hurry. (If you don't believe me, take a look at the SQL statements used in your Access databases? Scary, huh ?!) The reason that the upsizing tool doesn't know how to deal with a majority of the queries, is because SQL Server has two distinct families of queries, as opposed to the all encompassing Query in Access. These two families are Views and Stored Procedures. The differences between these two types of queries, are that Views are simple queries that take no variable, and which are not executed by any other query, and Stored Procedures are queries that can be executed, take user input and place that input into a variable. A Stored Procedure can also run tests on a query, as well as, use control structures. In other words, Stored Procedures are very powerful, and can be used with much of the power of a programming language. On the negative side, the nature of the power of the stored procedure also means that they are a little more difficult to write, and in the migration process, a little more work to modify.

This article is an attempt to get you familiar with the process of modifying queries, and will help to allay some of the fears that you might have about taking a new step in your database creation and management skills. And even though this process is not completely painless, I believe, after this article, that you will feel a little more easy about the process in general. To do this, we are going to, first, set up our work environment to best suit the migration process, second, discuss the movement of view-type queries to your new Access Project, third, discuss the make-up of a stored procedure, and then, finally, look at an example of a migration of an Access query to a SQL Server stored procedure.

Setting up our environment

The first thing that I would like to do in this article, is set up our environment so that we can make the modifications with the least amount of work and confusion. (This is assuming that you have already migrated the Access database to an Access Project.) This is done by:

1. Opening the original version of the Access database. (This will be the database with the .mdb extension.)

2. Opening another instance of Access, and then opening the new, or migrated, version of the Access database. (This version of the database will have the .adp file extension.)

While you have the Access Project at the top of the desktop, take a look at the Views and Stored Procedures, which can be viewed by clicking on the appropriate buttons on the left-hand side of the navigation dialog box. You will notice that some of the queries were migrated in the migration, but that you have a lot of junk Views and/or Stored Procedures.

You can delete them. Also, be aware that some queries might actually be in the wrong place, (Views in the Stored Procedure area, and/or vice versa). You can easily change this by opening the queries in the original Access database and checking the SQL statements to see what type of queries they are. These queries will fall in one of these two families:

1. All queries that do not take variables and are not executed by another query are Views.

2. All queries that are executed by another query, accept variables or manipulate results are Stored Procedures.

Creating New Views

After you have discovered which queries fall under the categories of Views and Stored Procedures, I would advise you to recreate the Views first. They are the easiest to deal with, and they will help you to deal with some of the initial fear that you will be feeling with this migration, and in a very real sense, this new environment. To move the queries from Access to Views in the Access Project, you must:

1. Create a new view in the Project by clicking on the View button on the right-hand of the navigation dialog box, and then clicking on New, which is found on the top bar of the navigation dialog box. You will now be in the View creation environment, and for the purpose of migrating your queries, you will need to see the SQL view, which can be activated using the SQL button found on the top control panel of your access project. (It is located next to the SQL-checkmark button). If you would prefer a larger work environment, you can click on the two buttons directly on the left of the SQL button, and this will close the other two query creation tools, and leave you with a full screen SQL creation tool.

2. Next, you will open the original query (from the original Access database) in design view . When you are in the query design view, you will want to see the queries SQL statement, which is accomplished by clicking on the design view button located directly underneath the file menu button. (This will bring up a short menu of three items, from which you will choose the SQL view).

3. Highlight the query with your mouse, and copy and paste the query over the generic code in the Access Project.

4. Save the new view as the same name of the query in the original database. (Do not be alarmed if there are any problems with the syntax, the program will prompt you if there are.) If an error does occur, check to see if the query does indeed need variable declaration, etc. If it does, you will have to create the query as a Stored Procedure. If it does not, check for syntax errors, make the changes necessary, and try saving again.

I wouldn't be too worried. I have moved quite a few queries to Views, and have had few problems. Most of the time, the problems occur when you are trying to migrate a query to a View, when it should be migrated as a Stored Procedure instead.

Speaking of Stored Procedures

If you find that the query that you want to migrate is most appropriately migrated to a Stored Procedure, you will need to modify it to recreate the query to acquire the same results as the original. Writing stored procedures for Microsoft SQL Server is a task that sounds more difficult than it actually is, and is made even easier by the fact that you already have the SQL

query in place in the original database. To get started:

1. Open both of the databases, as written in steps 1 and 2 in the section "Setting up our environment".

2. Open a new Stored Procedure by clicking on the Stored Procedure button found on the left side of the navigation dialog box and then choosing the New button found on the top bar of the navigation dialog box.

In this new screen, you will something like this:

Create Procedure "StoredProcedure1"

/*

(

@parameter1 datatype = default value,

@parameter2 datatype OUTPUT

)

*/

As

/* set nocount on */

return

This is an outline of a generic Stored Procedure, and is a good place for us to start understanding the syntax of the Stored Procedure. We will look at this line-by-line, so that you will see how this generic recipe can be integrated into your query, and help you to migrate these queries with ease.

The first line of the Stored Procedure, states, "Create Procedure "StoredProcedure1"" This line creates a Stored Procedure with the name "StoredProcedure1". When we are creating the new Stored Procedure, we will want to change this to read, "Alter Procedure "StoredProcedure_Name_that_you_would_like". By changing this line from Create Procedure to Alter Procedure, we are making it easier for us to make future changes to the Stored Procedure. If we left it as Create Procedure and we tried to execute the Stored Procedure a second time, we would get an error stating that the Stored Procedure already exists, and that SQL Server cannot execute the command. Using Alter Procedure allows us to execute the Stored Procedure as many times as necessary, and it simply modifies the existing Stored Procedure.

The second line contains the comment character /* . This character will treat the text/code that follows as a comment, and will not execute the code. It needs to have a */ at the end of the block that you would like to comment, to end the comment. (For example:

This is not a comment

/*This is a comment

and this is too, but */ This is not.

Therefore the database engine sees this "quasi-code" as:

This is not a comment

This is not.

and completely ignores the section of text bracketed by the symbols /* and */ .

The next section of code is:

(

@parameter1 datatype = default value,

@parameter2 datatype OUTPUT

)

This block, when uncommented, (by removing the /* and */) , represents the declaration of variables to be used in the Stored Procedure. If you have ever coded in a programming language, you will notice the similarities between the declaration of variables in a Stored Procedure, and the declaration of variables in a programming language. You declare a variable by first:

1. Giving the variable a name that is significant in the context of your stored procedure, such as, fileName, to signify a variable that will receive the name of a file as input from the user. The second important part of the variable name, is the appearance of the "@", preceding the variable name. In SQL Server, this "@" character represents a local variable. This means that the variable name must have an "@" preceding the variable name for the variable to be recognized as a variable in the Stored Procedure. (Global variables are available in SQL Server, but are beyond the scope of this article.)

2. Give the @variableName a datatype. This is the type of information that the variable will hold. Below is a table with all of the data types that are available in a SQL Server database.

binary	Bigint	Bit	Char	datetime
decimal	Float	Image	Int	Money
nchar	Ntext	nvarchar	Numeric	Real
smalldatetime	smallint	smallmoney	sql_variant	sysname
text	timestamp	tinyint	varbinary	varchar
uniqueidentifier				

The exciting part about using SQL Server is your ability to create data types that fit your needs better than the data types that are listed above. (I will cover that in a

> future article.)

1. You may want to initialize, or set the @variableName, to a value. This can be a number in the case of an integer data type, or Int. (ie. @variableName Int = 0) Or, in the case of varchar:

@variableName varchar(255) = 'inactive'

Notice that we placed a number after varchar. This number, enclosed by parenthesis, is the length of the text that you will allow to be held in that variable. In this case, the text can be 255 characters in length, (hence, varchar(255)). I would also like you to notice that the variable is initialized by placing a string of text characters inside a pair of single quotes. You need these single quotes, otherwise, it will not know how to deal with strings.

The final block of code looks like this:

As

/* set nocount on */

return

This block of code is where you place the SQL statements. The "As" and the "return", act as brackets, or the beginning and ending, for the code that you place in this block. (As you see, there is a commented section that says "/* set nocount on */". That is rubbish that can be removed and replaced with a SQL query, such as, "SELECT * FROM table_name".)

Here's an Example

I always feel that it is easier to understand a new topic by looking at an example. This example will take a query that I have migrated, and show you the thought process that I followed to get you from Ex. 1, which is a query that was created in Access:

EX. 1

SELECT

table1.Coordinator, table1.Status, table1.[SSN],

table1.FirstName, table1.LastName, table1.Initial, table1.Address,

table1.City, table1.State, table1.PostalCode, table1.PhoneNumber,

table1.Class, table1.[Major Code], table1.[Graduation Date],

table1.[Citizen], table1.[Hours], table1.[GPA],

table1.[Hours in Major], table1.[GPA Major], table1.[Interview Date],

table1.Comments, table1.Employer, table1.[Start Date],

table1.[JobNumber] AS Expr1, table1.[StudentNumber]

FROM Students

WHERE (((table1.Coordinator)=[Type in your full name]) AND ((table1.Status)<>"inactive"))

ORDER BY table1.Status DESC;

to Ex. 2, which is the query modified to work as a Stored Procedure:

EX. 2

Alter Procedure [sp_students] @Type_in_your_full_name varchar (255),

 @students_job_# int

As

DECLARE @status varchar(10)

SELECT @status = 'inactive'

SELECT table1.Coordinator, table1.Status,

table1.[SSN], table1.FirstName,

table1.LastName, table1.Initial, table1.Address,

table1.City, table1.State, table1.PostalCode,

table1.PhoneNumber, table1.Class, table1.[Major Code],

table1.[Graduation Date], table1.[Citizen],

table1.[Hours], table1.[GPA], table1.[Hours in Major],

table1.[GPA Major], table1.[Interview Date],

table1.Comments, table1.Employer, table1.[Start Date],

table1.[JobNumber] AS Expr1, table1.[StudentNumber]

FROM Students

WHERE (((table1.Coordinator)= @Type_in_your_full_name)

AND ((table1.Status)<> @status))

ORDER BY table1.Status DESC;

Return

As you can tell, there was not much to change from the original query. If you look at them side by side, you will
 see that the query is virtually the same.

Original Access Query	New Stored Procedure Query
SELECT	SELECT
table1.Coordinator, table1.Status, table1.[SSN],	table1.Coordinator, table1.Status,
table1.FirstName, table1.LastName, table1.Initial, table1.Address,	table1.[SSN], table1.FirstName,
table1.City, table1.State, table1.PostalCode, table1.PhoneNumber,	table1.LastName, table1.Initial, table1.Address,
table1.Class, table1.[Major Code], table1.[Graduation Date],	table1.City, table1.State, table1.PostalCode,
table1.[Citizen], table1.[Hours], table1.[GPA],	table1.PhoneNumber, table1.Class, table1.[Major Code],
table1.[Hours in Major], table1.[GPA Major], table1.[Interview Date],	table1.[Graduation Date], table1.[Citizen],
table1.Comments, table1.Employer, table1.[Start Date],	table1.[Hours], table1.[GPA], table1.[Hours in Major],
table1.[JobNumber] AS Expr1, table1.[StudentNumber]	table1.[GPA Major], table1.[Interview Date],
	table1.Comments, table1.Employer, table1.[Start Date],
	table1.[JobNumber] AS Expr1, table1.[StudentNumber]
FROM Students	
WHERE (((table1.Coordinator)= [Type in your full name])	
	FROM Students

AND ((table1.Status)<>"inactive"))	
ORDER BY table1.Status DESC;	WHERE (((table1.Coordinator)= @Type_in_your_full_name) AND ((table1.Status)<> @status)) ORDER BY table1.Status DESC;

The only differences, are found in the highlighted text. This highlighted text represents the input data, "Type in your full name", and the condition, "inactive". The input data takes standard input from the user, and applies it to a variable, which we have given the name, @Type_in_your_full_name, in the transformed query. Access, because of it's desire to make the job of database creation easier for the end-user, allows you to set this up with relative ease, through the gui SQL interface that comes with the program. It is intelligent enough to realize that the user wanted to return the information from the table based on the full name of the coordinator. This works well in the Access world, but it lacks the power of a real enterprise-size database server, and must be modified to react with the precision needed for the SQL Server. We modify this code, by first declaring a variable after our procedure name. Which looks like this:

Alter Procedure [sp_students] @Type_in_your_full_name varchar (255)

You will find that any variable that needs input from the end-user, must be declared here at the heading. (By needing input from the end-user, I mean that we cause a dialog box to open when the stored procedure is called, and ask the user for input, applying that input to a variable.) (One note, the text on the dialog box prompt will be the text that is your variable name, For example, "Type_in_your_full_name". If the aesthetic of the program is important to you, you should think of another prompting scheme than the one that I use in this example.)

When I have declared the variable at the start of the stored procedure, then I will have to change the Access created variable name, with the variable name that you just declared:

WHERE (((table1.Coordinator)=[Type in your full name])

changes to:

WHERE (((table1.Coordinator)= @Type_in_your_full_name)

That is all there is to it.

Next, we need to look at the second part of the criteria that we are using in our WHERE statement.

```
WHERE (((table1.Coordinator)=[Type in your full name])

AND ((table1.Status)<>"inactive"))
```

We want to show the results of our SQL query without the entries that are set to "status = inactive". In Access, the Jet Database engine knows that this string (inactive), enclosed with quotes, is setting a criteria with which to run it's query, but SQL Server does not. It thinks that we are asking for a column named ("inactive"). We will obviously have to make an adjustment to the SQL statement before this query will work as a stored procedure. To do this:

1. We must declare a variable? but not at the top of the stored procedure, as we do not need user input for this variable. We will therefore declare this variable in the body of the AS/RETURN block. We do it like this:

```
AS

    DECLARE @status varchar(10)
```

As you see, it is exactly like the declaration of @Type_in_your_full_name except, we preface the declaration with the word DECLARE.

2. After we have declared our variable, we must initialize it, or give it the value that we need to fulfill the criteria that we have set for the original SQL statement. We do it like this:

```
SELECT @status = 'inactive'
```

The declaration statement is just a SELECT statement without the FROM. The exciting part about the syntax for this statement is that you can simply expand on the form to initialize the variable to include information from another query, such as:

SELECT @status = status FROM table1 WHERE name = 'John Doe'

Or just initialize it as we did in the first declaration example:

```
SELECT @status = 'inactive'
```

3. After we have initialized the value of the variable @status, we need to set it into the WHERE portion of the query, like this:

```
table1.Status)<> @status
```

We have now successfully modified the original query for use as a stored procedure, and will be able to use this new form in the Access Project that we have migrated our database to. Here is the final example:

```
Alter Procedure [sp_students] @Type_in_your_full_name varchar (255),

 @students_job_# int


As

DECLARE @status varchar(10)

SELECT @status = 'inactive'


SELECT table1.Coordinator, table1.Status,

table1.[SSN], table1.FirstName,

table1.LastName, table1.Initial, table1.Address,

table1.City, table1.State, table1.PostalCode,

table1.PhoneNumber, table1.Class, table1.[Major Code],

table1.[Graduation Date], table1.[Citizen],

table1.[Hours], table1.[GPA], table1.[Hours in Major],

table1.[GPA Major], table1.[Interview Date],

table1.Comments, table1.Employer, table1.[Start Date],

table1.[JobNumber] AS Expr1, table1.[StudentNumber]


FROM Students


WHERE (((table1.Coordinator)= @Type_in_your_full_name)

AND ((table1.Status)<> @status ))


ORDER BY table1.Status DESC;
```

Return

In Conclusion?

In this article, we have taken a look at the migration of queries from an Access database to both Views and Stored Procedures in an Access Project. As we have seen, this can be somewhat complicated, but I think that this article will get you a little more acquainted with the process, and give you a point from which you can leap from and try to come up with your own solutions to the complicated queries that you have written in Access. I have noticed that the most important task of migrating queries is that I completely understand

what the query is doing. If I don't, I will sit and spin my wheels for a long time just throwing steps into a Stored Procedure. If I <u>have</u> taken the time to understand what the query is doing, then I only need to find the simple modifications that are necessary to make the query work as a Stored Procedure. Next, I like to set up my environment in a way that allows me to work the most efficiently, and with the least chance for human error. With my environment set up to my liking, I begin to work with the simplest forms of queries, Views, which in most cases, consist of simply copying the SQL statements from the original database and pasting them into our new View in the Access Project, naming the View with the name of the original query. Finally, I tackle the most difficult queries, which involve variables, execution, or result manipulation, and modify the query according to the rules of Stored Procedure syntax. When I follow these steps, I find that the migration process for moving Access databases to Access Projects, is fairly easy. This shows that once again, Microsoft has allowed us to take the next step beyond their Access database, and give our ColdFusion applications the room to grow that we need.

We'll see you on the other side!

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