AITS Newsletter

APRIL 2018

My iPhone X Recognizes Me [By Abraham John, Executive Director, AITS]

As you may have guessed from my December 2017 article, I did become the proud owner of an iPhone X and I did, after a couple of months of using the PIN authentication, turn on Face ID. As with most biometrics, I am cautious in terms of expectations and with what the device does with the biometrics it captures. Many is the tale that I've been privy to, where facial recognition just did not live up to the promises of the vendors peddling their devices.

Given my cautious nature, I started with a PIN only authentication while considering all that facial recognition would bring to the experience. I equate PIN authentication to two strangers meeting and each saying some agreed upon phrase. You may have witnessed this in spy novels where two spooks meet at some innocuous place and one says something like "For there is good news yet to hear and fine things to be seen…" which may elicit a reply of "Before we go to paradise by way of Kensal Green." With PIN code authentication it is more a challenge where a pre-determined PIN is provided. PIN/password authentication on a device is colder than two strangers exchanging meaningless phrases.

It lacks the human warmth that follows recognition of a friend or an acquaintance. Biometrics, facial recognition in particular, attempts to bring our uniqueness to a world driven by PIN codes and passwords and in doing so is a step towards humanizing our smartphones by letting it recognize us quite like a friend or an acquaintance would. As this technology evolves, it may even make or use of these devices more secure.

Quite the same way that Touch ID was an innovative step in using a fingerprint, Face ID innovates authentication using facial recognition. The idea is that with a simple glance Face ID would unlock my iPhone X. Notice I said "my iPhone X". Unlike other products, Apple products tend to have a sense of personalization that makes us believe that Apple created the device exclusively for each of us.

When I turned on the facial recognition feature on my iPhone X, I was skeptical as to how well the device would perform in recognizing me under various circumstances.

I was pleasantly surprised at how easily my iPhone X recognized my facial features, even in low light. I keep my iPhone X with its wireless charging stand on the nightstand next to my bed and one of the first things I do around 4:30am is to roll out of bed, pick up my iPhone X. I am recognized instantly, morning face and all☺! My iPhone X recognizes me with glasses or without and even if I am wearing a hat. My glasses have transition lenses. When I am outside during daylight hours, the lenses change from clear to dark. My iPhone X still recognizes me, even with the transitions lenses.

In meetings, I can roll my phone to where it faces me at various angles and I am recognized by my iPhone X and I have access to all my phone can do WITHOUT resorting to PIN's, passwords or holding various digits at predetermined positions. The sensor tech that Apple has for facial recognition is housed in the iPhone X

April 1st, 1918 – Royal Flying Corps and Royal Naval Air Services of England amalgamated and created a separate service called the Royal Air Force.

April 1st, 1918 – German Expeditionary Force leaves Danzig for Finland and lands in Hangö in South Finland

"notch". This "notch", by the way, has not bothered me one bit. There are a variety of sensors and it also has the new True Depth camera system. There is a flood illuminator IR system that allows this facial recognition to work in low light conditions. Additionally the True Depth camera is intelligent in how it activates. As I mentioned earlier, just raising my iPhone X to face me will get it ready for Facial ID or tapping on the screen or through an incoming notification. It is smart enough to get ready for use so that Apple's promise of a simple glance is fulfilled.

The data is analyzed by the Apple 11 "Bionic" chipset. The data regarding your unique features is stored in the "Secure Enclave" on the iPhone X. Per Apple, the facial data does not leave the iPhone X and it is not backed up. This was particularly reassuring. Face ID carries depth information and this protects against spoofing by 2D photographs. The anti-spoofing neural engine guards against the use of masks and other methods. Face ID is also sensitive as it relates to your attention i.e. it is attention-aware. There is awareness built in to discern if your eyes are open and looking at the device.

As with any technology there are some caveats/rules when it comes to using Face ID with your iPhone X. A passcode must be setup to use Face ID and you must enter your passcode for an additional layer of validation under the following circumstances. The following list is what Apple has made available.

- The device has just been turned on or restarted.
- The device hasn't been unlocked for over 48 hours.
- The passcode hasn't been used to unlock the device in 6.5 days and Face ID wasn't used to unlock the device in 4 hours.
- The device received a remote lock command
- After 5 unsuccessful attempts to match a face
- After initiating power off/Emergency SOS by pressing and holding either volume button and the side button simultaneously for 2 seconds

According to Apple if your device has been stolen or if you lost your iPhone X, you can initiate a Find My iPhone Lost Mode to prevent Face ID being used to unlock your device.

I realize there are other very beautiful devices that appeal to all tastes but for me, my iPhone X feels like an old, familiar friend that's if a device can occupy that realm. Personally, it has been an excellent choice and purchase. Not to entice, but below for your viewing pleasure is an image from Apple. Notice the, now being imitated, notch!

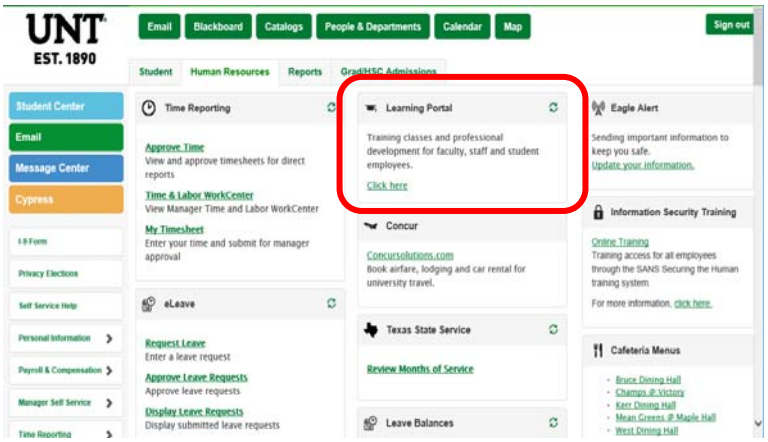
April 1st, 1918 – Enzeli (Persia) evacuated by Russian regular forces.

EIS is Becoming "Fluid" [Dorothy Flores]

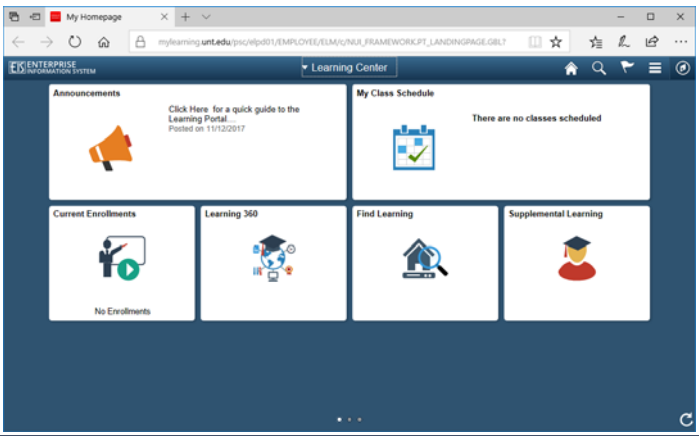
Technology is always changing and EIS is no exception. The software solution behind EIS is Oracle's PeopleSoft ERP (Enterprise Resource Planning) suite of applications. Over the past couple of years, Oracle has been periodically rolling out some new functionality for each of the applications, that is designed to improve the user experience. They call it "Fluid User Interface," or Fluid, for short.

What Fluid will provide is a more modern looking way for users to access self-service functionality using tiles, much like a mobile app, as well as streamlined menu options and navigation. Another benefit of Fluid is the ability provide a more mobile-friendly interface for users. Fluid is designed to be "responsive," meaning that it will adjust its presentation to any device, whether it is a PC, laptop, tablet, or phone.

So, when will Fluid be available to the UNT System user community? Well, it's already here, in limited use. In November 2017, a new PeopleSoft application called Enterprise Learning Management (ELM) was implemented for all employees and is the first EIS application to provide the full Fluid user experience. It's a much cleaner presentation and more up-to-date than the old menu style that is in the current Portal. ELM can be accessed through my.unt.edu on the Human Resources tab. Look for the box called "Learning Portal."



Below is what Fluid looks like in the new Enterprise Learning Management application. It truly is a new look for PeopleSoft with a much more simplified, less cluttered, presentation for the user.



The other EIS application that will soon be utilizing Fluid is Campus Solutions for student and faculty self-service, as part of the application upgrade that is currently in progress. That project won't go live until the 2018 Thanksgiving weekend, but work has already begun to ensure a smooth transition to the new Fluid functionality. As the work on the upgrade project progresses, more information will be provided to the user community regarding the anticipated changes…so, stay tuned!

It has been quite a number of years since Oracle has delivered such a significant transformation in their technology. Since Fluid is the direction that Oracle is going with all of its PeopleSoft applications, eventually, all self-service functionality will be delivered in this manner. It is certainly a welcome modernization of the user experience for EIS.

Enjoy this brain teaser ☺

Four people (Jackson, Holly, Bill and Betty) who are fleeing from rampaging zombies at night come to a narrow, rickety bridge that can only hold 2 people. They only have one flashlight. They need to use the flashlight to cross the bridge. Jackson can cross the bridge in 1 minute, Holly can do it in 2 minutes. It takes Bill 8 minutes and Betty 7 minutes. The zombies will be at the bridge in 14 minutes and it takes them 2 minutes to cross the bridge. It will take our intrepid escapees 30 seconds to destroy the bridge. How can they all get across the bridge in 15 minutes or less and destroy the bridge behind them trapping the zombies on a falling bridge or marooning them on the other side?

EIS Fun Facts

EIS produced 191,984 payroll checks for 17,553 employees in 2017.

EIS tracks years of service for all UNTS active employees, including student workers:

- **0-10 years 6943**
- **10-20 years 1536**
- **20-30 years 621**
- **30-40 years 176**
- **40+ years 27**

EIS says that UNT reported 443,391 semester credit hours for Fall 2017.

EIS created 24,927 POs and issued $26,186 payments to vendors in 2017.

Market Price for Computer Parts is Sky-Rocketing [By Matthew Berry]

People have brand loyalty to 'blockchain'

We live in interesting times. Interest in Bitcoin, and other block chain based crypto-currencies, appears to be reaching a fervor that a lot of people are pointing out is reminiscent of the dot com bubble. One company known for selling Iced tea renamed themselves to "Long Blockchain Corp.," and saw their stock prices climb massively in an instant. I've placed an arrow on the exact date the change was made, in case it wasn't obvious enough.

Figure 1 Maybe putting 'blockchain' on some UNT

Did you know the word "Templars" was shorthand for "the Poor Knighthood of the Temple" or less well-known "the Poor Fellow-Soldiers of Christ and the Temple of Jerusalem"?

The popularity of cryptocurrency has reached some sort of frenzy. The mere mention of "blockchain technology" even in an absurd context appears to illicit positive responses from people. But how can such feelings affect us directly?

Graphics Cards

First, we need to address a piece of wisdom in the realm of consumer computer purchases regarding cost effectiveness:

> *Basic computer usage cases are typically better off buying a pre-built machine. More focused machine purposes (video games, consumer video editing, or other intensive pastimes) are better off building a machine part-by-part.*

For as long as I recall being a PC Gaming Hobbyist this school of thought was law. You could always shave some budget off the top of your machine if you built it yourself. However, over the past couple of months this has been seriously put to the test, and maybe even reversed. Graphics cards *especially* have changed the game. Take this graph below for the Radeon RX 580, a card that is supposed to and originally did, retail at $199 which was MSRP (Manufacturer's Suggested Retail Price) at the time.

The Templars were founded in 1119 on the principles of chastity, obedience and poverty. Their seal showing two knights sharing a horse was a symbolic representation of their vow of poverty.

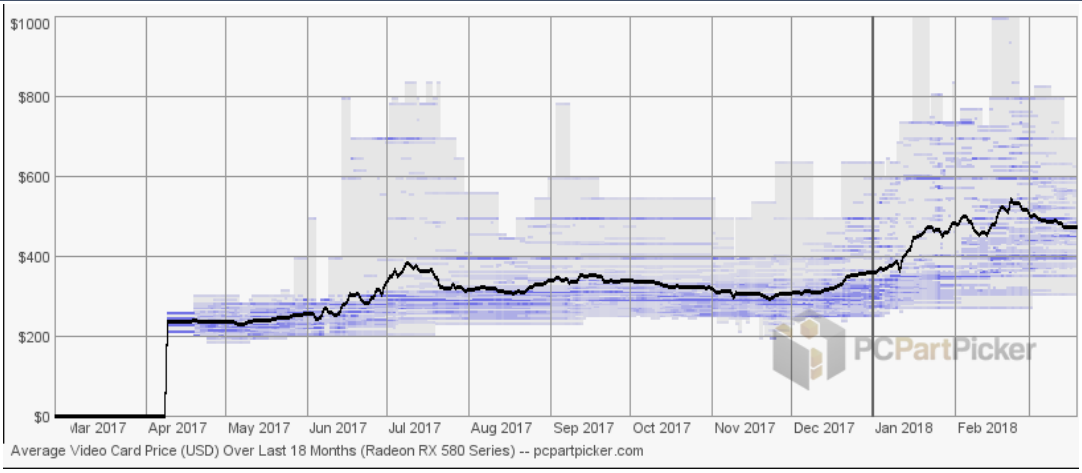


Figure 2 Wow

At its' peak that was more than DOUBLE the MSRP, and you couldn't even find it in stock around that time without embarking on a journey to find Atlantis itself. Even now finding graphics cards could lead you to tech stores with empty shelves. What Happened?

The Recent Crypto Peak

In December Bitcoin reached an all-time high of nearly $20,000 per Coin. This caught the attention of everyone, all eyes were on bitcoin. Lower-valued cryptocurrency (referred to as alt-coins) were also in the spotlight. At this point people had been mining BitCoin for years with custom built hardware and they were at peak efficiency with no room for the average joe to claim any space for themselves.

Enter the Alt-Coins. Various Alt-Coins attempted to enhance the BitCoin formula using different methods of currency mining. The barrier to entry was significantly lower. This provided a mining opportunity for the average person since the same methods you used to mine BitCoin weren't 100% transferable.

"But what exactly do you use to mine coins," you may ask. The answer is Graphics Cards. TONS of graphics cards. Machines filled to the brim with up to 12 graphics cards all mining coins at once. The recent influx of miners can't buy the cards off the shelf fast enough to expand their profits. For some it's a simple hobby, but for others they quit their jobs and chase the dream fully.

But what can I take away from this, as the average person?

If you were planning on building or purchasing a new PC soon for home use, do some extra research or sit this one out for a few months while the market stabilizes. In certain extreme cases buying a prebuilt turned out to be cheaper than purchasing a single high-end graphics card.

These are strange times for parts, be cautious.

In December 2017 scientists found the most distant quasar, J1342+0928, to date at 13 billion light-years from Earth. It took 13 billion years for light from this quasar to reach Earth. The center of this quasar is speculated to be a massive black hole that is almost a billion solar masses. The host galaxy seems to contain a large amount of gas and dust which is leading scientist to reexamine their models of galactic evolution. There is an excellent article on thisin the February 2018 issue of Scientific American.

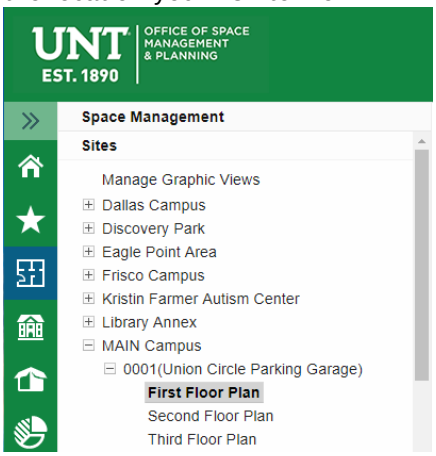
Need Access to Floorplans? [By Matthew Fenton]

FM:Interact is used daily by a multitude of faculty and staff on campus at all levels. Some of the tasks initiated and executed by the FM:Interact system include space planning, monitoring room capacity, classroom scheduling, sustaining facilities maintenance, handling departmental moves, allocating the needed resources for new faculty and staff hires, and viewing the floor plans of the 173 buildings at UNT. The best utilization of FM:Interact is during the annual space survey, a snapshot of the 7.3 million square feet encompassed by UNT, conducted by the Office of Space Management & Planning (OSMP).

Additionally, OSMP extensively uses the FM:Interact Space Management module to produce required formal and ad-hoc reports used for tracking, strategic decision making, facility planning, and extensive data warehousing of valuable facilities management information. They also use FM:Interact to track hazardous material locations, extensive room information, efficiency and productivity of research space, and numerous state required codes for every square inch of campus.

FM:Interact is used daily by a variety of staff and faculty members ranging from administrators to facility personnel, deans, department chairs, and university coordinators, who use it for many different purposes; the simplest of which is viewing floorplans. Below are some quick easy steps to request and view FM:Interact Space Management System floor plans.

1. Complete the form located at https://osmp-devd7.unt.edu/request-access-floor-plans
2. After being granted access, visit the FM:Interact portal here (https://aits-fmiprod.unt.edu/FMInteract_2018.1.24/)
3. After signing in, you will select 'Space Management', 'Sites', and then the location you wish to view.



Flying Taxis [By Alan Garrison]

You may remember George Jetson flying around on his way to work. The reality of those days may be closer than you think. Uber is launching a new segment to develop flying taxis that would be dispatched from an app and used in areas, such as DFW. Bell Helicopter is one of the aerospace manufacturers that is working on this project, in coordination with Hillwood. Uber Elevate is the name of this service and is targeted to launch in DFW, Los Angeles, and Dubai in 2020. At the initial onset, these taxis will have a pilot. Ultimately, the goal is to fly without a pilot. Since these will be flying in urban areas, they are to be designed to be quieter than a helicopter and with less pollution. The initial prototypes will be hybrid electric. This was a huge draw at the recent SxSW, where 375 people took a virtual reality ride on the initial day.
Can you imagine a simple tap on your app to go from attending a winning UNT football game straight to uptown in Dallas to celebrate?

Sources:
https://www.bizjournals.com/dallas/news/2017/12/08/making-flying-taxis-inside-the-bell-helicopteruber.html
http://www.star-telegram.com/news/local/community/fort-worth/article205005994.html

Officially,the first programming language was developed by Konrad Zuse for an electro-mechanical computer called the Z3. The language was called Plankalkul and was developed between 1943-1945.

The water buffalo is a large bovid that originates from South Asia, Southeast Asia and China.

Cooking with Technology [By Ginger Boone]

Are you looking to renovate or upgrade your kitchen? With Wi-Fi in most homes, be prepared to be amazed when you start researching kitchen appliances. From major appliances to counter top appliances, most can be controlled from an app on your phone or from a tablet built into your range hood. Here are a few kitchen appliances and countertop gadgets you might be interested in.

Amazon. Have you met Alexa from Amazon? I haven't either but I envision her being my future BFF! With Alexa's using voice instructions, you will be able to control major appliances. For example, "Alexa, start microwave for 50 seconds".

Forgot to start the washing machine or dishwasher. With built-in technology and a phone app, you can be anywhere and start both. Just remember to put the soap in.

Refrigerators can be purchased with cameras so when the door closes, a picture is taken, goods are analyzed, and your app shows you what in your refrigerator, it can even tell you when something is "out of date". Other brands have touchscreens on the front that allows you to see what is inside, saving energy on not having to open the door. Both allow you to create your grocery list via an app and if you need to run by the store on your way home you can order your groceries on your favorite stores web site and they will have it ready for you, you never even have to get out of your car!

Espresso and Coffee machines that have Amazon's Dash Replenishment system built in, so it can automatically order you coffee pods when it senses you are running out. There is a companion app that will let you customized your brews and schedule when the coffee machine makes coffee.

I can only envision more and more technology be offered so before you buy, use your favorite search engine and see what is out there. If you have the money and really love technology, your whole house could be a "Smart Home" ranging from security systems, home lighting, and power management all controlled from an app on your smart phone.

Sweet potatoes or yams, both are nutrition heavy punchers. But if you are counting calories, go with sweet potatoes as they are about 20% lower in calories than yams.

3D Printing [By Daniel Wiersema]

How we make products has always changed throughout the years. Right now we are in for another one of those huge changes. A few years ago 3D printing was a novelty, something you could make some small figure with, nothing you might have thought that would affect your life. 3D printing has come a long way in that time and is about to take off.

First off how is 3D printing different from what we all know as printing? Instead of using ink on a flat surface, it uses materials to form a 3D shape. When 3D printers first went on the market they were used for fun, but that is changing fast. One of the first major products we are about to see is from Adidas. They are looking to advance the shoe market. They are not only working on 3D printing shoes for cheaper and fast production, but they are looking to do it for custom shoes. Their goal is to have you walk into a store, and have your feet scanned. From there the 3D printer will print out a custom shoe for you that fits you perfectly, all within a couple of hours. Before to get a custom shoe, it would cost you a lot plus a very talented person.

Shoes and similar products are what is in the near future, but in the distant future things get a little bigger. Companies are already experimenting with 3D printing homes. The speed to get a very small home up is a day. So in the future instead of a home in months to a year, you could have it in days to weeks. Cheaper and faster homes would fix a lot of issues throughout the world. 3D printing is not just a hobby any more, soon a lot of our products will have been made using this technology.

CloudPBX – the future of Telecommunications for UNT [By Gordon Albury]

Although UNT ITSS Telecommunications has had 'VOIP' (Voice over IP) available for some time now, it was implemented as a *bolt-on* to our existing analog phone solutions (e.g. traditional PBX). This VOIP has provided the great benefits of UCM (Unified Communications), but was still dependent on local hardware. VOIP is important to UNT and helps achieve the goals of enhancing business communication, collaboration and productivity. This legacy approach offered VOIP benefits, and so was a great first step towards our ultimate desired state of fully digital telecommunications unified 'in the cloud'. Like many 'in the cloud' solutions there are numerous realized benefits including redundancy, failover, and decreased local resource footprints, over any solutions that can be built for a reasonable cost, in-house. **Ultimately, the cost to the UNT Enterprise (all campuses) decreases while provide better service using a cloud based VOIP solution.** Hence the CloudPBX direction or strategy was adopted as the apposite long term Telecom Strategy for all of UNT including every campus and UNT System. This strategy has been preliminarily presented and reviewed with every campus, and with System stake holders.

Did you know that the sugar apple flesh is luscious but the seeds are toxic? The seeds are mildly poisonous and can cause abortion. Enjoy the fruit but remove all the seeds carefully!

Skype for Business enables Unified Communications

After a detailed study of industry available hosted VOIP solutions, it was determined that Microsoft™ provides the most economical technically robust solution to UNT as an enterprise. Because of our deep partnership already extant with Microsoft, we could realize significant long term savings and better integration than with any other vendor. Microsoft's hosted VOIP solution is called 'CloudPBX', and provides a strong future of Telecommunications at UNT. Selecting a major vendor like Microsoft, provides tremendous benefits in that their product has a convincing feature roadmap for the future, and an existing robust worldwide architecture, offering UNT outstanding Business Continuity and Disaster Recovery which cannot be produced on-site for a reasonably comparable cost. Further, CloudPBX integrates deeply with **Skype for Business**, and **Office 365**. As part of Office 365 Enterprise A5, Skype for Business is a complete cloud-based unified communications solution, which includes cross-platform chat, presence, voice,

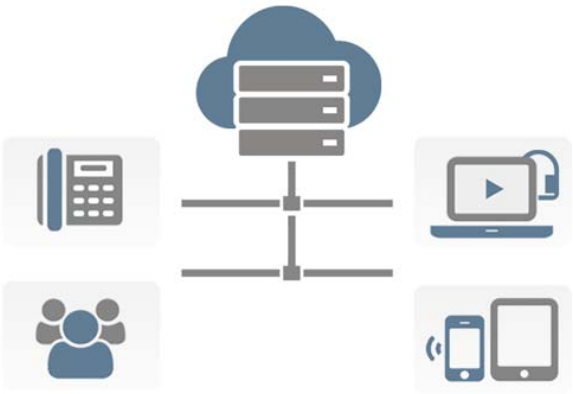
video, and meeting services.

Moving to CloudPBX is also conducive to aiding recent trends with employees in that it easily supports remote access and BYOD (Bring your own Device). Employees can work remotely when needed, with full telecommunications capabilities from anywhere in the world enabling not only flexibility, but maximum support during inclement weather or other off-campus settings. Support for BYOD allows employees the flexibility of using their own device with their UNT office number from any location enabling the powerful idea of a 'virtual office'.

Africa is splitting in two and the great Rift Valley will, millions of years in the future, be replaced with an ocean.

Today, the ITSS standard monthly fee for line charges, for customary phone service, includes not only the 'dial tone' which is underlain by various third party purchased PRI (Primary Rate Interface) circuits, but also the 'back-office' hardware and uniquely training ITSS resources to support that hardware. And interestingly, much of that equipment is getting to an age where replacement will soon be necessary. Some of the vendors are even hinting that they may not continue to offer traditional analog PBX services long term, introducing potential risk for UNT. Parts such as desktop instruments for the older phone equipment, are become more difficult to locate and are more expensive. Analog phone systems require dedicated wiring whereas VOIP systems can use existing network cables thereby saving costs of maintaining separate wiring, as well as when adding wiring to new building construction. In the end, sustaining the legacy telecom solution, costs UNT more than making the right investment now, to move to new technology which again, provides outstanding improved integrated features. This beneficial transformation and disruption are happening at other levels, too. In the case of unified communications, the move to the cloud is reducing dependence on myriad outside vendors to supply telephony and teleconferencing services by aligning with a single industry leading partner – Microsoft. Whereas our legacy phones systems had limited growth capacity, with Microsoft CloudPBX, UNT's growth capacity is unlimited and unbounded by location. Further, Microsoft is adding new features every year, which can be available to UNT as soon as they are released.

Changes to technology always have a 'conversion' cost, however in this case, the conversion cost is quite low and attractive. UNT Departments can convert to CloudPBX by choosing from a variety of desktop solutions many of which are free or very low cost. For example instead of a desktop phone, staff or faculty may elect to simply use their cell phone, or a low-cost headset attached to their laptop or PC. If a desktop instrument is truly desired and needed, there are many choices available with a variety of useful features for a range of prices.



In the near future, anticipated savings per line will be realized, after call usage is well understood at the line level and adjusted. Today at initial conversion, by default each user is provided 3000 minutes per month, which is usually much more than enough for most applications. Over time, ITSS will work with the departments to 'right size' the number of minutes plan decreasing the monthly cost to the departments. Further, those within a department on the same minutes plan can 'share' minutes allowing free overage economies at lower rates; similar to family cellular minutes sharing plans and that saves even more cost long term to UNT as a whole. And whereas today, we pay and track all long distance calls, with CloudPBX, continental long distance is included for free in the minutes plan chosen.

By using economical desktop equipment, right-sizing the minutes, and eliminating campus level hardware, the monthly cost of phone service will assuredly decrease year by year. Each year ITSS reviews the cost and so rates associated with line provision and alters the rates to provide the best economy to UNT departments. In fact with CloudPBX, billing is much less complex eliminating further costs to the provided services for tracking, analysis, and reporting. Looking globally across all UNT campuses and System, the savings are projected to be in the hundreds of thousands of dollars annually as we reach full conversion. These savings will be passed on to the departments.

Today, ITSS has already made great initial progress already on moving 'to the cloud'. A number of existing VOIP users have already been moved to Microsoft CloudPBX, and are experiencing outstanding service as well as flexibility. ITSS continues to convert existing VOIP users, advocate for all new installations to be CloudPBX, and work with departments to convert quickly. For simple phone service, conversion is very quick and easy. For more complex services such as ACD (Automatic Call Distribution), group lines, etc.., the ITSS Telecom team working hand-in-hand with University IT support groups to configure the best solution for the department. Indeed some special purpose lines (fax, alarm, etc...) may stay on analog POTS lines. Today we know these comprise less than 10% of the phone lines on the campus. If you would like to discuss moving to CloudPBX soon, please contact your local IT support and ITSS Telecom services. The conversion over the next year or two will result in moving UNT to state-of-the-art equipment and services at a lower cost. That's precisely the kind of win-win solutions that will help UNT fulfill its mission to provide the best education in Texas at the least cost possible.

The Northern Stargazer electrically shocks unsuspecting intruders into submission.

SpaceX launched a pair of test satellites on February 22nd, 2018 to test the delivery of high-speed internet service in rural areas.

How it works: 3D Printing [Jennifer Lee]

Three-dimensional printing (3d printing), once a tool of the prototyping industry, has little by little become available for use to the general public in a variety capacities. This process's versatility allows users to become creators and makers. Basic techniques can result in a wide range of applications, from creating 3d artworks to simply recreating a missing part from something more mundane.

The process involved in creating a 3d object has several basic components:

- **A 3D printer**
  - There are both consumer and commercial available options for everyday users.
  - The quality can vary dependent on printing method chosen, as can the cost.

- **Printing medium**
  - While filament based printing is the standard for home users, there are a wider variety available (such as resin based printing) when using a commercial printing service.
    - The material and method of printing are determined by what the end use of the product is.
    - Color printing is also available and the method is determined by the medium chosen for printing.

- **3D design file**
  - CAD Software such as AutoCAD or Blender, that will allow creation of solid models
  - Downloaded 3D file
    - There are multiple repositories of such files, both free and paid
  - 3D scanned object
    - These can be created using external peripherals and software. (i.e., scanning stations, handheld devices, and phone apps)
  - STL is the standard file format but does not allow for color, while OBJ and DAE do

As for so many other new endeavors, the ability to produce desired results can seem daunting at best. Fortunately, there are multiple resources available to both students and staff at UNT to learn more and even walk away with creations of their own. The North branch of Denton public library (The Forge) and UNT's own Willis library (The Factory) offer learning sessions and consumer-end 3D filament printing machines for use.

IT Support is a Waste of Time... [Keith Kellermeyer]

…when done incorrectly, inefficiently, and ineffectively.

What I'm talking about is the fact that IT Support folks often run into the barrier of having too much to do and not enough time to do it; and they're not alone. This is the case for the majority of employees. However, here are a few crucial steps to help us remember how to deal with our lack of time management and relax:

Forward Thinking

Being behind, not having enough time is eternal. You will always be behind on things to do and tasks to be completed. There will never be enough time to do everything you want. We try to be perfectionists and utilize everything we have at our disposal, because that is what we have learned throughout our lives – to press forward, look at the next task, and keep going. When there is nothing left to be done, you are either newly unemployed, transitioning onto what lies beyond this life, or your inbox is not up to date. As humans, we were built to work and to continue working.

Did you know that sloths are arboreal creatures known for their slowness and hang upside down in trees for most of their lives!

We get up in the morning to work. It's what we do. Now, how we react to the work, how we perceive the work, and how we do the work is what creates the façade that keeps us believing that we are never going to stop being behind; not having enough time. And we're right in thinking so. That's exactly how it seems. It is what our environment tells us. But we are the ones who chose how we are to perceive our reality. You can be forever behind in your work, or you can be accepting of the next things to come, knowing that you can accomplish everything you're given.

Efficiency vs. effectiveness.

There is a difference between being efficient and being effective. Efficiency is doing the right things, effectiveness is doing things right. Let me elaborate:
A Salesperson can be the most efficient salesperson ever, in speed, delivery, whichever metric you choose, and still not be effective in their goal: making sales. An effective sales person can be the slowest, most costly salesperson, but be the most effective in that they complete their goal: making sales.

$100 an hour vs $10 an hour – The 80/20 Rule

Knowing how to prioritize and delegate are essential in managing expectations and time. I like to break down my thoughts on delegation into a simple question: "Is this task worth $10/hr or $100/hr?" If the answer is $10/hr, I will most likely delegate it. The task is simply not worth my time. If the answer is $100/hr, I put it on my to do list. Asking yourself this one question and implementing it in your strategy of time management will help you utilize your precious time even better than the previous day.

To get to this question, I follow the 80/20 rule: 20% of the sources (tasks, people, etc.) consume 80% of your time. You'll find that if you look in that 20% of sources, some of them are not worth 80% of your time. So you eliminate a small amount from that 20% and it has a compound effect on how much time it has freed up in your day. Here are a few examples of what to ask yourself:

"What 20% of sources are causing 80% of my unhappiness/frustration?"
"What 20% of sources are causing 80% of my happiness/fulfillment?"

You can identify those few key components that are consuming the 80% of your time, stress, or unhappiness, and address them. By addressing just those few things, you will have a significant impact not only on your time/stress/happiness, and also project this new feeling of relief outward to those around you – boss, coworkers, etc.

How these ideas apply to time management is critical – balancing efficiency and effectiveness while changing how you observe the world. Knowing how to be effective in handling certain tickets or issues that come in, even though they may take slightly longer than anticipated, ensures you never have to revisit the issue again. It is resolved. Even if it was not the most efficient path to resolve the issue.

But don't take too long and over analyze. Realizing that we are forever looking ahead and will always be behind is a key idea to remember when you are diving deep into work. Always remember that 1000ft overview. Determining when to delegate and how to prioritize using the 80/20 rule and $/hr question help you free up those extra hours that are most effective in the workday.

Business Continuity Planning (BCP) [By Mickie Tate]

A great American once said "if you fail to plan, you are planning to fail!" I will reveal this great American at the end of the article.

Just for a moment, let's take the word business out of Business Continuity Planning (BCP), and we just have a continuity plan. In everything we do in our lives we have a continuity plan – or a plan to carry on with our lives in the event of contingencies, a plan B. What if our car doesn't start? Some of us are able to use mass transportation, call a friend, or in today's society, contact Uber. Maybe as part of our planning, we take our laptops home and are able to work from home. What happens if the electricity goes out? Do we use flashlights or candles? Or does this concern warrant purchasing a generator due to all of the other items impacted by an electrical outage such as the refrigerator, televisions and air conditioning? Or does the cost of a generator not justify the benefit of having those items during an outage? That is exactly how a business continuity plan should be approached, evaluate the possible scenarios, what the impact will be and how to best mitigate the contingency.

Scientists have determined that Titan's lakes are filled with methane

So now let's look at a BCP from the business perspective. A business is in place to be just that – a business. And part of being a business is to be able to operate in the event of contingencies. BCP's come in many shapes and sizes: IT outages / disruption of services, natural disasters, facilities malfunctions, healthcare pandemics/epidemics and many more. But in every case, the first objective is to take inventory of all services and activities needed by the business to function; hardware, software, communications, location to conduct business, personnel, etc. This should be a thorough exercise because after an event has occurred is not the time to realize an important piece has been left out of the planning.

The next step is to conduct a Business Impact Analysis (BIA). The purpose of the BIA is to determine how important the various services and needs are to the business. What will the impact be to the business of not having a service available? How long can the business sustain itself without that service? These decisions impact the immediacy of how the lack of the service should be addressed in the BCP and the development and order of a Disaster Recovery Plan (DRP), which we will save for a future article. Obviously the more critical the service, the more detailed the contingency plan for that service needs to be. Not everything is critical, or needed for day-to-day operations, and some of these things don't need to make it to the actual BCP, but they should be considered during the BIA.

The BCP details how the business mitigates or offsets the loss or disruption of services or resources until they can be restored to the normal state. In other words, how will the business continue to perform its intended purpose until all required services and resources are returned? The plan needs to be detailed enough to for the business to continue to provide services to its customers as seamlessly as possible and should address each service deemed critical or necessary in the BIA. The plan should also consider short-term versus long-term responses when addressing possible outages as outages have no guaranteed limits on duration.

BCP's should be well documented to allow everyone involved to operate cohesively during contingencies and the plans should be discussed well in advance as an emergency is not the first time to consider what everyone should be doing.

There are many websites containing BCP information but a useful link to get started can be found at https://www.ready.gov/business/implementation/continuity which is an Official website of the Department of Homeland Security.

If you fail to plan, you are planning to fail!
-Benjamin Franklin

Backing Up Your Data in Windows [By Matthew Trammell]

The thought of transferring data to a new computer can be a daunting thought, enough to even discourage you from upgrading your computer. Or perhaps you would like to protect yourself in case your computer fails. In either case, I hope to provide some tips on backing up your data within Windows that will help you feel more comfortable about protecting your data. As always, if you have any questions, please research online or track down your favorite personal IT support contact.

Where is my data you may ask? Fortunately, Windows creates a local profile on your computer that contains most of your data. From within Windows Explorer, navigate to C:\Users\ and you will find a list of local profiles on your computer. Open your profile. The top six folders that I look at are Desktop, Favorites, My Documents, My Music, My Pictures, and My Videos. In a work environment, typically most data is under the first three folders. The Microsoft Office applications default to the My Documents folder. Also note that the Favorites folder only contains your Internet Explorer favorites. Modern browsers, such as Edge, Chrome, and Firefox prefer you to export and import favorites or bookmarks. This process typically creates a HTML file that you can save to a folder of your choice and then later import to any browser. Your data may also reside under another folder created on the C: drive or a secondary drive. If searching for data created by an application, you may need to search online for documentation about where to find that data. Now that you found your data, let us back it up!

Did you know that a research group led by Yuichi Nakamura, Associate Professor at Toyohashi University of Technology, has applied magnetic assist recording technology to magnetic-holographic memory?

Tip 1: Removable Storage

Floppy disks, anyone? Okay, so floppy disks are not common at all these days – but CDs, DVDs, flash drives, and external hard drives are common types of removable storage. CDs and DVDs are great for long term, archival storage of your important files. Tax returns, music, photos, etc. Put them on a CD or DVD. Place them in a fire proof safe and they should last for several years. Now, there are debates on how long CDs and DVDs actually last, however; that is a topic for another article. I did want to throw out that disclaimer so you are aware that a CDs and DVDs, let alone the other removable devices that I have mentioned will not last forever. Flash drives are great for short term storage. On the go? Needing to present a PowerPoint? Transferring files from one computer to another? Use a flash drive. But always remember to have a copy of the files on your flash drive backed up to your computer. External hard drives work great for storing and transferring large amounts of data that would otherwise not fit on a flash drive. They are also great for when your primary drive starts to get full and you need some additional disk space to store or transfer your files to. Finally, you can use Windows Backup and Restore to create a system image to store on your external hard drive. A system image backup allows you to restore not only your data, but your installed applications as well. In order for this to work successfully, keep in mind that the destination hardware must be similar to the source hardware.

Tip 2: Cloud Storage

Google Drive and Microsoft OneDrive are two examples of popular cloud storage applications. As you may know, at UNT we use Microsoft OneDrive. As an alternative to the My Documents folder, you can use one of these applications for your data. Not only do you have a local copy of your data, you have a copy of your data backed up to the cloud. Furthermore, you can access your files from any computer through its web browser. Google Drive starts you out with 15 GB of storage for free. You can upgrade to 100 GB, 1 TB, 2 TB, etc. for a monthly fee. I also want to take a moment to highlight Google Photos. Currently you can store an unlimited amount of high quality photos (16 MP or under) for free with Google Photos. For most smartphone cameras, this is great. If you shoot DSLR photos 17 MP or higher, you may want to consider a Google Drive plan to store your photos

with their original resolution. My DSLR camera shoots 24.2 MP. I mostly do personal photography, so I am good with Google reducing my photos resolution to 16 MP. Microsoft OneDrive gives 5 GB of storage for free. They have monthly plans for 50 GB, 1 TB, and 5 TB. As a bonus, the terabyte plans include Office 365. A final benefit to cloud storage is that your data is stored offsite. Should anything happen to your home, your data is safe.

Tip 3: Local Storage

Finally, I want to touch base on a local storage solution, RAID. Not the bug killer, but RAID, the redundant array of independent disks. RAID is a technology that groups a set of physical disks into one or more logical volumes. One case for RAID is for data backup and protection. To get started with RAID, it is important to set up a RAID group before storing any data on the disks. This will prevent a loss of data when creating the RAID group. If you have data on any of the disks that you would like to add to the RAID group, first back up all existing data to an external hard drive! Also, I recommend using identical drives in size, speed, and by the same manufacturer. If your computer's motherboard has an onboard RAID controller, you can configure your RAID group within a pre-boot environment. If not, you can configure RAID from within Windows. Windows 10 provides great RAID support. As an example, my personal computer has 3 hard drives. The primary drive is an OCZ 256 GB solid state hard drive with Windows. My two data drives are both WD 1 TB 7200 rpm. I have an older motherboard with no RAID controller, so I set up my RAID group within Windows. Lastly, I made my terabyte drives clones of each other. Therefore, if one drive fails, I can swap out the bad drive with a new one and let Windows rebuild the RAID group.

I hope that these tips helped you learn more about where to find your data, backing up your data, and transferring your data to another PC. You may find that a combination of all these tips work well together for your home environment. Remember that backups are important. Implementing and maintaining a good backup plan will keep your important data protected for years to come.