

Technology

Information

Tech
TALK

Vol. 4



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EDITOR'S NOTE

January has been a very eventful month on the campus of Southeast Missouri State University. Just about every week, a celebration or momentous occasion was scheduled. The year of 2017 was rang in with good cheer, Martin Luther King celebrations occurred not only campus-wide but also nationwide, students returned for the spring semester, and Data Privacy Day was recognized. Wait a minute—you forgot to celebrate Data Privacy Day? While you surely recognize the first three events mentioned, it's past time for you become more familiar with Data Privacy Day. In this issue, we have included a brief article that shares six quick tips to help you become more digitally perceptive. To further this agenda, we've included a piece on Facebook security.

In our teaching with technology category, our App Spotlight article explains how both students and teachers will find the Socrative app a useful tool. While not considered an app, Microsoft's OneNote, available on your computer as well as your other devices, is an excellent instrument for notetaking. Learn more by reviewing the feature, OneNote: A Digital Symphony. The growing interest in 'wearable' technologies necessitates our From Gaming to Learning in the Classroom piece on use of the virtual reality headset. Implementing a One-to-One Technology Initiative in Higher Education provides a detailed account of how the College of Education tackled the challenge of change and acceptance when initiating a new technology program on our campus.

One can never be too diligent when it comes to cybercrime. To bring awareness with a just-in-time topic, we have included an article on How to Stay

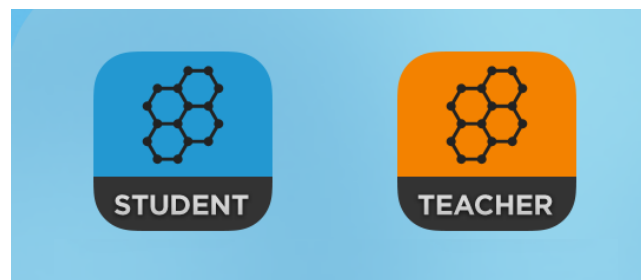
Safe from Cybercrime during Tax Time. Add to your security toolbox a tool to help you track and store your numerous passwords by considering 1Password. Discover the active role Information Technology staff took to prevent Southeast students and employees from falling prey to Phishing scams in the article Phishing Email Demonstrations. Help IT bring an even greater awareness of malicious messages by reviewing our write-ups EMAIL: Examine Message And Inspect Links and Phishing Alert. Be sure to also check out our latest cyber security campaign poster, starring Little Red Riding Hood.

From the online journal, The Conversation, four types of artificial intelligence (AI) are identified as reactive machines, limited memory, theory of mind, and self-awareness (<http://theconversation.com/understanding-the-four-types-of-ai-from-reactive-robots-to-self-aware-beings-67616>). In the current issue of TechTalk, Hey Siri! is a demonstration of the simplest type of AI: a reactive machine, lacking memories and experiences. Self-driving or drive-assist cars are prime examples of a second type of AI, limited memory. With the intent of keeping you safer, these autos come preprogrammed with data. Review the article, How to Lose Your Car in 60 Seconds, to see the negative side of having a smart car.

These days, we all seem to be plugged in to one device or another. See what benefits the release of USB type-C will bring to your world by perusing One Port to Rule Them All. Pay special attention to the software deadlines and IT statistics on the help desk and computer labs. Additional face-to-face technology support was provided at Southeast – Kennett, Malden, and Sikeston campuses. See what services were offered in January by reviewing the Spring 2017 Tech Days article. Wrapping up the fourth edition, we provide you with a fun section, displaying handy items created by a 3D printer that you won't want to live without.

APP SPOTLIGHT

The great Greek philosopher Socrates is quoted as having said, "To find yourself, think for yourself." Software developers of the 21st century took this profound bit of wisdom and channeled it into the creation of a revolutionary educational app called Socrative, named after the ancient philosopher. This app is broken down into two versions, the teacher and student version. As the name implies, they are useful for both parties and allow for rapid responses for a variety of questions. However, in this article we will focus on the tools and benefits the teacher version has. With Socrative, you can set up a variety of channels (called rooms) for different classes and subjects, keeping the professor organized and making this app applicable for a wide variety of classes. Quizzes, timed question races and quick questions are all facets of the application, and the results can be tracked so you can see who is participating. This will help you plan on what to do next in relation to how your class is doing presently, and gives the instructor the freedom to modify the lessons accordingly. Perhaps the most important tool, especially in a college setting, would be the Quick Question Tool.



We are all aware of the long, mind-numbing pauses in dialogue that sometimes fall over college classrooms, especially in the early morning hours. With the Socrative app, hard data can be gathered with a click of a button and used to spur the conversation forward. It can also be used to poll the class anonymously, an especially useful tool when talking about subject matter that is delicate or heated in nature. A political systems class would find this especially useful, as you could gather data on what the class thought, even though most college students would rather not discuss their political views in a room full of strangers.

Dr. George "Byron" McVay is one professor at Southeast Missouri State that uses Socrative in his Agriculture Sales Classes in order to gather quick responses and steer the conversation of the class. "I think it's a great tool in collecting information on sensitive subjects anonymously," says McVay, when asked about Socrative's place in the classroom. "We just recently used the software to collect data about what students in my Ag Sales class thought about possible presidential candidates. The results helped the class understand how these candidates sell themselves." Anonymity can be toggled on and off via the teacher account, so you can change your approach for different situations. Another interesting feature from Socrative is that quizzes you create can be uploaded and shared with professors around the world. Likewise, you can download quizzes to match your own teaching criteria. The software can be applicable for college level classes as well as grade school, making this a very powerful application for entire the education community.

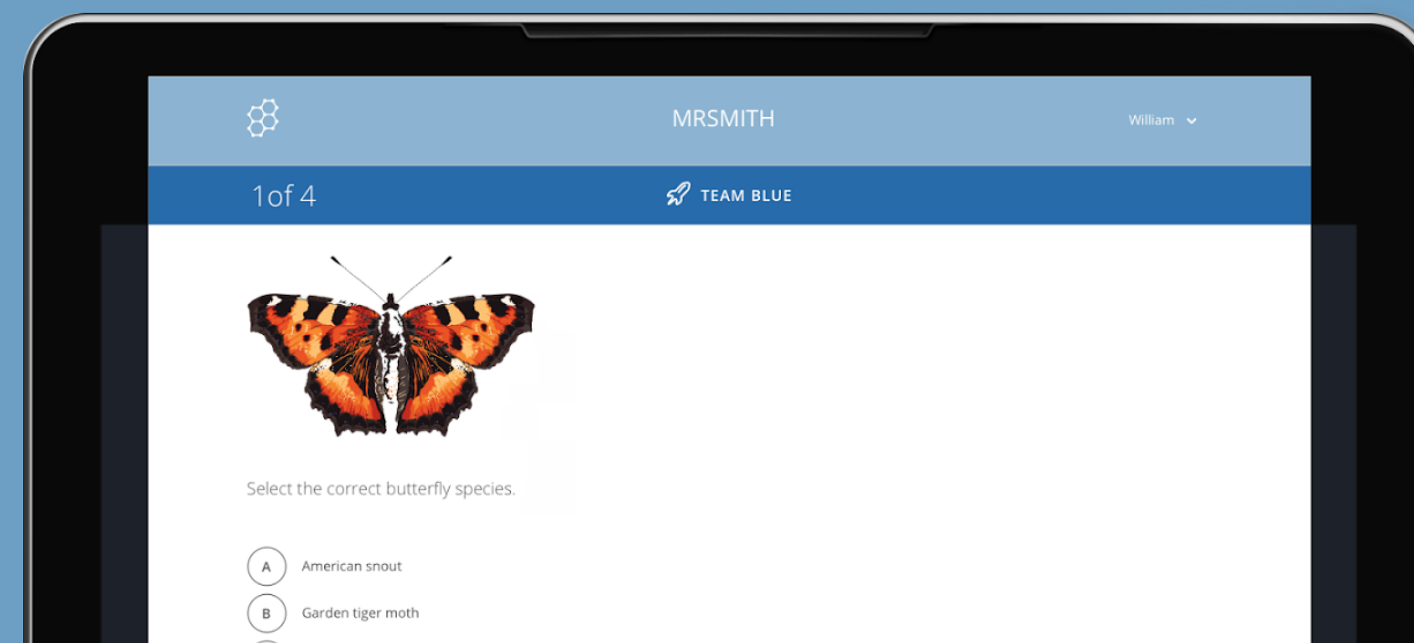
On the subject of the app's role on student interactions in the classroom, McVay says, "It allows students to fail and recoup without fear of embarrassment." He is confident that this tool helps students more actively participate in exchanges of ideas. McVay learned about the software during his new faculty orientation and plans to continue using the polling feature and quiz maker. He is the only professor he knows of that uses this software, but hopes that the rest of the university can make use of it as much as he has.

Currently, Socrative can be acquired for free on Apple, Google and Android devices for students. A free version is also available to professors and k-12 teachers, with a pro version costing \$49.99 for dozens of more advanced features. You can find more information about Socrative by following this [link](#).

- Jacob Hill, User Services

Space Race

Have fun competing against your classmates in a race to the finish.



1PASSWORD

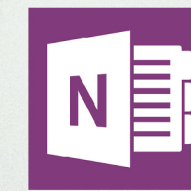
As most of you have noticed, college is filled with passwords. There's the password for Moodle, password for Portal, passwords for apps, and websites, and social media; if you're not careful, they'll get mixed and muddled and you'll be in the midst of a giant headache! AgileBits realized that there was a market to be tapped here, and created the 1Password app, available for Apple and Android devices. This handy little device is a virtual lockbox, a place that you can securely store information behind military-grade encryption algorithms (a fancy way of saying your data is protected by a constantly changing cipher).

An interesting feature of this app is the fact that you can access it from the share button whenever you need to view your passwords. This is not just copying and pasting a simple username into a box- you can use 1Password for two-factor authentication, identification numbers, membership card information- the beauty lies in its smooth integration to web browsers like Safari. This information is saved in the Cloud making it accessible on multiple devices, which is exceedingly efficient if you use multiple devices. Even more useful, version 5 is now unlockable with your fingerprint on phones that have Touch ID or Nexus Imprint. Prepare to feel like the next James Bond as you use your fingerprint to unlock your encrypted virtual vault to reach the precious information within, e.g. your twitter password, as well as pictures of your dog.

There is also a professional version of 1Password that will run you \$10, but will give you the ability to sync your secured information to an Apple Watch. This has the potential to be incredibly practical for things such as bank pins, access codes or other everyday information that you need on you at all times. While you may not think you have information that is worth locking in a digital safe house, this is an easy and simple way to keep track of your login information, especially if you frequently get new information or are just a little forgetful. You can find more information about 1Password at <https://1password.com/>.



- Jacob Hill, User Services



OneNote
A Digital Symphony

By Alexis Whitworth, User Services

As a student, staying organized has always been a top priority for me. I have used a variety of tools, tips, and tricks, but have only found a select few that work. One of the tools that I use is Microsoft's OneNote, a digital notebook that allows you to customize, add media, and collaborate with anyone. OneNote is available in every app store and for PCs and Macs, allowing you to use it anywhere and on any device. The following are some features that have helped me the most throughout my college experience.

Note Taking: Like the name suggests, OneNote was designed for note taking. OneNote allows you to make outlines, and draw or sketch ideas, diagrams, and figures right inside the page. You can also assign tags to different things in the OneNote notebook. A great way to use the tag feature is to assign a different tag for dates, people, places, and definitions. When it comes time to review for that test, simply search the tags to have an organized list of the information you've assigned to a tag. OneNote also has a record audio function. If your professor grants you permission, you would be able to record the lecture to review at a later date, or send to your friend who missed class that day.

Research: When you're putting together that massive research paper, it's hard to keep your references and information straight. With OneNote, you can send a webpage to your

notebook for later. If you don't need the entire webpage, you can simply copy and paste the section you want and OneNote will automatically place a source link in your OneNote page. This function is especially helpful when building your reference section of your paper. You can also link pages together in OneNote, so you'll never lose track of your notes again!

Group Work: OneNote is sharable! You can choose whether to share an entire notebook, a section, or just a page. Inside, you can create to-do lists, as well as attach files inside the notebook. If you share a whole notebook, but don't want your group members to have access to certain sections, you can password protect them. Or, you can just send a link to a specific page in a OneNote notebook to your group. Again, OneNote can be used on any device anywhere, so there's always access to your notes.

Office Lens: Office Lens is an add-on application that trims, enhances, and makes pictures of whiteboards and documents readable. If your professor allows it, take photos of the whiteboard for later as references.

These features only scratch the surface of what OneNote can do for both your personal and professional life. Log on today and see exactly what more OneNote can do for you.



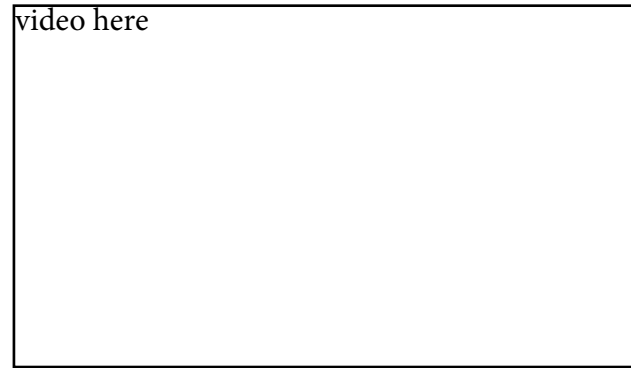
“Hey Siri!”

Remind me to write an article about Artificial Intelligence on Monday.”

by Robert Hendrix, User Services

Artificial Intelligence is the next big thing in technology. Artificial Intelligence, or AI, is the ability for computer systems to learn how to accomplish a task and then do that task itself without need for human interaction. In its basic form, AI has been in use for decades. Many are familiar with AI in video games. With computers getting faster and cheaper, AI is now being used in many everyday gadgets. For instance, on your smartphone you may have a virtual assistant such as Siri, Google Now, or Cortana. These assistants can help you do many things including checking stocks, reminding you to walk the dog, or start playing those 70’s Disco Hits you love so much. Virtual Assistants can learn how you speak or what you normally ask about, and can better answer your question, or even predict what you’re going to ask.

Another machine that is using Artificial Intelligence is your car. For years, computers have been in vehicles in one way or another. As the years have progressed, cars have used computers to control more and more of your vehicle’s functions. This allows your car to help with things such as lane control and traction control. AI is also being developed for vehicles to enable autonomous driving features. This means that a driver could read a newspaper or catch up on email while their car drives them to the office. Tesla has already implemented a basic version of this feature in their current fleet of cars, called AutoPilot. It is very close to being fully autonomous, but requires that the driver be aware and available at all times in the event of an accident or other catastrophic event. Uber’s OTTO is also developing self-driving features, but for use on 18-wheeler freight trucks. This would allow a truck, with a driver, drive itself on the highway, thus possibly making them much safer.



Decision making is another way that Artificial Intelligence is being used. There is a wide range of things that AI can do; some examples include controlling characters in Video Games, music suggestions on Pandora or Spotify, and purchase prediction at retailers like Target. AI can also make very big decisions such as in the case of IBM’s Watson AI Supercomputer. IBM started developing Watson in 2005. Watson was created as a Supercomputer to compete on the game show, Jeopardy. Watson competed against two former Jeopardy contestants, Ken Jennings and Brad Rutter, who were both the best Jeopardy players at the time. Watson was able to compete in two televised matches and ended up winning both matches despite having only won 65% of the 100 test matches it competed in before. Watson is now being used by companies to do recommendations or prediction services for their customers.

Looking forward, Artificial Intelligence is moving to become even smarter. With Natural Language processing, AI will be able to identify speech from humans and transfer that to commands or for vocal response. Neural Learning for robots will also change how they learn how to accomplish tasks and make them more human. This will allow things like Driver-less cars and Artificial Assistants to exist more and more in the future.

Spring 2017

TECH DAYS

By Todd Williams



The 2017 Spring Higher Education Center Technology Day events were successfully held at the Malden, Kennett, and Sikeston campuses on January 31st, Feb 1st and 2nd. The purpose of the events is to give Regional Campus students, faculty and staff the opportunity to have hands-on technical assistance from Information Technology User Services personnel, much like main campus users enjoy. This is the second set of events this school year.

Todd Williams, Help Desk Supervisor traveled to each location, for events held from 11 a.m. to 2:30 p.m. Students, faculty and staff received assistance with tasks such as connecting to Wi-Fi, setting up email on their mobile devices, optimizing computer performance, managing email, and general technology questions. Free technology related accessories were also given away, such as phone kickstands, and microfiber clothes. One topic of interest at each site was the recent change to student email accounts to Office 365.

In the interest of providing greater hands-on assistance to users at Regional Campus locations, student lab assistants provide office hours at each site.

For more details regarding these events, check the next issue of the Tech Talk, and/or the Information Technology Event Calendar at <http://www.semo.edu/it/events.html>.

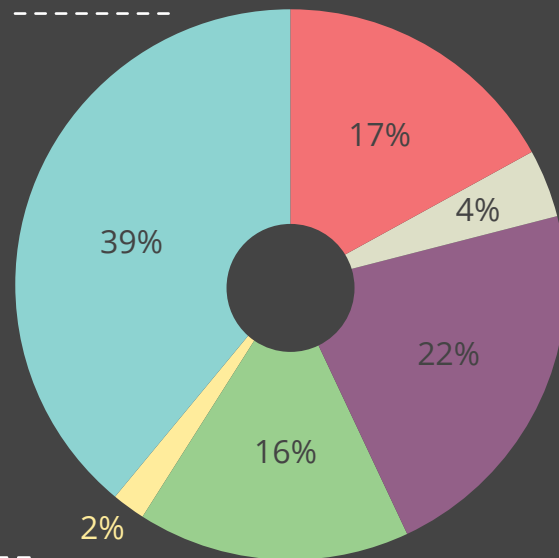


HELP DESK TICKET STATISTICS

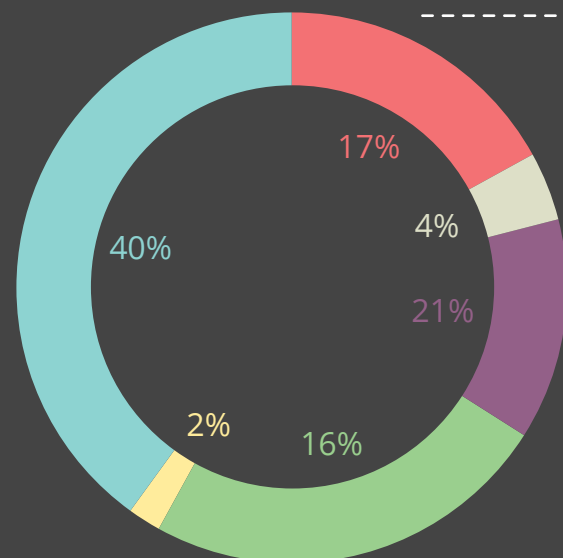
Help Desk Tickets Created
(Fall 2016)

Hardware	823
Moodle/OIT	206
Network	1012
Software	736
Tech Pack	94
User Request	1852
TOTAL	4723

Hardware Moodle/OIT Network
Software Tech Pack User Request



Closed Tickets by Request Type
(Aug 1 - Dec 31, 2016)



Hardware	804
Moodle/OIT	206
Network	967
Software	728
Tech Pack	89
User Request	1839
TOTAL	4633

FALL 2016 IT LAB SUMMARY

Information Technology Open Computer Labs recorded 160,229 total logins.

Group	# of Users	# of Logins
Crisp	474	4,761
Dempster	2,308	22,628
Kennett	200	3,324
Kent	5,836	59,363
Magill	1,716	16,142
Malden	119	1,486
Merick	1,092	10,218
River Campus	356	2,933
Sikeston	415	3,723
Towers	3,000	35,651

LABSTATS

LabStats is a software solution for tracking computer login usage.

- Of the 10 IT Open Computer Labs there were 8,197 unique users.
- 89.3% of the combined undergraduate and graduate FTE students used one or more IT Open Computer Labs

Three-Year Enrollment Report. (2017, February 27).

Retrieved from http://semo.edu/pdf/4_Week_Enrollment_Fall_2016.pdf

ONE PORT TO RULE THEM ALL

by Joseph Marks, User Services

Universal Serial Bus (USB) is an important method of connecting electronic devices. So important that most of us use it every day. This one connection has many features that include transferring files using a flash drive, to charging a cell phone, to streaming movies. This connection and its variety of types may seem popular now, but with the introduction of a new standard known as USB type C, it has yet to see its prime. In order to appreciate the benefits of USB and its newest iteration, it's important to look at how far we've come.

Looking back at USB and its predecessors

In the early days of personal computing, users were limited in the types of devices that could be connected, and the speeds at which they could be accessed. Devices such as printers and scanners were the most common, installation could be time consuming, distance was limited, and data transfer speeds were measured in KBps (Kilobytes per second).

Then in the mid-90's something called Universal Serial Bus (USB) was introduced. Suddenly, connection possibilities exploded. The first version of USB, referred to as USB 1.0, was capable of data transfer speeds of up to 12Mbps (Megabits per second), Plug'n'Play installation became a reality, and up to 127 devices could be connected at distances of up to 16 feet. When USB 2.0 was released in 2000 it had a data transfer speed of 480 Mbps. The current versions are USB 3.0 (2008) and 3.1 (2013), which run at 5 Gbps and 10 Gbps respectively or **800 times faster** than USB 1.0.

USB Type is a convention used to describe the physical design of USB connectors. Types A and B are currently the most common with A typically being used at the computer end of the connection, and B being used at the external device (i.e smart phones). USB Type-C adds more functionality and is setting up USB to take over connections areas outside of just power and data transfer.

So what's the big deal about Type-C?

The reason USB Type-C has become such a big hit in the tech industry is that it is poised to take over areas like audio and display. Anyone that keeps up to date on new technology in the smart phone industry has surely noticed Type-C. Major phone manufactures are eliminating the old USB Type-B micro charging ports and replacing them with Type-C. Samsung, Motorola, and LG have already begun to make the switch with the Note 7, Moto-Z, and the G5. Motorola even went as far as removing the headphone port! This requires Moto-Z users to use Bluetooth or buy a Type-C adapter. Other phone manufactures will likely

side of the cord. For example, this means that either side can plug into a phone and either side can be plugged into a charging adapter. The connection also allows for a higher voltage to be passed through it, which means that Type-C can be used to not only charge small electronics, but can also be used to charge large electronics, for instance a laptop. Type-C was made to not only replace Type-B connections, but also Type-A. This means that Type-C will be used for charging your electronics and will be the future of flash drive and external hard drive connections as well. Another massive innovation for Type-C is that it supports video display. This means that it has the potential to replace connections like HDMI,



follow suit and consumers can expect this in the near future. As always introducing a new standard, forces manufacturers to adapt – which takes time. In the future, it should be expected that users either will have Bluetooth headphones or will have a new pair of headphones with a Type-C connection.

The benefits of Type-C over the older standards are numerous. The first is that it cannot be plugged in upside down because it is reversible. Another advantage is this connection allows for USB Type-C ports on both

DisplayPort, DVI, and VGA. As the list of benefits continues, another positive aspect that Type-C has over other display connections is that it can simultaneously send video and power to a display. This is helpful when using a portable display, because it means that there is one less cord needed. For consumers that require high graphical content, a full-size Type-C graphics card can be plugged into a Type-C port when using a Thunderbolt3 version of Type-C port. Overall USB Type-C will be the go to port in the near future for everything including charging, data transfer, audio, and display.



HTC VIVE™

From Gaming to Learning in the Classroom

Have you ever wondered what it would be like to play your favorite game in Virtual Reality? HTC has developed the HTC Vive Virtual Reality Headset that allows the user to play games through the Steam game store and can be used with specific games developed to be played in VR.

Now imagine using this same HTC Vive in the classroom at school. At first, it may be difficult to think of how it would be used, but there are almost limitless possibilities of what it can do.

With this technology, students would be able to visit the pyramids, other countries, and even landmarks all across the world. School could take on a new sense of fun to students as they actively engage with the project they are working on.

HTC is appealing directly to teachers with a video demonstrating the use and ability of the HTC Vive by focusing on Immersive VR Education. Can you imagine being along for the Apollo 11 mission and taking a walk around the moon? Another great experience for students is using its Medical Training Simulation to learn what to do during specific scenarios; it is definitely a good training tool for universities with medical students.



Imagine being an instructor and it is time for a field trip to the museum. Why bother leaving the classroom if you can put on your VR headset and instantly be transported to your destination? Google Earth was created by Google and can be used by instructors to be able to take students on a Virtual field trip anywhere they would like to visit in full 360 degrees on the HTC Vive. Instructors can create points of interest to guide their students from start to finish through many different locations.

With the rate at which VR content is being created, HTC has direct competition with other companies offering their own headsets. PlayStation VR, Oculus Rift, and Google Daydream/Cardboard are a few of the current competitors in the market.

Only time will tell when students are able to access these types of training tools in the classroom, but once there, we will go to “infinity and beyond.”

Below is the website link for the Virtual Reality Education – Immersive VR Education

https://www.youtube.com/watch?time_continue=89&v=hrpytToK67E

Another good website for learning what is available currently for education in VR.

<http://virtualrealityforeducation.com/>

- Aaron Alter, User Services

FANTASTIC PLASTIC

3D Prints to aid in your Daily Life

By Jacob Hill, User Services

3D printing has become one of the most talked about technology advancements of the 21st century, and with it you can print anything from a trendy keychain to a functional jet turbine. You too can now make use of this fantastic technology! Right here, on the Southeast Missouri State University campus, we have a newly offered 3D Printing service that will let you print almost anything for a small service fee. Funded by the Heather MacDonald Green Multimedia Center and located at Kent Library room 329, dedicated support are always available to get you printing like a pro in no time at all. Here are some fun and functional printable objects that would be beneficial to any member of campus in their day-to-day activities.



PENTOS

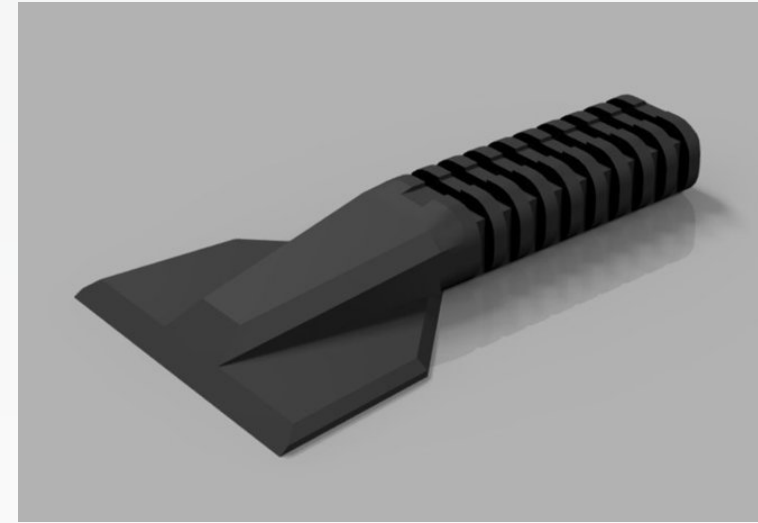
You can always use an old cup or just throw your pen haphazardly in a drawer, but this little guy will shoulder your writing utensil in a much more stylish and eye-catching way. It's also good for holding things such as rings, flash drives, multi-tools, or anything else you can balance in this little guy's capable hands. Keep in mind that this isn't made of iron, however. Attempting to balance things like textbooks or laptops will lead to an inevitable and unfortunate crunch.

<http://www.3dshook.com/catalog/your-desk/pentos/>

COLLAPSIBLE COFFEE SLEEVE

In 2015, a gallop poll reported that 64% of Americans drink at least one cup of coffee per day. With nearly 320 million people in the U.S., there should be a big market for this gadget. Coffee sleeves prevent the burning of hands and fingers, and this collapsible sleeve is both stylish and practical for your morning cup of joe. It's also collapsible, so it can slip right in your bag or pocket, when not in use. Print it out in your favorite color and sip on!

<http://www.thingiverse.com/thing:1635810>



ICE SCRAPER

Missouri winters are nothing to take lightly, and more often than not, you'll find yourself scraping snow and ice from your car before you can be on your way. Don't be caught empty handed in this situation; the handy minimalist ice scraper is a fantastic tool to keep in your bag or vehicle so you are always prepared for whatever Old Man Winter has to throw at you this season.

<https://pinshape.com/items/15705-3d-printed-ice-scraper-car-windshield>

HEADPHONE HOLDER

Your headphones are an integral part of your daily arsenal for success, so why not treat them as such? Loose headphones get knotted, worn and eventually break, leading to a bad day for many. This neat carrying case allows you to quickly and efficiently store a wide variety of earbud models, preventing them from becoming tangled and frayed in your pockets. You can also use it for storing charging cords and other small cables, so you'll never be in a powerless situation around campus again.

<https://pinshape.com/items/15705-3d-printed-ice-scraper-car-windshield>



GROCERY BAG HOLDERS

This object is one of those things that's so simple, its brilliant. A humble design that lets you hold grocery bags demonstrates the practical creativity that 3D printers can cultivate. These neat little handles will help you get all of your groceries into your room or home with one trip, and reduce bag breakage by spreading the weight evenly along the length of the handle. It's one of those things you never know how much you use until you have one, then you'll wonder how you ever lived without it.

<https://all3dp.com/cool-things-to-3d-print-useful/>

Implementing a One-to-One Technology Initiative in Higher Education

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Diana Rogers-Adkinson, Ph.D.

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Southeast Missouri State University

ABSTRACT

This paper describes the process of conceptualizing and implementing a one-to-one technology initiative at a regional comprehensive university. Organized around the principle that sustainable change requires attention to clear, justifiable goals, attention to key decisions, the development of stakeholder investment, adequate training, building appropriate infrastructure, and a concern for sustainability, the authors provide specific examples detailing how the change initiative in which they participated addressed each of those areas.

Keywords: iPad, One-to-One technology, higher education, teacher education

Building upon the momentum created by faculty and P-12 partners, the Dean of the college began discussions with a several different stakeholders about the possibility of implementing a one-to-one initiative in the College of Education. In the fall of 2014, the university began distribution of iPads to nearly all students enrolled in the Teacher Education Program (TEP) under the auspices of a project that was by then titled EDvolution®. In the following pages we discuss many of the issues and decisions involved in developing and implementing our one-to-one initiative over that year-and-a-half.

In January of 2013, College of Education faculty at Southeast Missouri State University met to discuss the goals, mission, and future plans of the college. One of the group's conclusions that day was that the college needed to be more proactive about integrating emerging technologies into curriculum and instructional practices. During the same academic year, several school districts in the region were involved in planning or implementing one-to-one initiatives in which students in those districts would all be provided with a personal electronic device (PED) to use in the classroom and at home.

While we intend that this narrative be of use to anyone involved in integrating new technology into an educational environment, the experiences documented here also provide specific examples related, generally, to making institutional changes. As such, this paper is organized upon the premise that there are certain areas to which change leaders must attend if they hope that a particular initiative will be successful and sustainable. These are

1. Clear, justifiable goals. Everyone integral to the project's success must have a clear sense of what the project is intended to achieve. At various junctures, project participants will have to make choices that may impact the potential for success. They must be able to make those decisions in the context of understanding the initiative's ultimate goals, and they need to be able to justify those goals within the context of the broader institutional mission.
2. Attention to key decisions. Early in the planning stage, key decisions need to be identified and addressed. A project can quickly unwind if, once started, long delays in critical decision-making sap momentum. In addition, key decisions made without appropriate research and reflection can lead to significant problems in later stages.
3. Development of stakeholder investment. The people upon whom the success of the project depends must believe in the value of the project. At various points—or throughout—the initiative will depend upon their willingness to invest their time, efforts, and (at times) money. They need to feel that there is a reason to do so.
4. Adequate training. Intellectual investment in a project is not a substitute for understanding one's role in it and having the knowledge and skills to carry out that role. Proper training for enacting those roles is essential.
5. Appropriate infrastructure. No matter how much stakeholders want to enact the identified changes, and no matter how well they are trained to do so, they will be unlikely to succeed if the environment in which they are asked to fulfill those new roles does not nurture their efforts. Their commitment will be undermined by the lack of resources necessary to be successful. Stakeholders would often rather function at their previous levels of success without the initiative's

changes than face the significant risk of failure engendered by an environment that is not conducive to those changes.

6. A concern for sustainability. Change worth enacting is change worth continuing. In order to avoid having an initiative cave in under its own weight once leaders leave or become engaged in a new project, there must be long-term commitment to the goals of the project.

CLEAR, JUSTIFIABLE GOALS

Goals

The goal of this initiative was to fully integrate the use of personal electronic devices (PEDs) in the teaching habits of our teacher candidates. While we chose to use iPads (see the following paragraph for an explanation of that choice), our goal was not explicitly to train teachers to use iPads. Instead, we aimed to prepare teacher candidates to teach effectively in P-12 environments that are increasingly 1:1. We wanted graduates of our programs to understand how PEDs could be used to increase student learning, regardless of the specific devices being used in particular schools.

Justification

Broadly, there were two main justifications for this initiative. The first is one that, ethically, must exist in any educational initiative: learning. We cannot justify dedicating scarce resources to a project that is unlikely to result in increased student learning. The second justification is grounded in external expectations. School districts in our region were increasing employing PEDs in their classrooms, and accrediting bodies were requiring evidence that we were preparing teachers to appropriately use available technology.

Learning. To begin with, we should note that our decision to integrate personal electronic devices into the instructional process was more responsive than progressive. By going "1:1", we did not change the way in which young adults learn. Instead, we simply acknowledged some aspects of the ways in which they were already learning—and exploited them. Students arrive at our university in the habit of using PEDs to text a friend or "Google" when they have a question. They are used to learning, at least about topics about which they care, by

following one hyperlink to another. Across the nation, 85% of young adults, 18-29 years of age, own a smartphone (Pew, 2015). In short, they have an organic, communal approach to learning that is often facilitated by PEDs. The aim of our EDvolution® initiative, then, was to build upon the way in which students were already learning instead of continuing to ask them to leave their usual learning habits at the classroom door.

External expectations. Institutions do not exist in a vacuum. Investors, regulators, and customers are among the external parties that regularly exert pressure on institutions. In our case, we were most influenced by the potential employers of our graduates and the bodies that accredit our programs.

Potential Employers. In recent years, the demand that colleges and universities ensure that graduates are prepared to successfully transition into the workforce upon graduation has increased (Casner-Lotto & Barrington, 2006). School districts want to hire teachers who are “first-day ready” (NEA, 2013), and a piece of earning that designation is the ability to use the available technology. Moreover, administrators are looking for employees who have skills that are not necessarily dependent upon technology but that can be enhanced by the use of PEDs in an educational environment. These include the ability to work in a team and problem-solving skills (National Association of Colleges and Employers, 2014). In our own region, several school districts had already begun one-to-one initiatives, or were planning for them, when we started discussing the possibility of doing so ourselves. Not only did these districts desire teachers who could immediately be successful in such a wired environment, they wanted young educators who could provide professional development to veteran peers who had honed their skills in the days of paper and pencil.

Accreditors. Colleges and universities also have to meet standards set by accreditors, both institutionally and programmatically. In our case, the institutional accreditor is the Higher Learning Commission (HLC). HLC accreditation Criterion 3 cites technological infrastructure as one of the resources that an effective institution needs to provide. More specific to our initiative is the Criterion 5 expectation that “institutional planning anticipates emerging factors, such as technology, demographic shifts, and globalization” (Higher Learning Commission, 2015).

At the program level, the relevant accreditor is the Council for the Accreditation of Educator Preparation (CAEP). CAEP’s standards include the requirement that “providers ensure that completers model and apply technology standards as they design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice (Provider Responsibilities 1.5). Fully integrating the use of personal electronic devices into the curriculum and instruction of the college seemed a reasonable step toward meeting this standard.

ATTENTION TO KEY DECISIONS

“A goal without a plan is just a wish,” states an old axiom, and our goal was to achieve something more substantial than a wish. We began to identify the major decisions that would need to be addressed. Two of the most important centered on choosing a device and funding the initiative.

Device

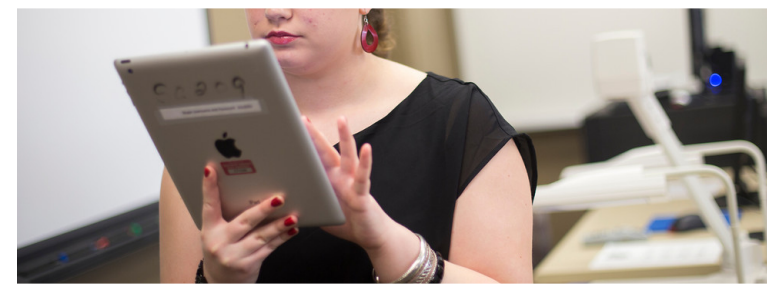
One of the most important choices in planning for a one-to-one initiative is, of course, the decision about the device that will be used. We considered a variety of factors in regard to this question, including whether or not we should limit ourselves to a single device. Our goal was not to prepare teacher candidates to teach with any particular device, but, instead, to empower them to exploit the capabilities of electronic technologies, generally, in order to increase P-12 student learning. One option, then, was to employ a “Bring Your Own Device” model, often simply referred to as BYOD (Microsoft, 2009). Allowing teacher candidates to interact using whatever devices they had at their disposal would have reduced the costs for both the candidates and the university, and it would have encouraged everyone involved to focus on activities that could be accomplished on multiple devices and platforms. However, we also needed to consider daily use requirements, screen size, storage capacity, platform (e.g. Apple OS, Android, Windows), security, capability to interact with the university’s learning management system, availability of apps, e-text options, vendor support, and cost. A team that included end-users, IT personnel, and both college and university administration ultimately chose a one-device approach, with Apple’s iPad as the device of choice.

Funding

While cost was a piece of the device discussion, the method by which the project would be funded was also a decision unto itself. Not only did we need to devise a plan for funding the initial expense of the project, but we also had to consider long-term sustainability. For example, a large grant to cover the cost of several hundred iPads would not have sustained the initiative for more than a few years. Many institutions make initial investments in technology without consideration for upgrades, lost devices, or the need to train new faculty (Mitchell, 2011).

The fact that we planned to provide iPads to the faculty was of particular relevance to the discussion of funding. We believed that this was necessary to encourage greater faculty investment in the project and to keep from placing an “unfunded mandate” upon them. Doing so, however, added significantly to the cost of the project. In addition, ensuring that faculty devices kept pace with changes in technology required us to plan for future upgrades. We wanted to avoid a situation in which faculty were using devices with less instructional capacity than those in the hands of student users.

From a cost perspective, the BYOD model was enticing. However, in addition to providing less consistency than one-device plans, BYOD also did not provide any of the financial structure necessary to maintain the program. In the end, we decided on a rental program that would allow us to capture the cost of faculty devices and infrastructure expenses from a pool created by student rental fees. The cost to students participating in PED rental plans varies widely between universities. For example, Winona State University requires a \$485 per semester fee in exchange for both a tablet and a laptop (Winona State University, 2015) while Arkansas State University’s institution-wide one-to-one model requires only a \$50 rental fee per semester (Arkansas State University, 2014). At Southeast Missouri State University, iPad



rental costs \$200 per semester, which includes access to college-purchased apps, replacement insurance, an upgrade every two years, and the opportunity to purchase the device outright at graduation for a nominal cost (Southeast Missouri State University, 2015).

DEVELOPMENT OF STAKEHOLDER INVESTMENT

A threat to any change initiative is a reliance on people who either do not fully understand the initiative or who have not been adequately prepared to successfully participate in it. From the start, EDvolution® had the support of a small core of enthusiastic individuals; however, such a large project, involving hundreds of students and faculty, required a network of support from a variety of stakeholders.

University Administration

Central administration support was paramount from the early stages of discussion. The potential launch was first shared with the president’s executive council. Justification was based on the issues cited earlier in this paper. The feedback of external constituents, such as local school district administrators, was also key in validating the program internally. Buy-in was also required by the faculty senate as our program was being mandated across multiple units within the institution. There were some initial questions regarding infringement on academic freedom by mandating iPad use. Executive staff support also ensured that the resources of time and effort would be committed from IT to support the program.

Faculty

The foundation of faculty investment in this project was the fact that it grew out of legitimate concerns generated by that body. As noted above, a substantial proportion of the faculty cited the integration of new technology as a college priority. Even so, we realized that faculty belief in the project would need to be nurtured. A faculty technology committee was convened that included both early adopters and well as new users of educational technology. This group helped assess potential devices and user expectations across the varying programs in teacher education, providing opportunities for faculty input on

important issues.

The decision to provide faculty with an iPad as a part of the initiative was likely the step that encouraged the most investment, but receiving a new piece of technology would not have been enough on its own. Multiple professional development opportunities were provided to ensure that instructors did not become frustrated trying to determine how to use the device on their own. Lastly, although, in order to receive an iPad, faculty had to agree to use the device in at least one course during the first semester of implementation (with increased use in each subsequent semester), they were allowed to determine the strategies that best aligned with their course competencies. In short, faculty were provided with a device, expected to use it, and offered multiple layers of support in their efforts to do so.

Students and Parents

To be sure, many an educational initiative has navigated the treacherous straits between administrative and faculty support only to flounder on the shores of student rebellion. Not only did we need to engage current students in our teacher preparation program, but we also needed to find ways to communicate with those who had not yet applied to the program and, also, those who may not have even applied to the university yet. In light of this challenge, our launch included discussions with the education representatives on student government and the student leadership team for the dean of the college of education. We offered the general population of the college an opportunity to offer input at a convocation for all educator preparation students that included videotaping, and we shared information through mass e-mailings and posts on the college Facebook page. We also informed all incoming students about EDvolution® (and its associated costs) at new student orientations. Despite this multi-faceted approach to disseminating information, we still, unfortunately, failed to reach one important group of stakeholders: the parents of the impacted students. As a result, the university received a significant number of telephone calls—ranging from concern to heated complaint—during the initial implementation semester. Resolving to better communicate with parents, we have plans to send a letter with information about EDvolution® costs to the home mailing addresses of every student newly admitted. Marketing documents have also been enhanced to include more information about the iPad initiative.

ADEQUATE TRAINING

No amount of passion for a project's goals can replace adequate preparation for the tasks required to meet those goals. All of us involved in EDvolution® had experiences in schools—both P-12 and higher education—in which excellent ideas had withered on the vine for lack of well-trained educators to nurture them. We resolved not to make the same mistake. Understanding that continued faculty and student investment in the project would be undermined by too many failed attempts to use iPads meaningfully in the classroom, we devised a multi-layered approach to professional development.

Faculty

Prior to implementation of the initiative, all faculty participated in the SAMR survey (Romrell, Kidder, & Wood, 2014) to determine their current level of instructional technology use. This assessment categorizes uses of educational technology according to the way in which it is implemented, from simply completing a traditional task with a new technology, through intermediate levels of augmentation and modification, to, ultimately, redefining the task of teaching through the use of electronic technology. The results of this survey helped us to identify the needs of faculty and to design experiences that conformed to those needs.

Apple Workshops. iPad was our chosen device, in part because of the variety of support offered by Apple. Company representatives met with faculty in the fall a year before teacher candidates received the first iPads in order to help define the college's vision. Once the university had committed to the initiative, faculty input again helped to influence its direction, with college personnel selecting the topics of the first two Apple sessions: literacy instruction and tools for differentiating instruction. Mid-way through the following year, two members of the university community were sent to Apple Academy to further enhance their knowledge of use of iPads in instruction. These two staff now serve as lead trainers for the initiative. Finally, a lead Apple instructor came to campus and offered one-to-one tutoring and live observational feedback to faculty desiring such support.

Ongoing Professional Development. Some degree of iPad training was mandated for all users. Faculty did not receive their personal iPad

until they had committed to a training date and signed the user agreement. This initial professional development ensured that faculty began using their devices with at least a minimal level of knowledge. These were hands-on workshops that provided instructors with opportunities to observe others accomplishing teaching-related tasks with iPad apps and allowed them the time to explore those apps themselves. In addition, the early versions of these sessions included dozens of faculty members from a dozen different departments, encouraging lively interaction across the institution that increased excitement about the initiative.

Hoping to build upon momentum instigated by the initial trainings and fed by subsequent classroom experiences, we have endeavored to provide faculty with a variety of opportunities for additional professional development. Some departments have designated time in department meetings for faculty to share experiences and apps, and we regularly promote workshops offered by university personnel, such as Take-Away Fridays, where lunch is provided and some aspect of educational technology shared. Relevant sessions have included training with apps such as Nearpod, iMovie, and ClassDojo. The fact that our own faculty have led some of these sessions has only increased interest. Perhaps the most interesting of our professional development opportunities has been *Appy Wednesdays*.

Appy Wednesdays. In addition to the formal professional development offered, the college also wished to create a climate of shared learning with our students. We developed a monthly open meeting, *Appy Wednesdays*, to which both teacher candidates and faculty are invited to share new-found or favorite apps. Early meetings included prizes to incentivize attendance, but the opportunity to share with and learn from other educators has kept attendance growing. In particular, teacher candidates seem to be excited by the opportunity to offer something of value to the teaching community on campus.

Three-Phase Introduction for Teacher Candidates. The student professional development model resembled the faculty program but with shorter training sessions. While both groups began with an introduction to the iPad and its major functions, subsequent faculty development was not linear and consisted of different experiences for different instructors. The professional development of teacher candidates, however, was based upon a more organized conceptual model that overlay the four-year university experience. This structured approach allowed us to intentionally and gradually integrate iPad use into the academic and professional lives of our students. Table 1 illustrates this three-phase framework.

Table 1
Three-Phase Technology Introduction Framework

Phase	Years	Characteristics
<i>Tech for you:</i> Technology as a tool to enhance your own learning and personal productivity	1-2	<ul style="list-style-type: none"> • Student out-of-the box basic use seminars • Drop-in support in the Instructional Resource Technology Center <i>Appy Wednesdays</i>-once a month collaborative sharing between faculty and students regarding a specific app
<i>Tech for us:</i> Technology as a tool for collaboration and instruction in education coursework	2-3	<ul style="list-style-type: none"> • Explicit in-class use • Focus on collaboration between the student, peers, and faculty
<i>Tech for them:</i> Technology as a tool for instruction to enhance the learning opportunities for all learners	3-4	<ul style="list-style-type: none"> • Application of effective educational technology in field experiences and student teaching

APPROPRIATE INFRASTRUCTURE

Tech for You. The first phase, Tech for You, focused on introducing students to ways in which their PED can assist them in their studies. In effect, we wanted them to experience how use of the iPad can be beneficial so that they will be better able to help their students benefit similarly. We mandated out-of-the-box training for all new student users to ensure a minimum understanding of the uses of the iPad for their own learning. The iLife suite and note taking applications such as Notability were shared. We also made sure that students were aware of Appy Wednesdays, and we encouraged them to attend. During the semester, students were also offered seminars on specific applications. These trainings were conducted by a graduate assistant in the college instructional technology lab.

Tech for Us. The second phase of the model is called Tech for Us. Early in this phase, teacher candidates began taking some introductory courses related to teacher education, creating more time for structured interaction between students and faculty in the college. During the Tech for You phase, students were still largely enrolled in general education coursework taught by university faculty who are often not involved in the one-to-one initiative, making it difficult to influence classroom activities. In this second phase, however, college instructors began to emphasize the collaborative capabilities of personal electronic devices. Teacher candidates began to use iPads, not simply as a tool for individual learning, but also as a tool for building an educational community. Faculty were the lead agents in this training phase for students because they require app use specific to discipline coursework, created lesson plans that integrated technology when appropriate, and required mastery of specific technology relevant to the discipline.

Tech for Them. In the final phase, Tech for Them, the focus shifted toward the students that our candidates would teach in P-12 classrooms, although fall of 2015 will be the first semester in which we will have students in the Tech for Them phase who have participated in each of the other two phases. Having developed their own capacity to learn and collaborate using PEDs, they will be in a position—during these last few semesters of their university career—to model these practices for their students. By this point, they will have developed a personal library of apps suited to their teaching styles and subjects, and they will have had opportunities to observe faculty and peers using many of the apps in varying contexts.

We spent the year before the launch addressing required infrastructure needs. A strong collaborative relationship with academic leaders and instructional technology personnel was a necessity. We had to articulate the types of activities that would occur in learning spaces so that IT could strengthen the current system to meet our demands. The primary issues included the amount of Wi-Fi capacity needed, classroom hardware and software needs, processes for the distribution and return of iPads, billing of student accounts, and procedures for lost or stolen devices.

Wi-Fi Capacity. A needs analysis of Wi-Fi demand was critical to the launch of the one-to-one initiative. Users could be expected to bring two or three devices into the learning spaces, straining the bandwidth capacity and slowing down use of devices in the classroom. In turn, this decrease in service would result in student and faculty frustration. To prepare for this situation, IT added several access points in the learning spaces. Ironically, one result of this attempt to be proactive was the oversaturation of Wi-Fi access, with devices unable to determine the best access point. This ultimately led to a decrease in Wi-Fi usability during class time, not because there was not enough access, but because devices had difficulty choosing between too many options for access. This issue was eventually corrected by changing the device management system to force access to the closest point.

Strategies also had to be implemented to regulate the load demand based on differing class activities. For example, we requested that faculty assign the downloading of specific apps as a homework assignment since a large app download by 25 simultaneous users may result in a several users losing their connections. The load demand resulted in the need to increase the university wide bandwidth to handle the expanding use throughout the campus. In addition, we had to assess the Wi-Fi use in non-instructional areas, such as in a Subway and a Starbucks that share our building. The network needed to be able to withstand the lunch hour rush as well as the instructional demands of a one-to-one initiative.

Classrooms. Preparing the instructional environment was as critical as the professional development of the faculty. Each classroom required

hardware changes included the addition of Apple TV or AirServer to allow multiple users to share one classroom projector. AirServer was used in most classrooms because it was the less expensive option, but Apple TV was included in improvements to the Instructional Technology Resource Center. Both tools allow password control to prevent students in the hallway from disrupting a classroom by taking over the projector.

During early implementation, it was important to have all technology failures in the classrooms documented and reported centrally. Decreases in service and other user concerns had to be addressed by the IT department quickly. Lost instructional time due to failures of the technology could quickly lead to reduced use of the devices and, in turn, a decrease in support for the initiative as a whole. Given the cost to students, we made addressing poor connectivity and other service issues a high priority.

Software purchases included a device management system for tracking all iPads and for pushing apps to users. We also created a master list of preferred apps for students to download based upon major. We

chose to limit the list to free or “starter” apps during the initial launch to avoid burdening students with additional costs.

Instructional Resource Technology Center. Finally, community spaces such as computer labs and instructional resources areas were impacted by the movement to one-to-one. Charging stations were added for both students and faculty use. Collaborative learning stations were needed to allow students to use their personal devices in the center. The space also needed to provide access to the peripherals used by faculty to promote competency by student users. Remodeling of our center included adding a “practice room” that provided both high-tech and low-tech tools for students to practice lessons before implementation in a real classroom. Spaces were also created to facilitate lecture capture for “flipped” lessons. Larger collaboration spaces were developed for micro-teaching activities both in and out of class. Also a graduate student was hired to provide assistance to students in using the technology. Moving forward, we are hiring a full-time coordinator for the center.



A CONCERN FOR SUSTAINABILITY

Ensuring that institutional changes will last beyond the initial period of novelty-driven energy requires the development of both internal and external support. Data must be collected that can illustrate early success. Outside stakeholders must be convinced that the initiative has value so that they will work to sustain it after initial project managers have moved on to another initiative. Critical to the initial launch was to document success and impact of the program. The SAMR survey was administered one year into the implementation of the one-to-one initiative to document the changes in faculty technology use. This data has been used to engender continued support. We also disseminated numerous media releases describing the impact that the curriculum changes were having in P-12 classrooms during our students' field experiences. Employer feedback regarding students' ability to implement technology was also collected.

Infrastructure changes must also be a part of the long term sustainability plan. We are reducing costs in desktop computer replacement due to the elimination of a traditional computer lab-style classroom that previously was used to teach technology skills. In addition, a clerical position was eliminated in our IRTC to support the hiring of a new instructional technology coordinator. This person will be able to support ongoing professional development for students and faculty. Grant and foundation funding are being explored to address hardware deficiencies that have been identified in the past year. We also launched a capital campaign to purchase new BYOD work stations in the center. The rental model also supports the sustainability of the project by facilitating device updates every two years. This enables us to have the flexibility to adapt to evolving technology. Classroom infrastructure will continue to require updates related to new technologies, since both software and hardware rapidly evolve (Amirault, 2015). Peripherals must also be purchased to demonstrate best practice. Examples of such tools include sleeves that transform a device into a microscope, three dimensional imagery tools, and tripods that allow the camera to follow a teacher in the classroom.

CONCLUSION

The start-up challenges of a new project are now being replaced by those tasks associated with building and maintaining long-term change. Contentment with daily, incremental improvements must now suffice in place of the passionate enthusiasm of the novel. Structural supports related to physical infrastructure, device distribution, and professional development are now in place, but they must receive adequate attention in order for us to build upon the work done so far. The continuation of our EDvolution® also depends upon the strength of the stakeholder relationships that enabled us to begin the project. Although it is often more difficult to excite faculty, students, and university administrators about a project that is, by the standards of higher education, nearing middle-age, the initiative will not last without their continued support.

In addition, we need to focus more attention on assessing the value of EDvolution®. The initiative was built upon a sound theoretical and philosophical framework, but that does not guarantee that it will result in our meeting the identified goals. We have considerable anecdotal evidence of altered classroom practice and innovative student use of iPads. We have also received some positive feedback from school administrators. Building upon this initial informal data, we are currently developing more systematic quantitative and qualitative methods for evaluating the success of the project.

Certainly the rollout of our one-to-one initiative has not proceeded without problems, but we have managed to avoid several potential roadblocks by attending to the six key areas we identified in the introduction: 1) clear, justifiable goals; 2) attention to key decisions, 3) the development of stakeholder investment, 4) adequate training, 5) building appropriate infrastructure, and 6) a concern for sustainability. The presence of these target areas helped us to maintain focus and ensured that we did not overlook (for the most part) important issues that might undermine the success of the project.

As the name suggests, EDvolution® has required a level of effort and planning commensurate with starting a minor revolution. Our aim was not simply to add a new tool to the instructional process, but, instead, to fundamentally alter that process in our college. Believing that a more collaborative model that enhanced connections between students, faculty, and worldwide sources of information would increase student learning, we set about to use emerging

technology to build that model. Not only did we perceive a value for our teacher candidates' immediate learning, but evidence suggested that our one-to-one initiative would also better prepare those novice educators to meet the needs of students in their future classrooms.

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ALERT!

Staff Fall Prey to Phishing Attacks

When you receive email with embedded web links, think twice before clicking on a link. Is the email or website asking you to login or to validate your username and password? Does the link take you to a website different than indicated by the link in the email message?

BE SUSPICIOUS!

If it is a link to a known application such as Office 365 or the campus Portal system, instead of clicking on the link, go to the site by manually entering the web address (e.g., <http://portal.semo.edu>). Do not click on the link.

If it is an unknown website or service, consider contacting the service or website to validate the request. Don't click on the link. Google the service and find their main website for contact information. Over the last few weeks, staff have received numerous emails attempting to obtain their username and password. Known as phishing schemes, these messages are designed to look like legitimate alerts, normally suggesting dire consequences if you do not respond or take action. See the example below:

Dear Member,
Access To Your Southeast Missouri State University Webmail Account Will Expire Today 01/23/2017
www.semo.edu/owa/auth/renew
Best Regards,

Looks credible, but if you were to click on the link, you would be taken to a completely different website (not [semo.edu](http://www.semo.edu)) again posing as a legitimate request for you to login or enter personal information, designed to collect usernames and passwords, or in some cases SSNs or financial information.

Do not be fooled. If instead, you were to manually type in that same web address into a browser – www.semo.edu/owa/auth/renew, you would receive an error stating the page does not exist.

Once one individual falls prey to a phishing scheme, that same scheme will now use that individual's credentials to send more phishing email. These emails now appear to come from a legitimate sender and in some cases may even by-pass security filters. It is a vicious and disruptive cycle.

In response, IT staff have been closely monitoring email services; stepping up our security controls to catch the spam as early as possible; resetting compromised accounts; and cleaning up tens of thousands of queued spam email messages. We are working hard to keep email safe and functional, but we need your assistance. If you have any questions, contact the IT Help Desk at (573) 651-4357 or email helpdesk@semo.edu.

- Floyd Davenport, AVP

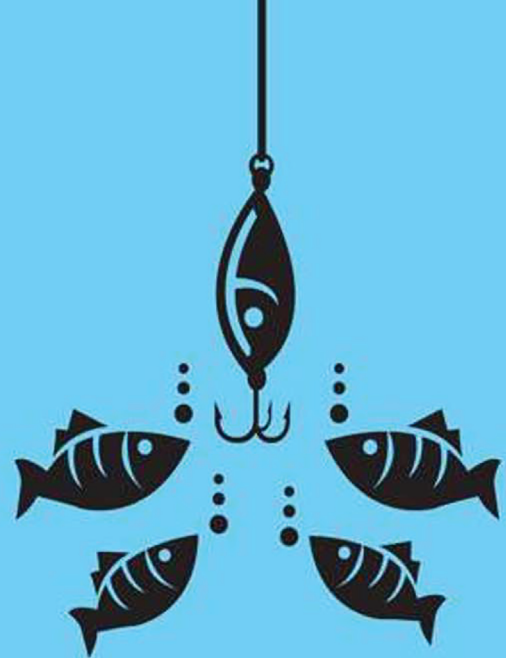
WE NEED YOUR HELP!

Email:

EXAMINE
MESSAGE
AND
INSPECT
LINKS

“10-Second EMAIL Rule” where EMAIL stands for “examine message and inspect links.” from http://www.huffingtonpost.com/entry/how-not-to-get-hacked-us_58223ecce-4b0102262411e14

https://www.youtube.com/watch?time_continue=60&v=qwSASj9EhPc



PHISHING EMAIL DEMONSTRATIONS

Jacob Hill, User Services



As a little fish in a big pond, chances are you were emailed one or more phishing messages weekly. Hopefully, our security software blocked these malicious emails. If not, hopefully you recognized that the message wasn't valid and you pressed your delete key.

Unfortunately, these phishing messages are often written very cleverly. As a result, this is and will continue to be a prominent issue for all college campuses, as well as for personal email accounts. In an effort to combat their malicious intent, the Department of Information Technology held a phishing email demonstration during the fall 2016 semester. The goal of this demonstration was to educate and alert students, faculty, and staff the dangers and red flags of scam-based emails.

Phishing demonstrations were held for a total of six sessions, two in the UC Commons and four in front of Towers Café. Using an enlarged and posted email, Ms. Alexis Whitworth and Mr. Jacob Hill, Information Technology student workers, asked participants to identify parts of the message that questioned legitimacy. In total, 109 students partook in this quest and were entered in a raffle, but many others gained valuable knowledge as they watched others participate in the demonstration.

Event comments were quite favorable. Students, faculty, and staff found the demonstration very useful and informative, saying that they "were now aware of what to look for in a phishing email" and that "there are red flags I never would have thought to look at". Business cards, informational pamphlets and general technology knowledge was shared as well, much to the appreciation of participants.

Plans are underway for future phishing demonstrations and expansion of our efforts. While traffic in Towers Café was strong, it was decided that the ground floor of Towers Complex might receive significantly more foot traffic and would be a hot spot for a large amount of students. In addition, Information Technology is in the process of increasing the number of webpages that cover phishing information.



iPad Air Winner: Scott Stuhldreher


This information will be launched soon at <http://www.semo.edu/it/security/index.html>. Please check with us frequently as we expand upon on scam and phishing email information, complete with a phishing example, method to report phishing messages received, and ability to compare an email received on our campus with those that have been reported.

Falling for a Phishing scam can result in not only an inconvenience, but also financial damages. Read (<http://cio.arizona.edu/news/01/17/after-successful-phishing-scam-ua-officials-offer-tips-stay-safe>) more about a university whose employee paychecks were redirected to accounts in Africa after complying with a phishing email directive.

Did you remember to celebrate Data Privacy Day on January 28th? If not, no worries. This is an event your Department of Information Technology, at Southeast Missouri State University, encourages you to celebrate every day!

Devoting only one day to privacy issues, in our always-connected digital world, leaves us vulnerable the other 364 days of the year. We need to stay diligent in securing our digital privacy each and every day to protect not only ourselves but also others in our network of family, friends, colleagues and students.

DATA PRIVACY DAY!



- Paul Belvin



Educause and staysafeonline.org offer the following tips to protect your privacy online:

1. Use a unique password for each site – if one account becomes compromised you limit the damage that can be done by hackers.

2. Use a password manager – this way you don't have to remember all the different passwords you have setup.

3. Know what you are sharing – check your privacy settings on all your social media accounts and be aware of what you are sharing and with whom. Don't be a Frank.....see Frank's photo.

4. Guard your DOB and Digits – there are certain pieces of information you should be reluctant to share. Before entering your Date of Birth, Social Security Number, Bank Account, and/or phone number, ask yourself, "is this site that important to me?"

5. Separate your professional and personal online identities – this has the potential to save you from grief later on. It is recommend that your business email and professional social media presence be separated from your personal email and personal social media presence. What may seem funny in your personal social circle may not be that funny in your professional social circle.

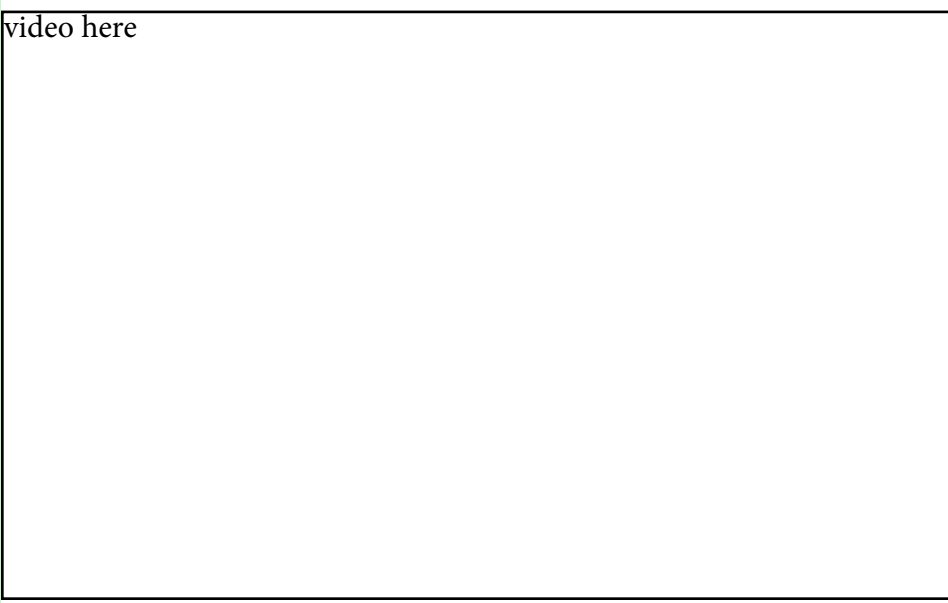
6. There are no true secrets online – Use the postcard or billboard test: Would you be comfortable with everyone reading a message or post? If not, don't share it.

Following these guidelines will help you become a better digital-savvy person and make it harder to be taken advantage of by cybercriminals. Keep an eye on your information and for future articles on security awareness.



New cars, new problems

Have you recently bought a car? If your answer was yes, then ask yourself "Would I trust a computer with my life?" Many people do every day. The vehicles we drive are becoming more and more reliant on computers. The computers in modern cars potentially control many aspects of the vehicle, for example door locks, ignition, and even acceleration and brakes!



Why is this a problem?

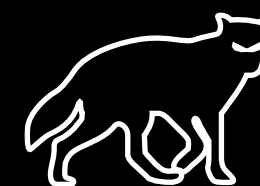
Vehicle manufacturers are not known for their cyber security practices and hackers are well aware of it. Hackers are taking advantage of these security exploits and in turn are taking over the vehicles themselves. Imagine the dangers you could be in if suddenly a malicious hacker had control of how fast your vehicle was moving or if your vehicle was on at all.

So how's it done?

Hackers have found many different ways to hack into modern vehicles. For example, you may think that the phone system in your car is convenient but the researchers at NOVA nowScience find it convenient in their own way. Watch the video below to see how this group of researchers discovered how to locate, unlock, and start a car from a remote location.



Links can appear as innocent as grandma,
but actually be wolves in disguise.



Beware the Big Bad Wolves such as malware,
spyware, and virus threats. **Think before you click.**

STAY SAFE FROM CYBERCRIME DURING TAX TIME



Tax season is prime time for online scams. Cybercriminals are continuously looking to lift your personal information to cash in on a refund request and/or steal your identity. The problem is rampant: in 2015, the Federal Trade Commission received close to half a million complaints, and nearly half (45 percent) were tax fraud-related. Cyber thieves are crafty: they can break into your account or device and literally steal your online life – as well as your tax refund.

DON'T BECOME A VICTIM: WATCH OUT FOR TAX SEASON TRICKS

Online con artists will tempt you to take action in a variety of ways. Beware of the following:

- **PHISHING SCAMS:** Cybercriminals will try to get you to do something, like click on a link or respond to an email, so they can steal your personal information. Watch out for unsolicited emails, texts, social media posts or fake websites that may lure you in and prompt you to share valuable personal and financial information. Armed with this information, online thieves can pilfer funds and/or commit identity theft. And opening malicious links or attachments can cause malware – viruses, spyware and other unwanted software that gets installed on your computer or mobile device without your consent – to infect your computer files.
- **IMPOSTERS CLAIMING TO BE INTERNAL REVENUE SERVICE (IRS) AGENTS:** The IRS will never email or call you demanding immediate payment without having first mailed a bill – nor will they ask for a credit or debit card number via email or phone.
- **TAX PREPARER FRAUD:** The overwhelming majority of tax preparers provide honest services, but some unscrupulous individuals may target unsuspecting taxpayers and the result can be refund fraud and/or identity theft. The IRS reminds anyone filing a tax return, that the preparer must sign it with their preparer tax identification number.

STAY CYBER SAFE – FOLLOW THESE TAX SEASON TIPS

The National Cyber Security Alliance (NCSA) has some easy-to-use STOP. THINK. CONNECT. tips that will help protect you against fraudster tricks.

- **KEEP ALL MACHINES CLEAN:** Having updated software on all devices that connect to the Internet is critical. This includes security software, web browsers and operating systems for PCs and your mobile devices. Having current software is a strong defense against viruses and malware that can steal login credentials or potentially use your computer to generate spam.
- **GET TWO STEPS AHEAD:** Turn on two-step authentication – also known as two-step verification or multi-factor authentication – on accounts. Many popular email services and financial institutions offer this key security step for free, but you must opt in to turn it on.
- **MAKE BETTER PASSWORDS:** If your passwords are too short or easy to guess, it's like giving a cyber thief your banking PIN. Longer passwords and those that combine capital and lowercase letters with numbers and symbols provide better protection.

- **GET SAVVY ABOUT WI-FI HOTSPOTS:** Public wireless networks are not secure. Cybercriminals can potentially intercept Internet connections while you are filing highly personal information on public WiFi.
- **WHEN IN DOUBT, THROW IT OUT:** Links in email are often the way bad guys get access to your personal information. If it looks weird, even if you know the source, it's best to delete.
- **THINK BEFORE YOUR ACT:** Be leery of communications that implore you to act immediately – especially if you are told you owe money to the IRS and it must be paid promptly.
- **FILE YOUR TAX FORMS ON SECURE HTTPS SITES ONLY.**
- **ASK IF YOUR TAX PREPARATION SERVICE HAS CHECKED FOR MALWARE ISSUES.**

REMINDER FROM NCSA

“Cybercriminals can't wait for tax season. The flood of personal and financial data that's available online during this time of the year is a tremendous target. Everyone is filing their taxes, deadlines are looming and the bad guys are doing everything they can to take full advantage of the opportunity,” said Michael Kaiser, NCSA's executive director. “Hackers are masters of social engineering. So during timeframes when there is increased potential to have your most personal data exposed, it's critically important to take steps to use the Internet safely and more securely. Remember that *Personal Information Is Like Money. Value It. Protect It.* Practicing good cybersecurity – when preparing your tax returns and all year-round – empowers Internet users to reap the benefits of connectivity with greater confidence.”

RESOURCES TO HELP YOU STAY SAFE THIS TAX SEASON

- Here's a comprehensive listing of how to install two-step authentication on a variety of popular platforms: stophinkconnect.org/2stepsahead/resources.
- Better Business Bureau shares 6 Tips for Trusting Your Tax Preparer, visit bbb.org/tax-us to learn more.
- Visit consumer.ftc.gov/articles/0008-tax-related-identity-theft for consumer-focused information about tax-related identity theft.
- IdentityTheft.gov can help you report and recover from identity theft.
- If you are a victim of identity theft, the Identity Theft Resource Center (idtheftcenter.org) can offer advice tailored to your specific issue, a step-by-step plan and the necessary documents and letters you will need to implement your plan.
- The Internal Revenue Service offers fool-proof tips for filing taxes online; visit irs.gov/Filing to learn more.
- Tax time is open season for ID thieves and IRS impersonators. Learn more at fraud.org/component/content/article/2-uncategorised/66-tax-scams

FOLLOW US ONLINE AND ON SOCIAL MEDIA



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/STAYSAFEONLINE



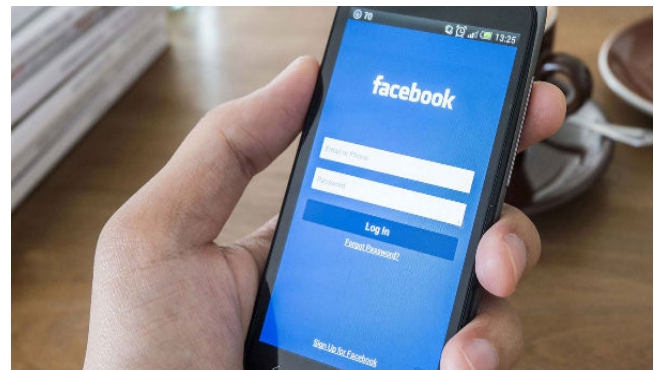
STOP | THINK | CONNECT™

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STOPTHINKCONNECT



With the ever growing presence of social media, there is a greater chance that your information can be compromised online. Websites often have 2 factor authentication setup for additional security, for example, sending you a message when someone tries to change your account password. Below we will take a look at the Security Settings of Facebook and why you may want to use them.

To access your security settings on Facebook, login to your account through facebook.com, select the down arrow to the right of your notifications icon at the top, then select settings. On the left-side, select security to see all of the settings available to you. From this selection, there are an array of settings that can be enabled to protect your personal information.

Below is a bulleted list of options that are available:

Login Alerts

Setup and alert when anyone logs into your account from an unrecognized device or web browser

Login Approvals

Your phone can be used as an extra layer of security to keep other people from logging into your account

Code Generator

Use the Facebook app to get security codes on your mobile device to be able to login to a computer for added security

App Passwords

Use a special password to log into apps instead of using your Facebook password or login approval codes

Public Key

Manage an OpenPGP key on your Facebook profile and enable encrypted notifications

Your Trusted Contacts

Choose friends that you can call to help you get back into your account if locked out

Recognized Devices

Review which web browsers you saved as ones you often use (i.e. Firefox, Chrome, Safari, etc.)

Where you're logged in

Manage where you're currently logged into Facebook

Legacy Contact

Choose a family member or close friend to care for your account if something happens to you

Deactivate Your Account

Choose whether you want to keep your account active or deactivate it

Each of these options is available to be toggled on or off by selecting it from the drop down list. With the amount of information that is being stored in the cloud, you can never be too safe when securing your personal data. We recommended that everyone setup these security settings to secure your personal information.

For more information about Facebook's security measures, visit: https://www.facebook.com/help/235353253505947?helpref=hc_global_nav.

In order to allow sufficient time for software updates to be installed in the Information Technology open computer labs, Academic, and/or Regional Educational Center computer labs/classrooms, deadlines for new software updates have been established. If your department has new software that you would like to have considered for placement in the computer labs or would like to update current software, please deliver or complete the following items by the deadlines listed below:

1. Software
2. Proof of licensing certification
3. A completed online request for installation form from <http://www.semo.edu/it/itcomputerlabs/software-request.html>.
4. Any additional software documentation

DEADLINES

April 1	For Summer installation
July 1	For Fall installation
November 1	For Spring installation

All software installation decisions are based upon available resources and compatibility with the network and other applications. By instituting these deadlines, Information Technology will have time to create a new desktop image that can be tested prior to the start of semester classes. Due to the length of time required for re-imagining the computer labs, these deadlines are firm!

Special Notices

- The current version for SPSS is 24. If you have a version older than 23 or 24, contact the I.T. Help Desk (x4357 or helpdesk@semo.edu) to request the updated version.
- Please share with your faculty the access and availability of several computer labs, provided by Information Technology, for the occasional use of class teachings. The reservation labs can be reserved by contacting the IT Help Desk at x4357. Details on reservations can be obtained by visiting <http://www.semo.edu/it/itcomputerlabs/reservable-labs.html>.
- Note: The IT Open Computer Labs are not classified, nor funded, as teaching or academic labs.



Karl Blankenship

Network Systems Engineer,
Southeast Missouri State University

Karl Blankenship is one of five IT network systems engineers at Southeast Missouri State University. Having worked in the field of Information Technology for 44 years, during the last 12 years, Karl has driven from Murphysboro, Illinois, where he lives with his wife, Laura, a retired teacher. Karl enjoys barbecuing, cooking, fishing kayaking, cigar box guitar building, playing the guitar and mandolin, and being a grandparent.

How does your position serve the Southeast community?

My position serves students, faculty, and staff through lab imaging, software maintenance, and by handling the Pharos/Uniprint printing software.

What was your first IT position?

I was a Mainframe Operator/COBOL Programmer/Analyst – AMAX Lead and Zinc in Boss, Missouri.

Overall, how would you rate your experiences working in IT?

Information Technology has been a great career. No matter how much you have learned, there are always thousands of things that are still out there, ready to be learned.

What advice would you give to a student pursuing a position in IT?

Students pursuing careers in IT should try to learn everything about IT that is offered by the university, get as much hands-on experience as possible, and work hard to achieve high grades. It WILL pay off in the end.

Tell us about your family.

Laura - spouse of 14 years, retired teacher, Tri-County, IL Special Education District

Lori - daughter – deceased Cystic Fibrosis

Granddaughter – **Breanna**

Great-Granddaughters – **Leah** and **Zoe**

Jason – son – Ironworker foreman-AMCE Erectors St. Louis, MO, Harley rider, plays bass and guitar, raises Long Horn and Watusi cattle

Sarah – daughter – HR and Operations Coordinator, Smith Foods-Pacific, MO, Professional BBQ competitor and judge, plays guitar and sings

Grandsons – **Andrew** and **Evan**

Wendy – Daughter – Dental Hygienist-Pediatric Dentistry of Sunset Hills, MO, Owner/operator

Keira's Closet, plays guitar and sings

Granddaughter - **Keira**.

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