Classroom Renewal Project

In the summer of 2015, a number of classrooms were renewed and equipped with a multimedia build which included; displays, control panels, smart podiums, computers, document readers, speakers, microphones and cameras.

By implementing new technology in these spaces, classroom functionality increased and students are now benefiting from a more interactive classroom setting. Improvements include:

- **Presentation**: Data projectors or monitors allow faculty to display presentation materials. Students can browse to their desktops from the built-in computers to retrieve class materials.
- **Lecture capture**: Cameras and wireless microphones allow lectures to be recorded so students can access lectures.
- **Web collaboration**: Cameras and wireless microphones enable collaboration through WebEx.
- **Simplicity of operation**: Touch panels simplify operations and provide flexibility for custom controls.
- **Sound reinforcement**: Wireless microphones and ceiling speakers allow for enhanced in-room audio presentations.
- **On-screen annotations**: Smart Podiums enable faculty to annotate over presentations. Notes can then be captured in Echo 360 and distributed to students online.

Classrooms renewed: Arts 133, 134, 200, 202 Agriculture 2D77, 2E83, 5D75, Geology 255, 261 Biology 106, Engineering 1B12, 2C88.

ePortfolios

An ePortfolio pilot project was initiated when the College of Education requested a solution to move their hard-copy binder portfolio system to an electronic version. Drawing from the success experienced by the School of Physical Therapy, who had already implemented such a solution, ICT used the Mahara software for the pilot.

An e-Portfolio system is a tool that allows individuals to easily gather information, organize and store it, share it with others, log reflections on learning and get feedback from others. Students can then create an online portfolio that remains accessible even after they graduate. There are three main types of e-portfolios:

1. **Developmental**: Also known as a working portfolio. Shows the advancement of skills over a period of time. The main purpose is to provide communications between students and instructors.
2. **Assessment**: Demonstrates the skill and competency in a particular domain or area.
3. **Showcase**: Also known as a career portfolio. Highlights work in a specific area to share with employers at the aim of gaining employment.

The success of the pilot project has enabled ICT to expand the service to more programs and departments.
Federated Data Management Pilot Project

Over the past year, ICT and the University of Saskatchewan have participated in a Federated Research Data Management (FRDM) Pilot Project to investigate the foundations of a national RDM repository service. RDM addresses the creation, hosting, discovery, delivery, maintenance, archival and preservation of data.

Archival copies were replicated to multiple locations within Compute Canada. The pilot proved that it was feasible to integrate existing tools to perform preservation tasks on data and metadata and to organize said data under a federated discovery and dissemination model.

A technology solution comprised of Archivematica (supported by Artefactual), Globus Publication and custom code was used to pass datasets through a preservation processing pipeline and into a new, scalable repository system. Archivematica provided a standards-compliant, open-source solution to preservation; Globus Publication provided cloud-based search and discovery across repositories and allowed the proposed solution to replicate data to multiple sites.

The final Federated Pilot report was delivered to Research Data Canada in September 2015. Recommendations for further development were made and the project team will continue developing software that improves upon the model tested in the project and scales up to the capacity needed nationally.

This software framework could be the basis for a national RDM service for Canada. Leadership in this area continues to be provided by ICT at the U of S. In January 2016, ICT, along with contributors from CARL, Compute Canada, Globus and Artefactual, will begin a two-year development project based on technology used in the pilot.

Led by a project team consisting of members of Compute Canada, the Canadian Association of Research Libraries (CARL), Research Data Canada, ICT Research and Computing at the U of S and other members of the research community, the pilot aimed to identify a technology solution that researchers in all fields across Canada could use to centrally store, describe and publish their data.

The pilot began by working with existing individual data management tools, each designed for a specific function, and assembling them into a prototype RDM ‘pipeline’ solution. The pipeline was tested using real International Polar Year (IPY) data from the Polar Data Catalog repository. IPY data and metadata were transferred onto Compute Canada hardware; preservation and archival tasks were performed on the data and the data was then published in a new federated repository.

Research data for scholarly publishing is one of the primary outputs from today’s universities. For researchers, collecting data is comparatively easy; it’s the organization and preservation of that data that can be a challenge. In Canada, university and granting agency policies are increasingly demanding long-term storage solutions and the sharing of not just research results, but also the research data.
Improving Service and Processes at the U of S

As the need for new and smarter technologies arises and the way individuals learn and work continues to evolve, ICT is continuously researching better ways to bring services to the university.

Here are some notable services that became available to students and employees in the past year.

ownCloud

ownCloud is a file storage and sharing system that took off on campus as the superior choice to Dropbox, SkyDrive, Google Drive, or Box.net because of our ownership of the service. All data stored on an individual’s ownCloud account is stored in Canada on the U of S premises. Access is via your NSID and password and files can easily be shared with others in the campus community.

The features of ownCloud include:

- Secure access to your files from any web browser and from your iOS or Android mobile device.
- No sign-up required.
- If you have an NSID, you automatically have an ownCloud account.
- With all students, faculty and staff having access to ownCloud, it’s easy to share large files.

- Ability to access your files anywhere and share files to anyone, regardless of whether they have an NSID.
- Personal disk quota increase to 50 GB.

Microsoft Advantage

The Microsoft Student Advantage and Employee Advantage programs were made available to students and employees on campus in early 2015. The program allows all parties to install Microsoft Office products (including: Word, Excel, PowerPoint, Outlook and other titles) on up to five personal devices at no cost. The MS Office suite is available for both Windows and Macintosh computers via an app on Apple and Android devices.

Lynda Campus

Lynda Campus continues to gain popularity on campus with thousands of accessible training videos on an array of subjects. Lynda.com – a valuable online training resource – was negotiated to be free and unlimited to the U of S community. Faculty, staff and students have the opportunity to fully access thousands of unlimited, free tutorials, seven days a week, day and night. The online training library contains thousands of professional grade Windows and Mac tutorials accessed through streaming video.

Since the service launched, over 4,700 users have been added with over 9,000 hours of video viewed.

Top 10 Lynda courses at the U of S

1. Excel 2013 Essential Training
2. Photoshop CS6 One-on-One: Fundamentals
3. Photoshop CS6 Essential Training
4. Access 2013 Essential Training
5. Foundations of Photography: Exposure
6. SPSS Statistics Essential Training (2011)
7. HTML Essential Training (2012)
8. C/C++ Essential Training
9. Python 3 Essential Training
10. SharePoint online essential training

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Reporting and Data Services Usage by Month

The total number of monthly data requests has almost doubled in the last year. Data requests include: customized reports, analyses or data sets provided to clients. Self-serve reporting is represented by the number of monthly user sessions across three applications:

Reportal: PAWS access to finance and student Crystal reports.

uView Portal: provides user access to student, research, employee and fundraising reports and interactive queries.

Legacy uView: Web application that provides data to external and internal campus users.

Plato Usage

Plato, a group of computers designed to work on research problems in parallel, got a big boost in capacity in 2015. U of S researchers use Plato to tackle computational problems such as quantum mechanical materials modeling and real-time heart simulation. Plato allows them to run the same computation on multiple data sets at the same time or to break a larger problem into smaller pieces that can be run simultaneously—shortening the time it takes to get results.

University staff, faculty and students performed nearly 7 million compute-hours of research (~792 years of constant calculation) using Plato, with hours significantly increasing from April 2014 to September 2015. Plato was at approximately 70% load, with all 1,920 compute cores simultaneously engaged many times over the course of the past year.

Blackboard Active Users

Blackboard is the central learning management service on campus.

This metric depicts the total number of active users in the Blackboard system. An active user has accessed the system within the last 30 days. Users disabled through the Snapshot tool are still considered active even if they have not accessed the course in the last 30 days. This diagram depicts the increase in active users over the last five years.

Service Desk Security

There were 2,000 more password resets in 2014/2015 vs. 2013/2014. Over 37,000 passwords have been changed in the past three months to increase the levels of complexity in each password. The implementation of these password resets protects NSIDs from being compromised and hacked.

From November 2014 to November 2015, more than 250 accounts were compromised.
The objective of the ICT Stewardship Model is to define roles and responsibilities for institutional decision-making for information systems. The stewardship process is designed to work within the framework of the university’s strategic plan.

The specific principles of stewardship for information systems include:

- Align information systems decisions with the university’s strategic plan.
- Oversee all investments in information systems at the University of Saskatchewan.
- Create and champion common university processes and practices.
- Leverage intellectual capital across the organization.
- Optimize utilization of university information systems resources.

**ISSC (Information Systems Steering Committee)**

The ISSC is accountable for overarching information systems policies, strategies and stewardship. This committee ensures information systems decisions have strategic fit, functional utility and balanced investment across the institution. The ASSC, RSSC and ESSC will inform the ISSC of their key issues and decisions.

In the past year, the ISSC has approved various projects and initiatives:

- Computer standardization
- Campus-wide site licencing for Adobe
- Password quality improvement
- Email upgrade
- Project assessment scorecard
- WebEx
- OneIS fund
- Capital allocations of preventative maintenance and renewal fund

**ESSC (Educational Systems Steering Committee)**

Under the umbrella of the ISSC, the ESSC develops vision, strategy, policies and plans which promote, encourage and recognize the innovative use of educational information systems.

The following projects were approved by the ESSC in 2015:

- Classroom renewal
- Plagiarism desktop guidelines
- Blackboard upgrade
- ePortfolios
- Student response system

**RSSC (Research Systems Steering Committee)**

The RSSC brings key research computing stakeholders from across the university to work together to create a sustainable and integrated research computing environment.

The following projects were endorsed by the RSSC in 2015:

- Compute Canada facility proposal
- Campus-wide software agreement
- Expanded access to NVivo software
- National research data repository