UNIVERSITY OF TORONTO

IN THE LOOP

INFORMATION TECHNOLOGY SERVICES NEWSLETTER

RELATIVITY

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RELATIVITY

Information Flowing Freely Series

By: Marden Paul

Relativity is a useful concept when thinking about IT applications and services. It's relevant in terms of the type or functionality of a service, expectations of a service, perceptions of a service. There are variations from the viewpoints of service providers and consumers, and of course there are broad spectrums of opinion based on personal timelines too – a newly minted student or IT professional will likely have very different perceptions than a battle-hardened professional – student, IT person, or anyone else.

So what does this mean to the IT professional/service provider/ application designer/business analyst…?

I think it means that it's very hard to please all of the people all of the time – not because immense effort hasn't been deployed in interface design, feature creation, training and launch planning – but because perceptions and expectations are almost always relative to those affected.

If you come from a high school where you carried kilograms of books to and from school, and then are exposed to the rich set of online scholarly resources available at the library, then you might be in awe. If you have lived in an online world from birth then maybe it's not such a big deal.

People coming from other schools may have an array of mobile services to navigate and transact their way through school. Others may come from places where Web 1.0 is considered a miracle.

An application that appears brilliant to some in 4th year compared to the way it was in 1st year may hear a diametrically opposed view from someone who knew nothing of the past approach to a transaction or service.

Opinions and perceptions and expectations will vary with the experiences and expectations of the recipient.

When we consider some core services such as phones or e-mail or calendars there will be some who want a dial tone, lots of folder hierarchy, and a paper-calendar. Others will expect find-me-anywhere, video-calls via Facetime or Skype or Jabber on a smartphone, tablet or laptop. Anything provided that differs may be considered a lacking service by some, or a great service by others.

Over the years I've encountered a slew of polar opposites:

- "we need to open things up" / "we need to lock everything down and severely limit access";
- develop with a waterfall methodology / develop with an agile model;
- outsource / insource
- Mac / PC
- [*Enter yours here...*]

Invariably, all points-of-view have validity from a relative perspective – perspectives that vary with personal experiences, career time, conventional wisdom and public opinion.

Ultimately, an absolute reality comes to pass – "a collapse of the probability wave" and we do something. And in time, the pendulum of opinion and/or the directions of technology/the operating environment/threats and risk mitigation/information overload…/ compel a change. And an absolute certainty becomes an uncertain reality. Things change.

For an IT professional it means having strong operating principles, many models upon which to frame a potential innovation, flexibility and adaptability, a breadth of experience, and a realisation that today's rock solid view of the world is not necessarily going to be as absolute in the future. That dynamism provides an exciting challenge to our profession.

"...DEGREE EXPLORER, I PRESUME."

Powerful new degree planning web application for students and administrators ready to launch.

By: Alex Dault, Program Assistant, NGSIS

After two years of weekly meetings, more than a hundred thousand lines of code and the efforts of a small but dedicated team of registrarial staff and software developers, the Next Generation Student Information Service's degree planning tool ***Degree Explorer*** is ready for a wide-release at the University of Toronto..

Degree Explorer, which began as a Degree Navigator replacement, has evolved into something so multi-faceted that it could be referred to as the "Swiss Army Knife" of degree planning.

Degree Explorer has two 'faces'- a view for students and a view for administrators. The administrative view (now live) allows staff to quickly and easily ensure that a student meets prerequisites in order to take a class, or to confirm whether students have satisfied all requirements for degree and program in order to graduate. It works as a notification system informing students of their confirmation of program completion. It even has the ability to track exceptions made for individual students over the course of their degree and apply them correctly to requirements.

Sinisa Markovic, Assistant Faculty Registrar with Arts & Science, who helped develop and test the application, has been very impressed with the developments so far.

"Each of our degrees come with a number of requirements that have to be completed in order for a student to graduate. Requirements include number of overall credits, credits by level of study, breadth, successful completion of program like Specialist, Major or Minor etc. It is Degree Explorer's ability to assess each requirement and account for exceptions that makes it a truly extraordinary tool for administrators. It also serves as a central resource to track students' academic progression and CRM (customer (student) relationship management tool) for advising."

For example, a student in a history major who receives special permission to take a second year seminar course as an alternative to a required "20th Century Canadian History" course, would have this exception recorded in Degree Explorer and upon his/her graduation Degree Explorer would automatically know to apply this course toward the appropriate requirement.

With over 400 programs offered through the Faculty of Arts & Science, and more than 40,000 enrolments in programs, Degree Explorer promises to be a welcome help to both staff and students.

Next up: *A look at the even more impressive student-facing side of Degree Explorer and a conversation with the lead programmer.*

MOBILE PLATFORMS

Securing Smartphones and Tablet Devices

Smartphones and tablet devices are storing more and more information with each new model. It is important to ensure that you are protecting what is possibly sensitive personal information stored on your phone. The steps you follow to secure your smartphone or tablet device will differ depending on which device you have, but there are some general principles that should be followed.

1. **Encryption** - You should enable encryption on your device if possible. If your device does not support encryption, it should not be used for email / confidential information.
2. **PIN / Passcode** - Locking your device with a PIN or passcode is essential to protecting information should it go missing or be stolen.
3. **Updates** - Make sure that you have the latest software updates installed on your device.
4. **Services** - There are a number of services running on your device that could possibly be exploited, giving access to confidential information. It is recommended that any non-essential services (such as Bluetooth and Wifi) be turned off. Only follow the instructions in this section if you are not using these services.
5. **Backups** - Make sure that you are regularly backing up your device.
6. **Recovery** - Some manufacturers have tools available to their users that can help in the event that their phone is lost or stolen. These tools include being able to locate your phone and/or remotely wipe the content on the phone.

In addition to these six basic principles, “jailbreaking” (the process of circumventing a device’s operating system to gain full access to the device) is highly discouraged. Jailbreaking your device can open up your phone or tablet to software that has not been properly checked for corrupt code.

Please go to our website to review the document that covers these basic steps for each of the four main operating platforms available: iOS (including iPhones and iPads), BlackBerry OS (including BlackBerry phones and the Playbook tablet), Android OS (including both phones and tablet devices) and Windows 7 Phones.

By: Matt Wilks, ISEA, ITS

An open discussion about client virtualization

By: Elizabeth O'Gorek, Freelance Writer

As universities across North America –Purdue, SFU and Indiana, to name just a few—implement virtualization on their campuses, individual IT departments at the University of Toronto are examining the benefits of virtualized environments.

Several proof of concepts (PoC) for desktop virtualization (DVI) are currently underway at the University. Greg Mount, Manager of Computer Services at the Faculty of Dentistry, argues that virtualization is a necessary innovation that needs to be explored at the university. A team led by Mount in Dentistry recently tested a Citrix Xen environment. Mount and his team were looking for a way to deliver a user experience that was better than what was currently available, at a lower cost, and to reduce both the cost and complications of supporting the system; with some exceptions, most were possible within a virtualized model.

The benefits of client virtualization are savings in time and money, and enhancement of user experience. In the long run, virtualization reduces the cost of hardware, software and support, as well as energy costs by making systems cheaper to power and cool. Centralized data storage increases data security and facilitates compliance, simplifying patching.

Unsurprisingly, cost is the big sell to universities. Some schools have repurposed desktop computers as thin clients using VMware, saving on the initial investment. The use of thin clients, which are cheaper, last longer and require less power, or user-owned "bring your own device" (BYOD) reduces the cost of ownership even further. And the reduced time spent installing and updating software, as well as troubleshooting issues on individual desktops cuts support costs. While the long-term benefits may look attractive, the cost of implementation is daunting. Capital costs for servers, storage networks and licensing can be considerable. Mount and his team had a great deal of difficulty in determining the true cost of the system tested at the Faculty of Dentistry, mostly due to the requirement complexities.

In theory, virtualization creates a significant reduction to the costs of support and to the daily IT workload. For Mount's team, the issue was that these products worked well but only in a very controlled environment, with limited applications and using desktops. Dentistry required an environment complex enough to deal with the diversity of demand, and even technologists from Citrix couldn't completely match the feature set of Dentistry's physical client environment. The team tested five of their thirty-eight applications, but was unable to successfully run all thirty-eight. "Citrix had multiple ways to do one thing that was simple before on the desktops," notes Danny Jeronimo, who looked after applications and systems management for the team. "So we got the applications to work, but it took a lot to get there."

Mount cautions that the simplicity doesn't always come through from the user perspective, and provides a scenario: the user contacts Help Desk. Says that they are using Flash and the video is spotty. It is much harder to determine what the problem is through the "many layers of dependent technology" that are part of virtualization. Especially with user owned devices, more time might be required to deal with each support ticket.

The best virtualization model might differ between faculties and schools. IT departments look at their users and consider different best-case scenarios for each. Luke Barber, UTM libraries computer technologist, suggests that some users and processes might be best served by controlled environments –for instance, group use of high-powered applications in a lab setting—whereas others would be well served by VDI on their own devices, or even application virtualization. BOYD is a major shift in end-user behavior. Clients expect to be able to connect their devices to a device agnostic network. More than that, users expect –and desktop virtualization makes possible—the same experience on all these devices. However, many of these devices don't require the full desktop experience, and users who use only one or two applications may be well served by application virtualization.

Next page...

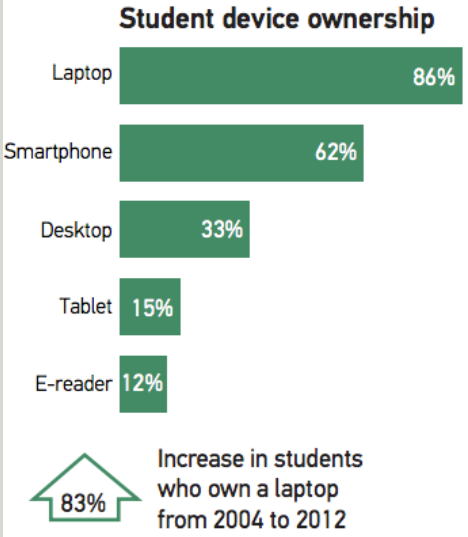
IT professionals across the University of Toronto recognize BYOD as a significant change in the industry, which virtualization facilitates. “86% of U.S. students own their own laptop[1],” notes Barber. “Why not leverage the endpoints students already have?” Barber argues for reinvesting the money that might otherwise go into the repurchasing of workstations or thin clients. With virtualization, it is possible to “turn the entire university into a Learning Commons,” Barber adds. However, BYOD leads to complex IT and complicated support. It is often difficult to make peripherals work with user owned devices. Barber suggests a mix use virtualization may be best.

For the Team at Dentistry, the decision about implementing DVI came down to a simple cost-benefit analysis. “What we do next should be better and cheaper than what we’re doing now,” Mount says, “and preliminary experiments say it isn’t. To get the biggest bang for our buck, this service belongs in the core.” The threshold was to beat or match the client-server relationship in the end user experience, manageability and cost categories, but the team found no big gains. The team has not dispensed with the idea, however. They are looking for the virtualization model that will best suit the needs of the Faculty of Dentistry, acknowledging that virtualization has the power to completely transform the university and the user’s experience of it, no matter their location.

In part II, we will discuss the University’s investment in central virtualization and how it can be leveraged by departments and divisions to reduce the cost of local IT operations.

[1] ECAR 2012: Students and Technology Survey

FROM ECAR 2012 STUDENTS AND TECHNOLOGY SURVEY



ECAR 2012: Students and Technology Survey

TechKnowFile 2013

SAVE the DATE

MAY 9&10 2013

CALL FOR PROPOSALS & MORE DETAILS TO FOLLOW

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CONTRIBUTORS:

Alex Dault, NGSIS

Elizabeth O'Gorek, Freelance Writer

Marden Paul, ITS

Matt Wilks, ITS

EDITOR:

Tamara Adizes, Portfolio Communications Officer

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Fun Fact

Araucana: Originating in South America, this exceptionally rare chicken is often asymmetrical. Most famous for laying blue-shelled eggs. Not to be confused with the Easter Eggers chicken.

Photo and Content Credit: http://mypetchicken.com

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