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Campus Computing News



Pathway to an Information Technology Strategic Plan

By [John Hooper](#), Chief Information Officer, University Information Technology

University Information Technology (UIT), in collaboration with its many partners across the campus and in IT Shared Services (ITSS), is embarking on the development of an Information Technology Strategic Plan for the university. The UNT IT (IT) Strategic Plan will provide direction for IT infrastructure, resources, service delivery, and funding allocation from the 2014-2015 through the 2017-2018 fiscal years.

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Panopto Lecture Capture



By [Jane Himmel](#), Associate Director, CLEAR

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International Open Access Week 2013



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

International Open Access Week is "a global event now entering its sixth year, is an opportunity for the academic and research community to continue to learn about the potential benefits of Open Access, to share what they've learned with colleagues, and to help inspire wider participation in helping to make Open Access a new norm in scholarship and research."¹ This is the second year UNT has participated in this event and in celebration, Academic Computing and User Services (ACUS) has joined with the UNT Libraries, Digital Scholarship Co-Operative, and the UNT College of Information to offer a week of free programming. You will need to register by **5pm Friday, October 18th** to ensure that you have a place in the events.

By the Numbers

Down the Corridor of Years

1997

- The Federation of North Texas Area Universities took over management of the Dallas Education Center on Sept. 1 in order to streamline programming. Texas Woman's University and the University of North Texas are leading members of the federation.
- The shared academic/administrative IBM mainframe was upgraded to an IBM 7672-R24 system with a capacity of about 80 MIPS, providing a 52% increase in administrative capacity.
- Solbourne Unix system was upgraded to SUN E-500 (Ultra Enterprise 5000) - 4 167 mhz UltraSPARC CPUs, 1 GB of RAM, and 40 GB of disk space, a factor of four increase in processing capacity. Sol is now primarily dedicated to research support.
- Jove Unix system was upgraded to a Sun SPARCserver 100-E with four 85 Mhz processors and 512 megabytes of memory. doubling its processing capacity. Jove is now primarily dedicated to student E-mail, Web page storage, and instruction.
- ACS staff convert the PHED 1000 course materials to a World Wide Web publication.
- Secure Shell (SSH) is installed on ACS UNIX

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[EDUCAUSE Learning Initiative \(ELI\) Online Fall Focus Session 2013](#)



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

The 2013 EDUCAUSE Annual Conference is coming to a close. Fear not, however, there are more EDUCAUSE events that you can participate in. Next up: ELI Online Fall Focus Session, "How Online Innovations Are Transforming Learning."

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[ITSS Quarterly Newsletter](#)



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

Issue 5 (September 2013) of the *ITSS Quarterly Newsletter* is now available. It is comprised of IT-related news relevant to anyone who uses or has an interest in shared services and applications throughout the UNT System and its member institutions.

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TODAY'S CARTOON

Click on the link above for an information age laugh.



systems.

- UNT selects the Remedy Action Request System to support IT trouble ticket requests.



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This strategic plan will concentrate on the IT services provided locally at UNT by University IT and the distributed computing organizations at UNT. Consistent with

UNT's IT governance model, this strategic plan will provide direction in relation to UNT's *common good* information technology services. Generally, *common good* services provide benefits to a significant number of users across multiple organizational entities. The strategic plan will be completed this fiscal year. It will be a collaborative effort involving discovery of needs and expectations across a broad array of IT constituents.

UNT implemented new [IT governance](#) in fiscal year 2012. Although this governance has been effective in making "decisions about the selection of (and investment in) *common good* information technology services" in isolation, a more strategic approach is required for effectively making longer-term decisions about IT strategy. First, with the current approach, initiatives are considered without any knowledge of other initiatives that might be coming later. The IT Leadership Committee as well as the president's councils which ultimately fund initiatives early on expressed a desire to review a collection of initiatives so they could make informed choices based on UNT priorities.

Second, perhaps more than ever, UNT is faced with a large number of opportunities – lecture capture, flipped classrooms, e-textbooks, MOOCs, blended learning, interactive instruction, collaborative spaces, mobile computing, 24x7 services, virtual desktops, cloud computing, enhanced student services, distributed printing, living-learning communities, sustainability, big data, and Constituent Relationship Management (CRM) – that will all require significant technology investments.



Third, with the advent of IT shared services governance in the UNT System, it is important to develop a strategic plan to package initiatives that require IT Shared Services participation, to contribute to ITSS strategic planning, and to weigh shared services initiatives generated externally against UNT's strategic direction.

Finally, current funding of Information Technology, particularly as provided by student technology fees, is aligned with historical technology models that may not support the current and future expectations of students or faculty. The funding allocation model should be aligned with the new future vision that will be reflected in this strategic plan.

Although the development and execution of the strategies will require the support and involvement of UNT System IT Shared Services (ITSS), it is not intended to set strategies for shared services delivered to other components of the UNT System as well as UNT. These are more properly determined through ITSS governance processes. Strategies developed from the UNT process could generate initiative requests that would be considered within ITSS governance for implementation system wide.

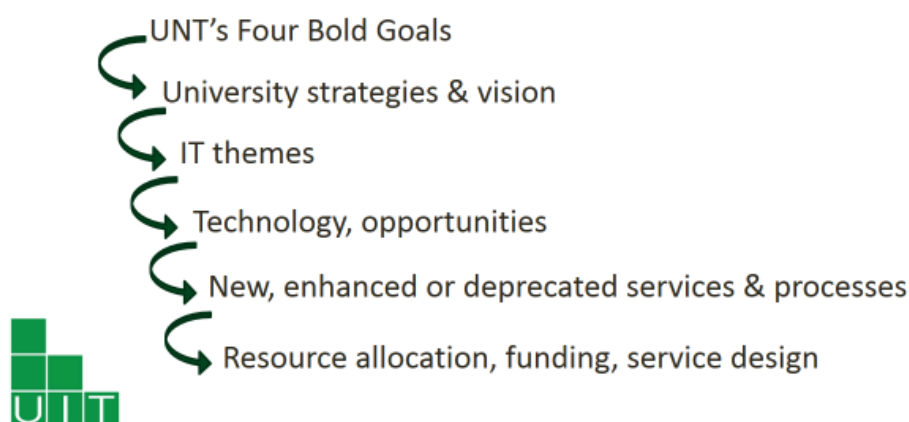
The IT Strategies will fall into one of four topic areas:

1. Academic Information Technology – IT used to deliver instruction and other academic services to student

2. Research Information Technology – IT used to support research, scholarship and creative activities.
3. Student Services Information Technology – IT used to deliver support services to students in the context of admissions, campus life, administration, auxiliary/business services, athletics, and alumni services.
4. Technical Architecture – Core technical infrastructure in support of staff and students generally in the area of productivity and collaboration applications and public services.

The approach to the development of UNT's IT Strategic Plan will be driven from UNT's [four bold goals](#). Based on existing university plans driven by those four bold goals such as the Academic Affairs Strategic Plan, other university vision statements, or visions developed as part of this process that align with the four bold goals, IT themes in support of those visions will be developed and prioritized to define the desired future state. The IT themes developed will focus the plan on IT technologies and opportunities. These opportunities will lead to the development of new services or the enhancement as well as the possible deprecation or de-emphasis of existing IT services. The future state service mix will drive the allocation of resources, funding, and organizational models.

Approach



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Panopto Lecture Capture

By [Jane Himmel](#), Associate Director, CLEAR

In the [September 2013](#) issue of *Benchmarks Online*, Dr. Philip Baczewski announced availability of an enterprise license to Panopto Focus lecture capture system. Although Panopto has been in limited use at the University of North Texas since 2011, it is most likely a new tool, and perhaps a new technology, for many readers. This article explains what lecture capture is and describes the benefits of this technology for faculty and students.

What is a Lecture Capture System?

For those unfamiliar with the term, *lecture capture* has been used to describe any technology that allows instructors to record classroom lectures. Indeed, a digital recorder set on a desk in the classroom could be considered a simple form of lecture capture. By contrast, a *lecture capture system* is an integrated set of technologies specifically designed to do three things:

- 1) Record all media associated with the lecture, including audio, video, and screen activity
- 2) Create index points that allows a viewer to find specific locations for review (e.g., thumbnail images of the screen, text from slides, etc.)
- 3) Publish the recording to a central location for playback or download

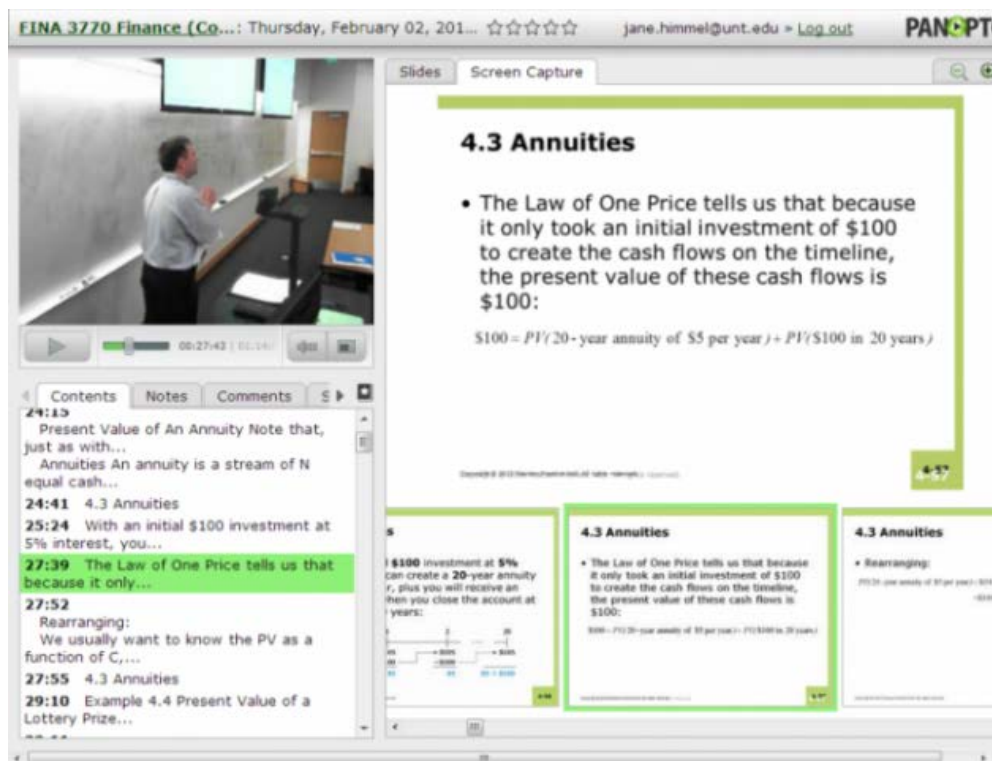


Figure 1. Image of the Panopto Viewer window. Dr. James Conover, Professor, Finance, Insurance, Real Estate and Law finds Panopto valuable in delivering complex content. "The recordings allow students to review portions of the lecture where they were following along, yet missed one or two

steps in the explanation."

While some commercial systems require the installation of a hardware device—making recording location-dependent—Panopto is completely software-based. The recorder can be installed on a desktop machine or laptop, and is cross-platform compatible. Panopto also offers a free recording App (video and audio only) for the iPhone and iPad available in the iTunes App Store. The Panopto Viewer, which displays the published recordings, is also cross-platform compatible and offers thumbnail navigation and keyword search options, offline viewing/downloading, and variable speed playback.

Panopto Technical Resources

- [Mac Recorder Documentation](#)
- [Mobile Apps](#)
- [Panopto Equipment Guide](#)
- [Windows Recorder Documentation](#)
- [System Requirements](#)

Why Use Lecture Capture?

There are several reasons to consider using lecture capture. Availability of recorded classroom lectures enables students to review material they may not have fully understood in class. In many cases--nationally and on this campus--lecture capture has enabled student athletes to stay on track even when they are physically unable to attend class. With a growing number of students working while attending college, and with some finding themselves suddenly deployed for military duty, the availability of lecture recordings may make the difference between remaining in college and having to withdraw. Some institutions have adopted lecture capture technology in an effort to more effectively serve students with disabilities, but found in the process that this technology improves attention to universal design, which benefits all students a ("Advocate for adoption," 2011).

Dr. Kimi King, Associate Professor in the Department of Political Science, has been using Panopto to record her lectures in the classroom since 2011. Among the advantages she believes Panopto offers for students are 24/7/365 access to her content. "Students no longer have to get notes from classmates when they missed a session. Study groups and tutors can also use the recorded lectures during review sessions." Research indicates many students value the availability of lecture recordings and that they perceive improvement in retention of material as well as scores. During the Fall 2011 semester pilot at UNT, student feedback also demonstrated this perception:

I was able to go back and listen to his detailed explanations of topics I didn't fully understand the first time. I'm making an A in the course right now, and I believe that these lecture videos are the only reason why. – **Student survey feedback, Fall 2011**

Faculty who have implemented lecture capture in this way appreciate that the technology provides students with a way to personalize their learning experience without impacting instructional method. Don Retzlaff, Principle Lecturer in Computer Science & Engineering commented that, "Panopto has worked exceedingly well in the classroom for me. The recording process is not intrusive to me or my class in any way. My students appreciate being able to review the lecture material at their own pace outside of class."

Lecture capture also provides opportunities for faculty to completely rethink course design and change their instructional methods. Whereas before instructors may have used class time entirely for lecture, they may now record and release lecture content to students via the lecture capture system and use class time for discussion or other activities. This model, commonly known as the "flipped classroom," has gained attention as an instructional model that improves student engagement, opportunities for interaction between students and the instructor, and creates personalized learning opportunities (Goodwin, 2013). UNT's enterprise license to Panopto enables faculty to do this so much more easily. Because the recording software can be installed in a number of locations and on a number of devices, the instructor has freedom and flexibility to record where and when it is most convenient.

What to Consider Before Implementing Lecture Capture

Although faculty and students cite many advantages to using lecture capture technology, it is important to acknowledge there are risks to consider before deciding to implement it. The most common concern expressed by faculty who are thinking about using lecture capture is that students will stop attending class. Although there is plenty of evidence demonstrating the use of lecture capture does not impact attendance, most faculty agree it is essential to have an attendance policy and to provide incentives for attending class. Such incentives may be as simple as having pop quizzes or other points-based activities, (e.g., small group discussions, projects, etc.) that a student can get *only* by attending class.

Although use of lecture capture technology may improve accessibility for students who need disability accommodation, instructors should recognize that if they plan to use lecture recordings as the *sole* means of content delivery, such as in a fully online class, they must also consider [how they will provide accommodation](#) for students with hearing disabilities.

Getting Started

Although Panopto is designed for ease-of-use, it takes time to learn how any new technology will best work for you and your students. The Center for Learning Enhancement, Assessment, and Redesign (CLEAR) provides training to help you get started and support all along your journey. The Panopto resource page on CLEAR's website includes an overview, tips and guides, and a contact form to request an appointment: <http://clear.unt.edu/panopto>.

Works Cited

Advocate for adoption of lecture-capture technology. (2010). *Disability Compliance for Higher Education*, 15(11), 7.

EDUCAUSE Learning Initiative. (2012). *7 Things You Should Know About ... Flipped Classrooms*. Retrieved June 12, 2013 from <http://net.educause.edu/ir/library/pdf/eli7081.pdf>.

EDUCAUSE Learning Initiative. (2012). *7 Things You Should Know About ... Lecture Capture*. Retrieved June 12, 2013 from <http://net.educause.edu/ir/library/pdf/eli7044.pdf>.

Goodwin, B., & Miller, K. (2013). Evidence on Flipped Classrooms Is Still Coming In. *Educational Leadership*, 70(6), 78-80.

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Dr. Jesse Hamner, Manager, Research and Visualization Environment (RAVE) ACUS, will be leading the following events:

- 10/23/2013: 3PM-5PM. Poster Design and Data Visualization Lecture
- 10/25/2013: 3PM-5PM. Poster Design and Data Visualization software workshop
- 10/29/2013: 9:30AM-12PM. Poster Design and Data Visualization Lecture
- 10/31/2013: 9:30AM-12PM. Poster Design and Data Visualization software workshop

For registration and a complete list of events, please see:

<http://openaccess.unt.edu/content/open-access-week-2013>

¹ From the official Open Access website: <http://www.openaccessweek.org/page/about>

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Network Connection

By [Dr. Philip Baczewski](#), Senior Director of Academic Computing and User Services and Deputy Chief Information Officer for University Information Technology

Hash it Out

In the history of the Internet, there have been a number of occasions when arcane terms and information find their way into the popular vernacular. The most annoying of these occasions have been when television advertisers adopt such things in an attempt to lure young people's dollars to their particular product by appearing "cool" (as we would have said in the 1970's) and "au current" (as we would have said in France.)

The significance of a

In the early days of the Internet, the tortured phrase that you commonly heard was "double-u, double-u, double-u" until the World-Wide Web became the de facto Internet and everyone assumed that things like [asparagus.com](#) would automatically plug into your Web browser. Currently, it is the term [hashtag](#) that is plastering the airwaves. Recent outbreaks have been seen in auto and fast food commercials, most annoying for those of us who no longer see the hashtag as something novel or more interesting than a hyphen.*

In case you've not been previously exposed, a hashtag is a number sign (# -- also called a [hash](#)) followed by a word or concatenated phrase that serves as a keyword or as [metadata](#) in relation to content posted on various Internet services. Hashtags are mostly associated with [Twitter](#), the "microblogging" service that allows you to communicate with a maximum of 140 characters at a time allowing others to hang on your every word (i.e., "followers" of your "tweets.") A hashtag may be used to associate a message, image, or video with a particular topic or with similar items already posted on a particular topic. For example, I might "tag" the word #hashtag in my message or follow my message with hashtags: #abouthashtags #socialmedia #howcoolamI

The utility hashtags provide is easily searched Internet content on a particular topic. Twitter has made this into a feature with their publications of [trends](#) that are based on the hashtags found in posts for a particular city, country, or even world wide. This has led to use of the word "trending" to describe what users of social media seem most conversant about. For example, I might say that #exploitation of #socialmediatechnology is trending in #stupidTVcommercials.

#Trending

Twitter trends are now the subject of intense [analysis](#) for those, like news organizations and businesses wanting to stay on top of the latest thinking of the #socialmediamasses. The Web site [hashtags.org](#) aims to support development of "social media prowess" in all kinds of organizations. Twitter is also promoting hashtags to serve as an #alertsystm, which was employed during a recent [incident](#) in Washington D.C.

Perhaps hashtags are bubbling to the top of our #mediaconsciousness because of the impending initial public offering (#IPO) of Twitter stock. Other than football, nothing gets the U.S. public more energized than the opportunity to [buy stock](#) in #unprofitableInternetcompanies. Apparently, there's still faith that if enough people are using it, the service will make money somehow, some day.

Hashtags, like many other things, are best #doneinmoderation, lest they become #tooannoying or #inconsequential. Even Twitter [recommends](#) #limitinghashtags to #nomorethantwopertweet. I'm not the only one who has noticed this #proliferationofhashtags, as a recent [parody](#) has illustrated. Sometimes when something is #overused, you just #wishtheywouldstop. Hopefully, the novelty of hashtags will wear off soon.

*"Hashtag," along with "tweetups" and "unfriend" was one of the *Oxford English Dictionary's* "words of the year" in [2009](#).

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By [Jonathan "Mac" Edwards](#), CITC Helpdesk Manager

This is a reprint of an article that appeared in the [March 2013](#) issue of Benchmarks Online. October is [National Cyber Security Awareness Month](#) and malware is an everpresent threat, as the [recent report](#) of a ransomware threat known as CryptoLocker confirms. -- Ed.

Be Safe Out There

We recently received some questions from UNT's ODA regarding safe computing practices for students. I thought they were good questions and in this month's Helpdesk FYI we will look at those questions and discuss some ways to use safe computing practices to avoid phishing scams and malware.

1) What are the most common threats or dangers that may appear on the internet? There are so many different kinds (spyware, malware, etc.) What should we be most vigilant against?

While you hear about threats being everywhere on the internet, if you use safe computing practices it can actually be a pretty safe place. Websites can distribute malware and viruses via pop-ups, harmful downloads, or outdated browser plugins. Email can contain harmful attachments or employ phishing scams in an attempt to get unwary users to release sensitive account or personal information. All of these are bad, so in a sense, you should remain vigilant against all threats. At the same time using common sense and some safe computing practices can help you avoid these dangers.

2) How dangerous can this malicious coding be? Have we, as people, built the "virus" to be more than it is really capable of being? In other words, are we too paranoid?

Malicious coding can be very dangerous. A virus can use your computer to distribute viruses or malware to other machines, spreading just like a virus spreads between people. It can also negatively impact the usability of your machine often "locking you out" or potentially give others access to sensitive information on your computer. You should not live in fear of malware or viruses, but you should remain vigilant against them.

3) How can we protect ourselves from "infecting" our computers?

First think of the internet like real life. Should you visit with the individual offering free DVDs on the corner or should you purchase them at Best Buy? Should you give away your bank account number to someone you met on the bus or to a teller inside your bank?

Websites:

- Know what websites you are visiting. Do they seem reputable? Most major websites aren't going to be a "den of scum and villainy." On the other hand, visiting sites offering something for free that would otherwise cost money or sites you might not want your mom to know you visit could be dangerous.
- Know what you are doing on those websites. If you want to download something or click on a pop-up, read carefully and be sure you understand what the website asking you to do. If you don't know specifically what you are being asked to click on or download, don't do it.
- Be careful where you distribute information. If asked to enter in sensitive information know where and why you are doing it. If in doubt login through the main website, i.e. only enter account information after going directly to <https://www.bankofamerica.com>.
- Read carefully when installing applications or accepting terms. Many installations will include a number of screens asking you to install additional software such as toolbars or other applications. Be sure to uncheck

any of those boxes if you are unfamiliar with those applications. If you are ever nervous about the number of such prompts or checkboxes you see when installing an application click cancel and do some research on the application. Many websites will also have options for you to agree to outside of their terms of service. When in doubt uncheck these boxes.

Email:

- Know who you are talking to; if it is an unknown sender be more wary.
- Only download attachments from trusted sources, and avoid downloading unknown file types or an executable (.exe).
- Only click on links in emails from trusted senders, and never click on a suspicious link.
- Never share personal, account, or financial information that is requested via an email. Instead contact the company directly to verify the request, and only make account changes by going directly to their website i.e. <https://www.wellsfargo.com>.
- The above items refer to Phishing emails. For more information please visit the UNT Security Team's phishing information page: <https://security.unt.edu/phishing>.

4) I've heard that the IT department may offer **free anti-virus software** to the student body. Is this true?

Yes, UNT offers a free download of McAfee virus scan for students, faculty, and staff. This can be downloaded at <https://security.unt.edu/antivirus>. It is highly encouraged that if you are not currently using an up-to-date antivirus program that you install McAfee.

5) In regards to being on the campus servers, why do we need any anti-virus software, firewalls, etc? Doesn't the IT department take care of any sites that may be malicious, already?

UNT websites, those hosted by UNT, are safe and should not be distributing any malware or viruses. Once you leave UNT websites, and visit websites UNT doesn't control, then you are once again open to all the risks that may exist on the internet. Even though UNT IT takes great pains to keep its users and websites secure there is always the possibility that a phishing email could come through or a website could be compromised. No matter where you are be sure you practice safe computing.

6) Are there any other hints, tips, or final words that you'd like to share in regards to computer behavior or usage?

Practice Defensive computing:

- Keep your computer and applications up to date installing updates regularly and when prompted.
- Keep your firewall turned on, and your anti-virus software up to date.
- Use secure unique passwords for websites containing sensitive information i.e. have a different password for your Banking, Email, and Facebook.
- When unsure about a website, pop-up, or download; exit out.
- Remember that Phishing Emails will often come from other contacts who have been compromised, read more about Phishing at <http://security.unt.edu/phishing>
- If you feel your account has been compromised reset your password immediately and contact Tech Support for that website.
- If you are prompted to provide financial information to remove a virus from your computer contact your local IT department or Computer repair shop immediately and follow their instructions.

Remember, UNT will never email you asking for passwords or other sensitive account information. If you receive such an email you can report it to the UIT Helpdesk (helpdesk@unt.edu).

For more information on keeping your computer safe Microsoft has excellent advice in their Safety and Security Center:

<http://www.microsoft.com/security/family-safety/online-safety-tips.aspx>

What to do if my UNT Computer or Account has been compromised

If you feel your UNT account has been compromised please reset your password and secret question immediately at <https://ams.unt.edu>, then contact the UIT Helpdesk (<https://helpdesk.unt.edu>)

If you are UNT faculty or staff and feel that your University owned computer has been compromised or infected with malware, please contact your Network Manager immediately. You can find their contact information at <http://helpdesk.unt.edu/netman>.

Final Thoughts

On a final note, we live in an age of online sharing, but sometimes it's best to keep things private. In our real lives we have grown accustomed to protecting our information and we don't regularly share our address, full name, pictures, current location, or daily activities with everyone we happen to meet. Online it can be easy to forget this, and while sharing can be great, it can be beneficial to be mindful of what we are sharing and who we are sharing it with.

Originally published October 2013 -- Please note that information published in Online is likely to degrade over time, especially links to various Websites. To make sure you have the most current information on a specific topic, it may be best to <http://search.unt.edu>. Website also consult the UNT Helpdesk www.unt.edu/helpdesk/. Questions and comments should be directed to helpdesk@unt.edu.



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Research and Statistical Support

University of North Texas

Why R; it's not a question, it's an answer.

Link to the last RSS article here: [How to export and merge tables, graphs, and raw data from R to a single Excel file: which has multiple sheets.](#) -- Ed.

By [Dr. Jon Starkweather](#), Research and Statistical Support Consultant

The University of North Texas (UNT), like other large universities in the United States, has been facing a serious budget short fall for quite some time. The United States' (and perhaps the world's) economy has been stagnated for several years and fewer people can afford to attend college or university¹. UNT is attempting to become a leading research institution. UNT has Four Bold Goals which are meant to guide the institution toward a brighter, more prestigious future ([UNT Strategic Plan 2012-2017](#)). Please keep these thoughts in mind as you read below.

Research and Statistical Support (RSS) personnel have been advocating for years that it is well past the time when UNT should discontinue expensive licenses for commercial statistical software packages. This document will further advocate the replacement of commercial software (e.g. SAS, SPSS) with R – and offer some reasons why that is a logical, reasonable, responsible, and indeed necessary choice.

First, of course; R is free – like the air you breathe is free. Anyone, anywhere can download, install, update, customize, and use R for absolutely no monetary cost....always, forever, and right now! R requires 2.5 things: (1.0) R requires effort, (1.0) R requires time, and (0.5) if you are using a Microsoft Windows operating system (OS); then you are required to have administrator privileges for that machine in order to install R. However, once installed, you do not need administrator privileges to use R. So, if you can spare a little effort, time, and you have administrator privileges on your Windows computer, then you too can use the most up-to-date, and technically advanced, data analysis software available. Wow! Who knew? Well, RSS knew; and has been screaming as much for years now. But, there was a lot contained in those first few sentences, so let's deconstruct them a bit.

COST

If you can satisfy the 2.5 requirements (i.e. a little effort, time, & admin privileges if you are using a Windows OS)... then you can download and install R. The effort required to download R is minimal; you simply click on one of the links contained in [this](#) webpage (yes, it is implied that you are required to have web access, but; if you didn't, then you would not be reading this). Notice on that webpage, there are three choices which correspond to the three major OS currently available. If, you are Macintosh (Mac) user, then you clearly are not a SAS user. If you doubt the confidence in that statement, then consider yourself challenged to use the latest version of SAS installed in a Mac OS environment. For those not inclined to take up the challenge, you might want to know SAS has not been officially available for, or supported on, Mac OS for several years now. Once R is downloaded, it takes only a few clicks to install it. First, click (or double click) on the installation application; then click your way through the installation....you don't even need to type anything. So there! You could, in just a couple of minutes, have a basic (but competent, stable, & reliable) statistical software package. However, if you are interested in doing analysis of complex data structures (and really, who isn't these days?), then you probably want to download and install all the additional

packages endorsed by and available from CRAN. As of today (Aug. 16, 2013); there are 4758 packages available on [CRAN](#) (keep in mind, there are many more packages available from other repositories). So, we come to the first *real* time requirement.

RSS personnel have always strongly advised people to install all the CRAN packages directly after installing the base R software. There are a variety of benefits to this strategy; such as having all the tools you are ever going to need easily on hand. At any rate, downloading and installing all the CRAN packages will consume approximately 4 hours; if done all in one R session. Essentially, once R is installed, you could let it run over night or during a morning while you are in meetings or classes. To accomplish this (downloading and installing all the packages), you simply open R, click on the 'Packages' button in the border task bar, then click on 'Set CRAN mirror...', then select the closest mirror site in terms of geographical location (e.g. "USA (TX 1)") from the list provided, then click on the 'Packages' button again, and select 'Install package(s)...' and select all the packages listed, and finally click the 'OK' button. R will subsequently download and install all the packages. You might be tempted to think approximately 4 hours is a long time...but a complete SAS install – with all the available modules – takes at least 4 hours and often longer. And of course, R costs you absolutely zero money; while SAS and SPSS costs are far from zero, especially if you require all of their additional modules.

Take a moment and think about those monetary costs. UNT spends tens of thousands of dollars (if not more) each year to pay for enterprise level software licenses; including SAS and SPSS. If you advocate spending that money to support SAS and SPSS, then you are essentially advocating security for jobs at those corporations (SAS & IBM [SPSS]) over jobs and job security at UNT. Yes, that money could be spent on raises and new hires at UNT rather than *profit*, jobs, and raises at SAS and IBM, which now owns SPSS. Let's not forget that UNT's primary purpose and responsibility is to provide an education to students. If you advocate spending UNT's money to support SAS and SPSS, then you are advocating costs for UNT which are passed down to current and future students in terms of tuition and fee prices – thus decreasing the affordability of the education UNT provides.

Consider a hypothetical faculty member who has been and continues to be a loyal SPSS (or SAS) user...we'll call that faculty member Pat². Pat forces students to use SPSS in the classes Pat instructs and Pat forces students to use SPSS for all the theses and dissertations which Pat supervises. Pat rationalizes the cost issue by pointing out that SPSS (and SAS) is available in its full version on campus (in computer labs) and SPSS (and SAS) provides a 'student version' of their software which costs much, much less than the full version. Some (a term used loosely here) tobacco executives have systematically targeted children with their harmful products because those executives believed getting kids addicted to their products would lead to lifelong, loyal consumption of their products. Pat's behavior demonstrates an extremely similar attitude. One might even be inclined to say, Pat and those like Pat are part of, and perpetuating, *the problem*. Once the students are forced to use SPSS (or SAS), it is extremely likely they will not use another statistical software package later – if you need evidence of this, talk to faculty, students, and researchers like Pat who have used SPSS or SAS for decades. Therefore, faculty like Pat are essentially forcing students to be lifelong SPSS (or SAS) users – and that means, the students will eventually need to pay for the full versions of SPSS (or SAS). Remember, each new *full* version of SPSS and SAS requires *full* payment (i.e. monetary cost) from the user. Every R version released has been absolutely free of monetary cost to the user...and any future versions will be free too.

Time

Many loyal (i.e. addicted) users of SAS and SPSS will readily admit that they do not want to switch from their *trusted* software to R because they claim it will *cost* too much in terms of their time and effort. It is true that most people who *switch* from SAS or SPSS to R find it a time and effort consuming task. However, when you consider the time and effort expended to learn SAS or SPSS and compare those amounts to the amount typically expended to learn R; you're likely to find those amounts to be nearly equal. In other words, yes; if you are *switching*, it will take some time and effort; but no more than what it took you to learn what you've been using. Dedicated SPSS users are most likely to complain in this respect, but keep in mind it took considerable time to learn the menu system and syntax of SPSS too. Also, in regards to SPSS; many of the sophisticated analyses used for complex data structures are not available in SPSS, let alone the menu system of SPSS (e.g. Structural Equation Modeling). And again, let's not forget the students who are in the unique position of learning a statistical software package for the first time (i.e. they are not *switching* from one software package to another); and therefore, students will be required to expend that same amount of time learning any of the three software packages mentioned.

Effort (RE: learning a programming language)

One of the most common (and loud) complaints from SPSS (and often SAS) users when considering a switch to R is that they do not want to learn an entire, or a new, programming language. R is a programming language environment. SAS is a programming language environment. SPSS; although it has a very user-friendly menu system...is a programming language environment. In fact, this complaint is often voiced precisely as: "Who wants to learn an entire (or a new) programming language?" One appropriate response to this question is: most of the developed and developing world! Some of you reading this have probably heard the term BRIC, which stands for or refers to Brazil, Russia, India, and China – the countries or economies which have, or will likely; surpass the United States in terms of world prominence. So it is equally appropriate to think of the answer to the above question as:

millions of Brazilian students, millions of Russian Students, Millions of Indian students, and millions of Chinese students; all of whom, by the way, are very likely inclined to use a free software alternative rather than pay large sums of money for software offered from American companies (e.g. SAS & SPSS).

Current and future university level students are more technically computer savvy than ever before. In fact, it is likely that a larger percentage of incoming freshman are already familiar with some sort of programming language (e.g. web page function and design using HTML – after all, the ML stands for Markup Language). Many employers expect new graduates / potential employees to possess at least a rudimentary understanding of computer communications and the use of computer languages. Therefore, advocating the learning of a computer language is not nearly as outlandish or inappropriate for the majority of university students as it might have been 20 or more years ago. Let's face up to the fact that computers are now ubiquitous and virtually anyone able to enter university life has had some exposure to computers in one form or another (e.g. smart phones, tablets, lap tops, desktops, etc.).

Furthermore, there are a few things to keep in mind when thinking about the phrase *learning an entire computer language*. First, you might consider the word *entire* as a barrier or discouraging part of the question from above (“...learn an *entire* or a new computer language”). However, you should recognize, like anyone who has learned *any* language, that learning to speak, read, or write in a language does not necessarily mean you must learn the *entire* language. For instance; if you're reading this, then you can read American English...and yet, you probably do not know *all* the words in every (or any) English language dictionary. So, to use, let alone think in, those types of absolute terms (e.g. *entire*) is really quite ridiculous.

One of the variations of the complaint above regarding switching from SAS or SPSS to R is the following: “I don't want to become a computer programmer!” Well, an appropriate response to that complaint is..., you should consider the languages you have already been using; no, not the language of love or the English, Spanish, German...etc. language. Consider the computer language(s) you have been using if you have been conducting data analysis with a computer (i.e. not by hand calculation or an abacus). Regardless of which statistical software package you have used in the past (or continue to use), you are using a computer language to conduct analyses. Perhaps you prefer terms like SAS code, SAS script, MACRO(S), SAS syntax, or even SPSS syntax or SPSS Modules. All of those terms refer to one computer language or another. In SAS, one of the first things people learn is PROC MEANS (a *procedure* for calculating *means* of series of scores). In SPSS, one of the first things people learn is COMPUTE (a *procedure* for *computing* any number of different numeric expressions; such as total scores, sum together multiple variables, mean, standard deviation, etc.). These are examples of *functions* from the underlying computer languages which are used to perform some simple tasks in the languages' respective environments (i.e. SAS environment & SPSS environment). No doubt many of you conscientious readers are now thinking something like...“so what! I know the SAS code I need,” or “so what! I use the menu system in SPSS to do what I need to do!”

Yes, well...oh my, this is a rather unfortunate and unpleasant or uncomfortable situation for us to have reached. You see; both the SAS language and the SPSS language originated way back in the age of the Mainframe computer. *THE WHAT!?!?* It may be difficult, but try to imagine a computer which fills the space of a large classroom and is made up of vacuum tubes, beeping lights, a loud humming or ticking noise, a great deal of heat, and occasional sparks; which *requires* punch cards to do analysis....that's a basic description of a computer from 50 (or more) years ago – commonly called a main frame computer. Both the SAS and SPSS languages originated on, and for, such computers. So, both of those languages are therefore very inflexible. Meaning, as new statistical techniques are devised, they are unlikely to be implemented into SAS or SPSS because of the core language. SAS has done a better job than SPSS at including new statistical analyses over the decades,³ but even SAS is lagging about 20 years behind R in that regard (and the lag is growing!).

Another aspect to consider when comparing the old main frame languages of SAS and SPSS to R is the fact that the R language is object oriented. This means most things in the R language are much easier to learn and remember because they are intuitively named and / or constructed. For example, a simple independent samples *t* test involves the following:

```
t.test(Recall1 ~ Candy, alternative = 'two.sided', conf.level = 0.95,
      var.equal = FALSE, data = example1)
```

where *t.test* is the function, Recall1 is a continuous dependent (or outcome) variable predicted by (~) the independent (or input) variable Candy (a grouping variable with Skittles & None as the two groups). The alternative = 'two.sided' specifies a two-tailed test of the *t* value, with a specified 95% confidence level, equal variances assumption not assumed (FALSE) and the data frame (data file read into R) called example1 which contains the variables specified in the formula (Recall1 equals or predicted by Candy). This *function* (*t.test*; like PROC MEANS or COMPUTE mentioned above) returns the output called (or specified) by the user defined *arguments* (i.e. alternative, conf.level, var.equal; similar to the options in SAS procedures or SPSS menu dialogue boxes). Below is the actual output from the function listed above.

Welch Two Sample t-test

data: Recall1 by Candy

t = -7.7566, df = 48.565, p-value = 4.774e-10

alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

-9.933199 -5.844579

sample estimates:

mean in group Skittles mean in group None

9.407407 17.296296

Software Development

Other important considerations when discussing SAS and SPSS versus R are the considerations of development and / or bug checking or reporting and implementation of bug corrections (e.g. software patches and implementation of new functions in new versions of the software). Large corporations, such as the SAS Institute and IBM (which owns SPSS now) tend to have very slow development tracks which involve many teams of software engineers (i.e. programmers) and many hierarchical management levels of approval (Raymond, 2001). Typically small segmented teams are responsible for development of specific functions within large software companies. These small teams are required to gain the approval of the many levels of organizational hierarchy prior to implementation of new products (i.e. analyses) and prior to implementation of changes (i.e. bug fixes). Large organizational structures such as SAS and IBM often also have user reporting systems for users to report problems with the software (i.e. bugs). These types of reporting systems often leave the user feeling as though their voice of complaint is unlikely to result in implementation of change; either through perceived loss of the complaint, ignoring the complaint, or an impersonal experience with the reporting system. Even if a user complaint gets through the reporting system and is directed to the appropriate team, the turn-around time for implementation is likely to be years due to the complex levels of hierarchical management approval and due to the necessary compatibility with other teams' code (i.e. functions being changed by one team must be compatible with all the other teams' functions and compatible with all OS, etc.). As an example of a relatively recent bug; consider the categorical principal components analysis (with optimal scaling) function (of the CATEGORIES module) of SPSS which has a bug documented [here](#).

The R development, bug reporting, and bug fixing scheme stands in stark contrast to the cumbersome schemes of SAS and SPSS mentioned above. The core R development team releases a new full version of the software approximately every 6 months (again, for free). SAS and SPSS release new full versions every 12 to 18 months or more (again; for a big monetary price). When speaking of the development of statistical software, it is readily apparent that R is much more receptive to and quicker to implement new methods than SAS or SPSS. Consider a fictional researcher, Dr. Smarty Pants at the University of Jupiter's Moon. Dr. Smarty Pants wants to do a new statistical technique, called the Wiz-Magic Decomposition analysis or WMD for short. Unfortunately, because WMD is so new, Dr. Smarty Pants cannot find WMD in any of the existing statistical software available (e.g. SAS, SPSS, & R). But, Dr. Smarty Pants is an R user. So, no matter who or where Dr. Smarty Pants happens to be, and no matter what analysis Dr. Smarty Pants wants to perform; any individual, like Dr. Smarty Pants, can write the code to perform the desired analysis and send it to CRAN as a new package/library. CRAN will then check it to make sure it works, has proper documentation, and post it so that everyone can then use the newest most advanced techniques, like WMD. You might think this process takes a great deal of time, but it does not.

Also, R provides users with virtually immediate confirmation of bug reporting by allowing R users to be members of the R development community – which means, any R user can post a potential bug report to the [R bug tracking system](#), or to the [R electronic mailing lists](#). It is important to realize that because all R users are potentially developers and bug checkers that many, many more eyes are inspecting the actual code's functionality of the software than are inspecting the code of SAS or SPSS (prior to *new* users installing and using the software).

Furthermore, if a user finds a bug in a specific package's code or a specific function, then the user can simply look in the documentation (installed with the packages) to find the contact information of the author of that code or that function (or package) and contact *that person*. The author of this article has done just that and received a reply within two hours. This anecdote highlights one of the major motivating factors for why R bug fixes happen very, very quickly (and those of SAS & SPSS do not). The user has direct access to the contact information of the person or persons who wrote the exact code which the user believes is malfunctioning. There are two key components here: (1) the reporting speed and likelihood of the report getting to the person responsible for the code is near perfect and (2) the identification and reputation of the person who wrote the code is public and therefore, that person has a high degree of motivation to fix the code as quickly as possible and establish or maintain a good professional reputation as a result. It is easy to see that R's development, bug reporting, and bug fixing strategies are much better and quicker than the impersonal, often anonymous and nebulous, strategies of large (i.e. cumbersome) corporations such as SAS and IBM / SPSS.

Another benefit of R's transparency and open source perspective is the breadth and depth of user help or user community support available to new users (i.e. those attempting to learn R for the first time). RSS consultants very often tell clients that if they are reading or reviewing some R help media and they (the client) finds the author of that media distasteful (i.e. the client simply doesn't like the language or presentation style); then the client is instructed to toss aside that media and find another. The rationale for this instruction or advice is that there are so many avenues and media providing help to new users it is guaranteed that another author's language or presentation style is likely to be more easily digestible by that particular client. In fact, one of the strong points of R is the massive amount of free help available to new users (e.g. [YouTube](#) videos, [search](#) engines, [list serv\(s\)](#), [new user guides](#), [CRAN Task Views](#), [websites](#), etc.).

Finally, when considering the choice of using any of the three statistical software packages mentioned in this article; it is important to acknowledge the functionality of each software package (i.e. the range of analyses and the breadth of compatibility with other software). Again, R clearly exceeds SAS and SPSS in terms of breadth of functioning and in terms of efficiency of use or code. As an example, consider (again) that SPSS does not have the ability to do structural equation modeling (SEM). Furthermore, SAS's and SPSS's ability to do many newer or complex analyses (e.g. Bayesian analyses, nonlinear hierarchical linear modeling [HLM]) are severely limited in the menu system, inefficient in syntax (i.e. clunky, or requiring hundreds of lines of code), or simply non-existent (e.g. moderated mediation in SEM or HLM). R can be made to do all of those things. R can also be used to produce publication quality reports, graphs / figures, web pages (including [interactive elements](#) such as graphs), and it can easily interface or import / export information from a variety of databases or sources (e.g. [SQL](#), [HTML](#), [LaTeX](#), etc.).

Conclusions

Do you really need a summarizing paragraph of all the information treated in detail above? Well, given the current world, country, state, and UNT economies; and the goals of UNT to be more efficient, less wasteful, and attain research prominence...why would anyone at UNT involved in a research oriented field advocate using SAS or SPSS when R is available (for free!)? If RSS personnel were open to betting (and they are not); a calculated wager might be offered such as this: we are willing to bet the monetary cost of the best statistical software package available, that most of the most respected researchers in any serious scientific discipline are R users. Feel free to ask those researchers (especially the ones at Ivy League universities ;-). We think you'll find that the researchers most respected are indeed R users. Really, don't take this author's word(s) for it; check for yourself. After all, part of the allure of R and the value of a university education is the ability to *research* a topic, amass evidence, analyze or weigh(t) that evidence's empirical value, and make an informed decision or choice. An Adobe.pdf version of this document can be found [here](#).

Until next time, enjoy *California sunlight, sweet Calcutta rain, Honolulu starbright*...

References / Resources

Raymond, E. S. (2010). *The cathedral & the bazaar*. Sebastopol, CA: O'Reilly & Associates, Inc.

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¹ If you need a citation for this information...then you should crawl out of the hole under the rock where you have been for the last 4+ years.

² Thank you Saturday Night Live (SNL).

³ Editor's Note: "In 1985 SAS, which was previously written in PL/I, Fortran, and assembly language, was re-written in C. This allowed for SAS' Multivendor Architecture and for it to run on UNIX, MS-DOS, and Windows." [http://en.wikipedia.org/wiki/SAS_\(software\)](http://en.wikipedia.org/wiki/SAS_(software))

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Training

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

Do you need training on widely used computer programs including those used in statistical analysis? If so, this monthly *Benchmarks Online* column is for you.

Statistical Analysis

Instructor-led courses are offered only by special request. Please contact an [RSS member](#) or [Claudia Lynch](#) if you are interested in taking such a class or wish to have someone offer a class for your students. [SPSS](#), [SAS](#) and [Introduction to R](#) are offered online. Make sure and check out the **RSS Matters** article [Statistical Resources](#) in the July 2012 issue of *Benchmarks Online*.

Special classes can always be arranged with the RSS staff. Also, you can **always** contact the RSS staff for one-on-one [consultation](#). Please read the [FAQ](#) before requesting an appointment though.

**** Check out the Data Visualization lectures being offered October 21 - 25: <http://openaccess.unt.edu/content/open-access-week-2013> ****

Especially for Faculty and Staff Members

In addition to the online statistical courses, which are available to students, faculty and staff, staff and faculty members can take courses offered through the [Business Service Center](#) (they have a new comprehensive training curriculum), and the [Center for Learning Enhancement, Assessment, and Redesign](#) (CLEAR). Additionally, the [Center for Achievement and Lifelong Learning](#) (CALL) offers a variety of courses, usually for a small fee.

EIS training is available and expanding. Click [here](#) for online tutorials.

Microsoft IT Academy

All **students, faculty and staff** within the UNT System now have access to online learning via the Microsoft IT Academy. See [this article](#) in the July 2012 issue of *Benchmarks Online* for more information.

Microsoft E-Learning

Microsoft E-Learning courses are available for **faculty and staff** via our UNT-Microsoft Campus Agreement. Please contact Claudia Lynch at lynch@unt.edu for instructions on accessing this training. If you haven't accessed the training since last year you will need to get a new access code. UNT, UNTHSC and UNTSYSTEM e-mail addresses are now able to access Microsoft E-Learning.

Central Web Support

Central Web Support [provides](#) "End-User and Administrative Support for hosted general web sites, and Drupal websites for academic and administrative departments." Visit their [website](#) for "How-Tos about Everything."

CLEAR

CLEAR offers courses especially for Faculty Members. *CLEAR training includes:*

- Blackboard

- Turnitin
- Turning Point
- Assessment
- Teaching Effectiveness
- Respondus

Further information can be found [here](#).

CLEAR [Outcome-Based-Assessment Workshops](#) for Fall 2013 (September/October) - CLEAR offers 50 minute workshops by Dr. Ron Carriveau that provide everything you need to develop measurable student learning outcomes and outcome based assessments.

Ed2go

Ed2go are courses that are offered, for a fee, to UNT faculty, staff and students as well as the general public. According to the CALL [website](#):

CALL has partnered up to provide online learning on a variety of topics. From standardized test preparation to database programming to training for libraries and their staff, there's a variety of areas from which to choose in online learning.

The online minicourses, provided in conjunction with Ed2go, are standardized 12-lesson modules released over a six week period. (Courses are active for eight weeks to provide some flexibility). Each module features a quiz. Lessons are instructor-led and course participants and instructor communicate through a course discussion board. Lessons can be downloaded and saved. At the end of the course there is a final quiz. A passing grade opens a window that allows students to print out a course completion certificate.

Most courses are \$89, and UNT faculty, staff and students may receive a \$10 discount.

For additional information surf over to <http://www.ed2go.com/unt/> Visit the **Ed2go blog** [here](#).

Information Security Awareness

The ITSS Information Security team offers Information Security Awareness training to all UNT faculty and staff.

It is a policy requirement that ALL staff take an information security course at least once a year.

See July's "[Link of the Month](#)" for the latest information about Security Awareness training.

Business Service Center Training & Development

Provides training to UNT System institutions: <http://bsc.untsystem.edu/training-development>. There is also a link to [download Office 2010 training](#) (in PowerPoint 2010 format) on the BSC website.

UNT System HR has announced Fall/Early Winter 2013 Schedule of Training Opportunities

See the attached [Training Opportunities PDF file](#) for an outline of current offerings for professional development and technical training. Instructions on how to enroll are contained in the attached [instructional PDF file](#).

Alternate Forms of Training

Many of the General Access Labs around campus have tutorials installed on their computers.

See <http://www.gacl.unt.edu/> for a list of labs and their locations. The 24 Center in Willis Library, for example, has a [list of Tutorials and Software Support](#). The Library Instructional Unit also offers workshops and training, including "tech skills" training. Visit their websites for more information: <http://www.library.unt.edu/library-instruction>

The [Training Website](#) also has information about alternate forms of training. Computer Based Training (CBT) and Web-based training are some of the alternatives offered, although due to the rising costs of training, shrinking budgets and changing technology, computer-based training at UNT is in a state of transition. For up-to-date information on CBT at UNT, see the CBT [website](#).

Info~Tech, UNT's IT Research Partner

Info~Tech is UNT's IT research partner. UNT System, UNT, UNT Health Science Center and UNT Dallas employees have access to Info~Tech research at: www.infotech.unt.edu (click on the UNT System name to login). Your standard EUID and Password gains you access to the Info~Tech system. Please take a moment to read their terms and conditions by clicking through the agreement when you set up your profile the first time you log in.

State of Texas Department of Information Resources

Another possible source of training for staff and, perhaps, faculty members is the Texas Department of Information Resources. A look at their Education and Training [website](#) reveals some interesting possibilities.

New Horizons Computer Learning Centers

New Horizons is a DIR vendor, which means that state agencies, like UNT, get special pricing for their services negotiated at the State level (click [here](#) for more information about DIR vendors). [New Horizons](#) offers courses at their own facilities in Dallas and Fort Worth, but will arrange for onsite training as well.

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Attachment	Size
Fall Early Winter 2013 Training Opportunities UNT System HR.pdf	311.33 KB
Self Serve Registration Instructions.pdf	299.16 KB



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Staff Activities

Staff activities for [UIT](#) are reported in this column. ITSS staff activities are handled by [ITSS Communications](#).

Transitions

New Employees:

- **Brittaney Freiheit**, CSS Tech, Classroom Support Services (part-time).
- **Michala Sheppard**, CSS Tech, Classroom Support Services (part-time).
- **Jeremy Deutsch**, CSS Tech, Classroom Support Services (part-time).
- **Amber Evetts**, ACTS Tech, Academic Computing and User Services (part-time).
- **Paul Ransom**, CSS Tech, Classroom Support Services (part-time).

No longer working in UIT:

- **Chris Minor**, CSS Tech, Classroom Support Services (part-time).

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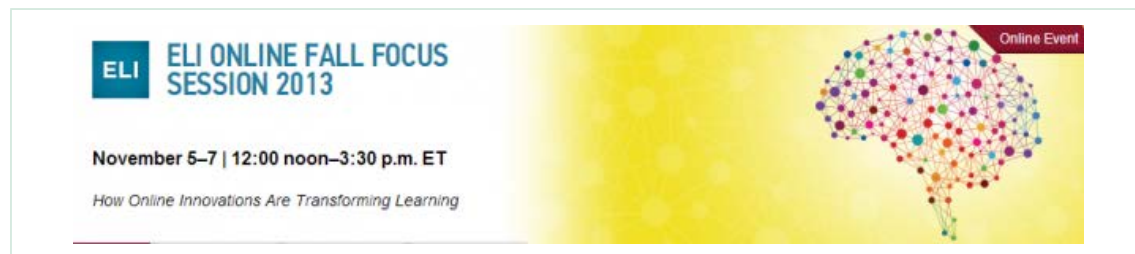
Staff Activities

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EDUCAUSE Learning Initiative (ELI) Online Fall Focus Session 2013

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

The 2013 EDUCAUSE Annual Conference is coming to a close. Fear not, however, there are more EDUCAUSE events that you can participate in. Next up: ELI Online Fall Focus Session, "How Online Innovations Are Transforming Learning."



The ELI website - <http://www.educause.edu/events/eli-online-fall-focus-session-2013> - states:

Is This Event for You?

This online event will bring together a variety of teaching and learning professionals to begin to address challenges and opportunities around transforming learning with the latest online innovations. The session will be valuable for:

- Information technology professionals
- Learning technologists and designers
- Faculty members and instructors
- Administrators
- Librarians
- Others who are interested in working with online innovations

You will receive the greatest value from this online session if you attend as member of a team or host a group event on your campus. Team participation can help your institution advance a current or upcoming project or encourage cross-disciplinary collaboration. Team members also find active discussion and engagement with each other during focus session activities builds rapport, solidifies plans, and enriches collaboration. By sharing a common focus session experience, participants can reflect on the implications for their institution.

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ITSS Quarterly Newsletter

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

Issue 5 (September 2013) of the *ITSS Quarterly Newsletter* is now available. It is comprised of IT-related news relevant to anyone who uses or has an interest in shared services and applications throughout the UNT System and its member institutions. In this issue:

- The Importance of Service Level Agreements
- Heat Implementation Update
- ITSM Tool Steering Committee
- Doing More with less using AppWorx
- PUP-Date - Update for the PeopleSoft Upgrade Project
- PUP SharePoint Site
- Virtual Desktop Computing
- And much, much more.....

Find issue 5 of the *ITSS Quarterly Newsletter* here:

<http://itss.untsystem.edu/itss-quarterly-newsletter/September2013/>

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Today's Cartoon



**"I can't decide which smartphone to buy.
Which one will solve all my problems
and make my life perfect?"**

From "Today's Cartoon by Randy Glasbergen", posted with special permission.
For many more cartoons, please visit www.glasbergen.com.

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