Information Technology

Annual Report 2023

IT Help Desk
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TechCentral
Marcus White Annex

Division of Information Technology
Central Connecticut State University

IT by the Numbers

16,000
Technical Support Incident Tickets Logged

5,600
Service Request Tickets Processed

530
Faculty & Staff Computer Deployments

400
Laptops Loaned to Students

250
Remote Computers with Specialized Software

200
Computerized Classrooms Upgraded

Information Technology Leadership Team

George F. Claffey Jr. Ed.D.
Chief Information Officer

Thomas King
Director of Auxiliary Services and Cloud Infrastructure

Amy Kullgren
Director of Client Support Services

Sean McNickle
Interim Chief Information Security Officer/Deputy CIO

Rob Rak
Director of Administrative Technology Services

Tina Rivera
Associate Director of IT Strategic Initiatives

Stan Styrczula
Director of IT Strategic Initiatives

Terry Thompson
Executive Assistant to the CIO

Center for Teaching & Innovation (CTI)

Steven Minkler
Associate Vice President for Academic Affairs

Faculty Senate Information Technology Committee (ITC) Leadership

Kimberly Meyer
Criminology & Criminal Justice Chair

CCSU IT Annual Report Editor
Tina Rivera

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Cover Image
CCSU Nursing student Miranda Murphy uses the Oxford Medical Simulation in the XR Lab.

From the CIO

Welcome to the 2023 IT Annual Report. I'm excited for this year's issue and how it outlines the great partnership of the Division of Information Technology, its partnership with the Center for Teaching & Innovation, as well as the Information Technology Committee of the Faculty Senate. Together, these groups have had a tremendous year working with students, faculty, and staff in the configuration and deployment of a number of strategic IT projects. We are excited to have been a part of some of the University's projects including the website transformation, the development and launch of the XR Lab, and the implementation of Interfolio, among other projects.

IT must provide a proactive and flexible response to meet these needs as they develop. We seek to provide a seven-point approach to ensure the successful support of the University:

- Regular communication and collaboration
- Professional development and training
- Technology evaluation and adoption
- Scalable and adaptable infrastructure
- Strategic planning and alignment
- Support services
- Monitoring and assessment

By implementing these strategies, the Division of IT can remain a proactive and flexible partner in supporting CCSU's academic goals, effectively responding to the evolving instructional needs of faculty, staff, and students in a rapidly changing technological landscape.

As we look ahead, the next year will be just as exciting. This summer we will undertake the largest campus network upgrade in our history. Over 1600 wireless access points will be replaced - improving both speed and coverage of the campus network. We have a new Banner reporting tool, Evisions Argos, which will provide 21st century reports and data interfaces to the campus community. Lastly, the IT department will partner with the retention taskforce to leverage Technolutions Slate to support student success and retention initiatives.

Perhaps one of the most interesting developments is the proliferation of artificial intelligence tools. It is clear that AI tools like ChatGPT will continue to play an increasingly significant role in various aspects of our lives, including research, education, and communication. As these tools become more sophisticated and integrate into platforms like Microsoft, we can expect to see a range of exciting new applications and developments.

The advancements in technology, the implementation of new tools and systems, and the establishment of state-of-the-art facilities, such as the Experiential Reality Lab, demonstrate a strong commitment to enhancing the educational experience, promoting interdisciplinary research, and fostering a culture of innovation at CCSU.

As the IT department continues to collaborate with various stakeholders, such as students, faculty, staff, and administrators, we can expect to see even more exciting developments in the near future. These partnerships will ensure that the university remains at the forefront of technology and continues to provide its community with cutting-edge resources and opportunities.

George F. Claffey Jr. Ed.D.

Slate for Enrollment

Technolution's Slate is our new Enrollment and Retention software, designed exclusively for higher education. Slate has five significant areas that support the evolving needs of Admissions and Enrollment Management:

1. Communications and Outreach - multiple communication channels allow the university to connect to students via fully integrated text messaging, e-mail, voice, social media, and print communication. Dynamic marketing automation allows for creation of automated, sequential communications to target specific populations based on real data.
2. Event Management - create simple and complex events with follow up event communications. The Event Management module integrates with users calendars for creation of appointment and to schedule interviews. Users can utilize real-time check-in at events by scanning QR codes with the mobile app.
3. Query, Reporting & Data Management - the powerful query builder uses drag-and-drop functionality that enable users to build queries without the need of IT assistance, and provides reporting tools for year-to-year predictive modeling.
4. Automations & Integrations - Slate integrates with our Student Information System (Banner) allowing for bidirectional transfer of data.
5. Applications, Evaluation, Review - Slate allows for individual creation of unique applications to target various groups and purposes. Slate collects supporting documentation, including school transcripts, test scores, activities, essays, resumes, etc. Applications can also be imported from many third-party vendors (such as Common Application).

Slate mobile QR code scanning makes it fast and efficient to check students in duirng events.

Slate student success lifecycle from application to graduation.

Slate for Student Success

CCSU recognizes the challenges of today's students and is implementing an application that will enable administration, faculty and staff to ensure the future of student success. The following areas have been identified as critical elements of the application:

- Provide a user-friendly platform for an unlimited number of users.
- Replace existing homegrown early alert systems and student interaction notes.
- Track the student's journey as they move through the lifecycle.
- Use of clear close-the-loop communication plans with personalized, targeted and automated communication.
- Empower students.

After reviewing available student success solutions and applications, the implementation team has decided on utilizing the Student Success module of the Technolution's Slate application. Slate allows for caseload management, communication and outreach, appointments and events, early alerts, and query/reporting and data management. We have targeted Fall of 2023 for the full go-live date of the Student Success module.

World Cafe information gathering sessions were to held with students to discuss and allow for feedback about the Student Success application.

From the Center for Teaching and Innovation

The Center for Teaching and Innovation (CTI) is slated to launch a Blackboard Ultra pilot program in the Fall of 2023. Blackboard Ultra is the next generation LMS with intuitive, fluid interactions and a modern, responsive design. The CTI was successful with its first stage of Ultra integration in 2021 with a changeover to the Blackboard Ultra Navigation piece. Now it's time for our courses to get the same makeover. We have obtained several willing faculty who are excited to pilot one of their fall 2023 courses in the Ultra interface.

Blackboard
LEARN ULTRA

Introducing CCSU'S Cutting-Edge Networking and Security Labs

As the Applied Innovation Hub (AIH) building opened its doors, CCSU seized the opportunity to reimagine and modernize the technology in our academic labs, maintaining the hands-on applied learning experience that students cherished in the former Nicholas Copernicus labs.

Working closely with faculty from CEGT and Computer Science, the IT admins designed state-of-the-art cybersecurity and networking labs in AIH, rooms 414 and 416. Our primary goal was to ensure that the labs aligned with curriculums and learning objectives while continuing to provide students with real-world, hands-on experiences.

The new labs feature server and network equipment within the classroom, as well as internal-only and external network designs combined with a third virtual network environment. This setup allows students to practice on multiple networks, enabling them to safely experiment with various networking and security concepts, such as ethical hacking, without the risk of attacks leaving the classroom network. Students can configure physical switches and routers and are required to make physical network connections on punch-down panels to complete labs.

The Networking and Security Labs at CCSU are an invaluable resource for students, embodying the AIH building's mission to offer a space where they can genuinely apply what they are learning.

Experiential Reality (XR) Lab

In late Summer 2022, CCSU opened the Experiential Reality Lab (XR Lab). The XR Lab at CCSU is a cutting-edge facility designed to provide students, faculty, and researchers with access to the latest virtual reality (VR), augmented reality (AR), and mixed reality (MR) technologies. The XR Lab's mission is to foster innovation, collaboration, and exploration across various disciplines, enabling users to engage in immersive, interactive experiences that can transform teaching, learning, and research. This is an interdisciplinary space on the 2nd floor of the Applied Innovation Hub (AIH) where virtual reality goggles such as the Meta Quest 2, the HTC Vive, or augmented reality glasses such as the Microsoft Hololens or Meta Quest Pro provide access to advanced virtual and augmented reality simulations. You may have heard buzz words such as virtual reality, machine learning, co-bots, and computer vision. This room brings those words to life. In this room, we can develop innovative, impactful research and applications in VR/AR/MR by establishing collaborations with industry partners and academia.

Crime scene reconstruction for criminology, virtual speech presentations for public speaking, and gravity sketch virtual sculpting for art and design are just three of the applications available in the XR lab. The lab is staffed by Kris Bickel of the Center for Teaching & Innovation. His background and experience in instructional design is there to help faculty identify simulations, provide technical support, and impart instructor support for the lab. If you are interested in exploring the lab, we encourage you to contact Kris and set up a time to join.

When we look at spaces for innovation, creation, and working with business and industry to solve problems, we think of this space. It's designed to be flexible, to easily update in the rapidly changing VR/AR/MR world, and to accelerate learning and design. The outlook for virtual reality benefited by COVID. The market was about 21 billion in 2020 and is now predicted to be almost 100 billion in 2025. We see this as one of the next generation labs on campus and an interdisciplinary space. Users can access a variety of pre-built VR and AR simulations, as well as create their own custom experiences to address specific research questions, learning objectives, or creative goals.

The XR Lab encourages collaboration among students and faculty from diverse disciplines, including but not limited to engineering, computer science, healthcare, design, arts, and education, facilitating interdisciplinary projects and research.

By providing access to advanced VR and AR technologies, the Experiential Reality Lab at CCSU empowers students, faculty, and researchers to explore new frontiers in their respective fields, enhance their learning experiences, and develop innovative solutions to real-world challenges. With the opening of the XR Lab, CCSU continues to demonstrate its commitment to embracing emerging technologies and fostering a culture of innovation and collaboration on campus.

Academic Cloud Computing

Since fiscal year 2021, the Information Technology department has provided ad hoc support for academic cloud computing uses. In late 2022 and early 2023, this moved from informal support to one where there is two staff members whose role includes academic cloud computing support. Thom King is the Director of Auxiliary Services and Cloud Infrastructure, and the search is ongoing for the Cloud Infrastructure Administrator. Combined, these positions will allow for robust support of student projects, faculty research, and classroom activities that use cloud resources. In the Fall 2022 semester this support included:

Being able to create their own SPARQL endpoint on AWS was a great opportunity for students in CS 407/575 Linked Data Engineering class. This experience allowed them to gain better understanding of how linked data is shared on the Semantic Web and how it is used by real-world applications. This would not have been possible without the help from Information Technology which provided the cloud resources for the class including setting up and maintaining the Fuseki server.

- Dr. Neli P. Zlatareva, Computer Science Department

- Providing 100 servers in the cloud for CET 439
- Provisioning an Ubuntu server to Dr. Zabihimayvan of the Computer Science department to conduct research about the Tor network
- Consulting with Dr. Gendron of the Management Information Systems department on developing a machine image that contained software needed for his classes that could be used in AWS academy
- Consulting with Dr. Singh of the Math department on using servers in the cloud to conduct big data analysis
- Provided three Debian servers to a student team working on a senior project for New Britain Cares.

Support for the Spring 2023 semester has included:

- Creation of a Fuseki Server for Dr. Zlatareva
- Creation of a malware analysis lab in the University's pilot cyber range for Dr. Williams and Dr. Zabihimayvan
- Creation of an Amazon Machine Image (AMI) that can be used to understand SQL injection. This image can be advertised to AWS Academy accounts, which will allow students to use them at no cost.

In the Spring of 2023 Information Technology announced the availability of high-performance computing resources using Amazon web services. These resources would be provided as either single instances or computer clusters.

Costs associated with running services in the cloud, outside AWS academy, are done on a pilot basis allowing a faculty member to determine if the cloud is a good fit for their teaching and research needs. If they wish to continuing using the cloud after the initial pilot, they will need to formally request funding via the normal budget process.

Civitas Schedule Builder

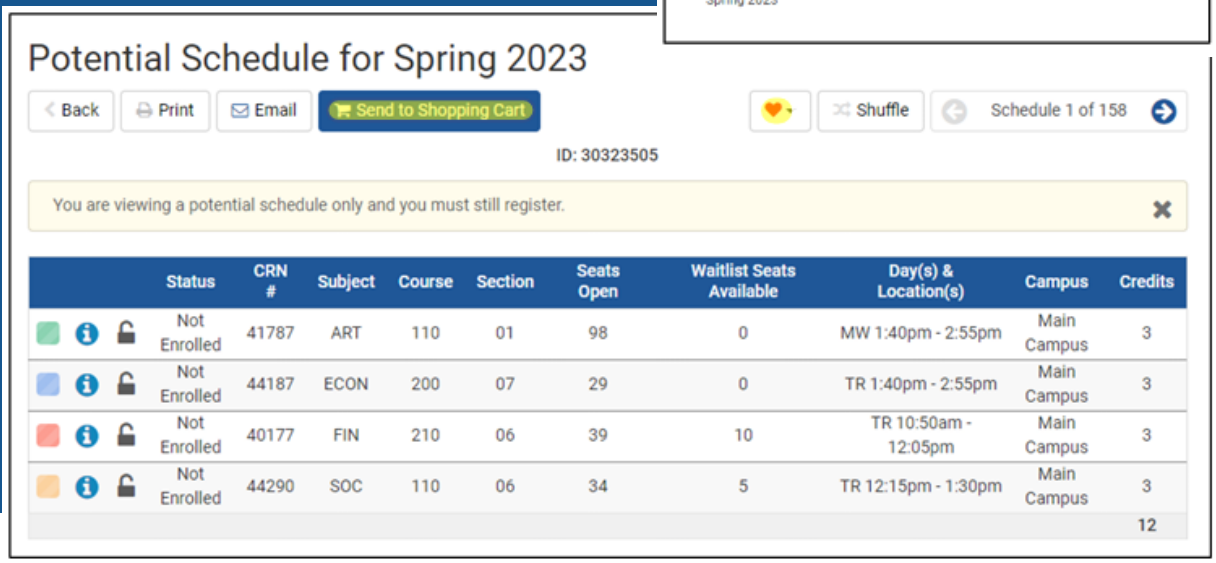
Information Technology assisted the Office of the Registrar with the implementation of Civitas Scheduler, a tool used by students for course scheduling and registration. Civitas Scheduler helps students plan their class schedule around their work, athletic practices, or other commitments. It provides students with multiple scheduling options based on their desired course selections and helps enable conflict-free registration. This tool works with Degree Works to ensure students register for the right courses to meet their degree requirements.

During the Fall 2022 semester, Civitas Scheduler was launched to a pilot group of students. Feedback from students was extremely positive. They were impressed with the ease of building a course schedule and registering using Civitas.

For Spring 2023 registration, both the new method of scheduling and registration via Civitas Scheduler and the existing registration method were available to students via WebCentral-Banner Web. Students received more information about the tool before registration began to encourage them to use it. They were also invited to drop-in "schedule building" sessions with the Office of the Registrar, after meeting with their advisor, to build class schedules prior to the start of registration.

Studies have shown that students who use Civitas Scheduler are able to register for 13% more courses on average. We are excited to offer this tool to our students to aid with seamless scheduling and registration.

I think the new schedule system is great! I am able to pick out what schedule I like best and I can choose the times I don't want classes. It makes life so much easier!
-Destiny Santana, CCSU Freshman, Graphic Design



	Status	CRN #	Subject	Course	Section	Seats Open	Waitlist Seats Available	Day(s) & Location(s)	Campus	Credits
	Not Enrolled	41787	ART	110	01	98	0	MW 1:40pm - 2:55pm	Main Campus	3
	Not Enrolled	44187	ECON	200	07	29	0	TR 1:40pm - 2:55pm	Main Campus	3
	Not Enrolled	40177	FIN	210	06	39	10	TR 10:50am - 12:05pm	Main Campus	3
	Not Enrolled	44290	SOC	110	06	34	5	TR 12:15pm - 1:30pm	Main Campus	3
										12

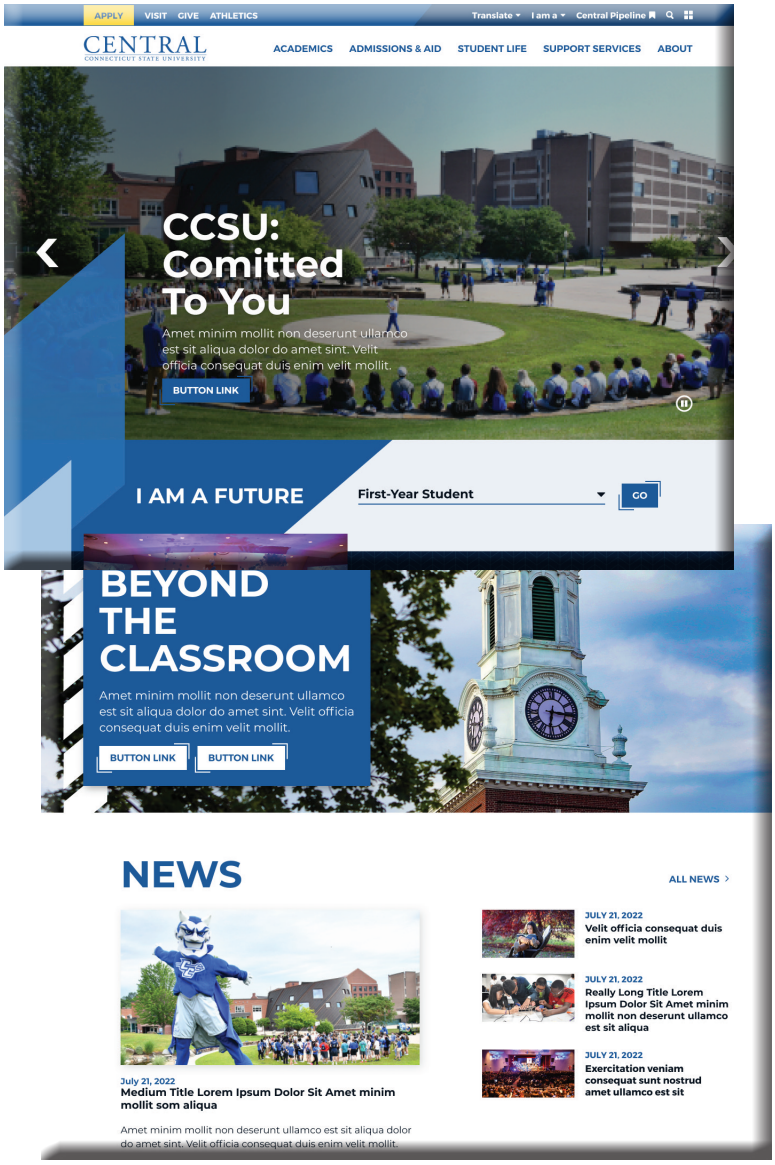
Modernizing the University Website

In 2023, CCSU will launch a new main website, marking the end of a two-year project. The decision to migrate to Acquia's Drupal platform is a result of extensive research and consultation with various stakeholders, including students, faculty, staff, and administrators. The university recognized the need for a more unified and user-friendly digital experience, which would improve engagement, streamline processes, and provide better support for academic and administrative activities.

Some of the key benefits of the new CCSU website include:

1. Improved User Experience (mobile friendly): With a responsive design, the website will automatically adapt to different screen sizes and devices, ensuring optimal viewing and interaction for all users
2. Enhanced Accessibility: The new website will meet ADA (Americans with Disabilities Act) compliance standards, ensuring that individuals with disabilities have equal access to information and resources.
3. Streamlined Content Management: The Drupal platform simplifies the process of creating, editing, and managing content, allowing website administrators to efficiently maintain and update the site.
4. Better Integration: The single web platform will integrate seamlessly with various university systems and tools, such as learning management systems, student portals, and other essential resources.
5. Advanced Analytics: The platform supports robust data analytics, enabling the university to better understand user behavior, identify trends, and make data-driven decisions to improve the overall user experience.
6. Enhanced Security: Drupal is known for its strong security features, helping to protect the university's digital assets from potential cyber threats.

As the launch of the new CCSU website approaches, the university will be providing training and support for faculty and staff to help them transition to the new platform. With these improvements, CCSU aims to create a more modern, user-friendly, and accessible digital environment that better serves the needs of its students, faculty, and staff, as well as the broader community. As with any web-technology, the launch is only a point in time. The new web system has been built using a modular, scalable interface. This will support the ability to change styles and designs more quickly as the web-world continues to transform.



CCSU Network Infrastructure Update: Enhancing Connectivity & Security

Central Connecticut State University (CCSU) has been facing challenges with its aging network infrastructure, which plays a vital role in supporting teaching, communication, and campus connectivity. Ninety-five percent of the university's network equipment was purchased in 2015, resulting in decreased reliability and increased security vulnerabilities.

Over the past year, the cybersecurity and networking teams at CCSU has been rigorously reviewing the network, identifying problem areas in Wi-Fi coverage, and planning the largest network upgrade in the university's history. Equipment has already started arriving on campus, and the university aims to deploy over 250 switches and 1,600 wireless access points by spring 2024.

The network refresh project promises numerous benefits, including improved network performance, reliability, faster speeds, greater capacity, and enhanced security features. These improvements are expected to lead increased Wi-Fi coverage, bandwidth, and a network system designed to support growing faculty and student needs for the next eight years.

In Spring 2023, the networking team started the upgrades to the campus network, with major overhauls of the Wi-Fi and switching systems in Copernicus and Vance residence halls. Existing access points were replaced, and an additional 30 access points were added to each building, ensuring a more robust and secure network experience for the CCSU community. We will continue these upgrades all summer with the goal of completing 70% of the project before the start of Fall 2023.

CCSU Cybersecurity Update: Strengthening Our Digital Defenses

Our cybersecurity team is committed to continually enhancing our cybersecurity program to protect the CCSU community. This year offered three major improvements in cyber security on campus. In the Fall semester, we took a crucial step in securing our campus network by upgrading our campus firewalls to Palo Alto Next Generation Firewalls. Palo Alto is the current industry leader in NextGen firewall technology. To ensure the effectiveness of our cybersecurity measures, we conducted both external and internal network "penetration tests." This is where a third-party attempts to hack into the campus network from various points. In addition, our cyber insurance company hosted a tabletop exercise to validate our incident response plan. Finally, we are excited to announce that we have selected a new cybersecurity partner, Rapid7 for the campus, who will provide critical services such as Security Operations Center (SOC) and Managed Detection and Response (MDR). This partnership will significantly enhance our cybersecurity program, provide 24/7 monitoring, and help maintain a secure digital environment for all members of the CCSU community.
Our team remains dedicated to addressing critical cyber threats and implementing best practices to safeguard CCSU and its students.

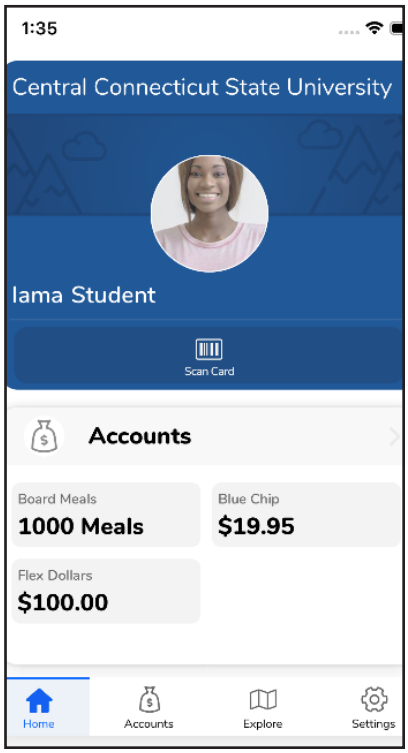
paloalto NETWORKS

RAPID7

CYLANCE

Microsoft Defender

Continuous Improvement of Campus Systems



GET by CBORD

The Card Office replaced the in-house Onlne Card Office system with GET by CBORD.

The GET online Card Office has several new features, including a mobile version and sign in using Microsoft 365 credentials. The mobile version provides students with access to their Banner ID, ID photo, transaction history, and off campus locations where the Blue Chip Card may be used.

The application is available for both iPhone and Android devices. The web version can be reached at https://get.cbord.com/ccsu.

Self-Service Banner 9 Upgrade

WebCentral will see a number of changes this year as we move from version 8 to version 9 of Self-Service Banner. Ellucian overhauled the layout and technology behind their web content to provide a new experience for faculty, administrators, and students. The Business Office is currently setting up and piloting the features of the Finance module. Ellucian's Page Builder tool is being utilized by IT to develop a landing page that will present the various modules of Self-Service Banner. The updated version of WebCentral is anticipated to be available to the campus community at the conclusion of the spring semester.

Papercut: A Unified Print Management Solution

PaperCut is a comprehensive print management system that simplifies all printing needs on campus. This year, the old "Pharos" system was replaced to manage student pay-for-printing. Phase III will implement wireless printing, allowing faculty, staff, and students to print from their mobile devices to network printers on campus, and will also replace the current network print queues with PaperCut.

PaperCut provides a secure and user-friendly interface for printing documents while tracking usage and generating detailed reports on printing and copying activities. This enables the university to monitor costs and identify areas for improvement. In addition to cost-saving benefits, PaperCut encourages sustainable practices by promoting responsible printing behaviors and minimizing waste. The software allows users to set print quotas, restrict color printing, and encourage double-sided printing, all contributing to a reduced environmental impact of printing on campus.

The system also enables proactive printer support by monitoring toner levels, ensuring supplies are ordered before running out. Overall, the introduction of PaperCut at CCSU has delivered significant advantages, such as cost savings, improved efficiency, and a more environmentally responsible printing culture.

PaperCut MF
Cut Waste, Track Printing, Save Money

Quick Reference

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Technology Self-Service Knowledgebase
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Technology Requests
https://itrequests.ccsu.edu

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Chad Albert

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Kris Bickell

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Charles Greene

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Tom Klecha

Dawn Klimkiewicz

Amy Kullgren

Robin Levitz

Raven Lopez

Sean McNickle

Vivian Novak

Rob Olszewski

John Palmer

Deborah Pasqurell

Sarah Petras

Derek Pierce

Craig Pocock

Rob Rak

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Enrique Romero

Sara Sherman

Donna Stevenson

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Joseph Taber

Terry Thompson

Ken Trochsler

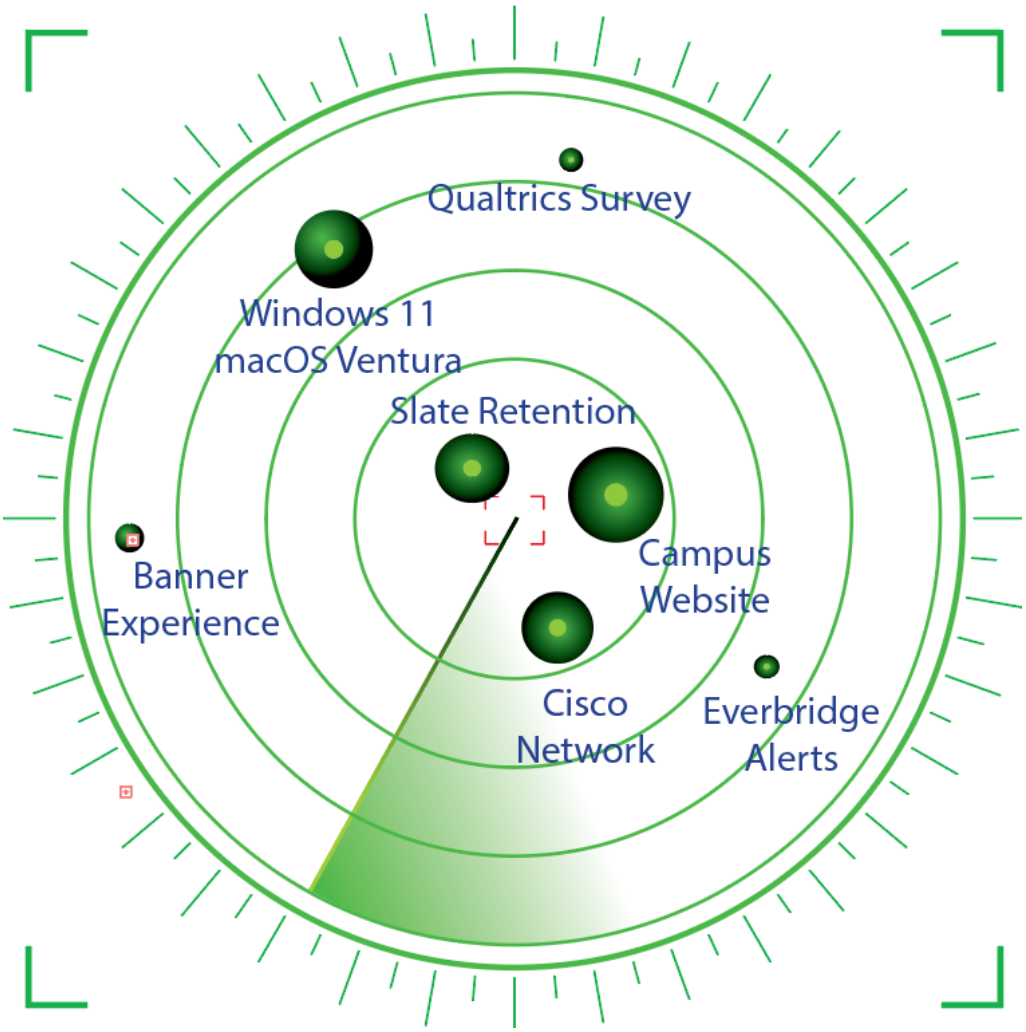
Bradley Tudisca

Alison Zwick

Information Technology

Would you like to be featured in next year's annual report? Email us at InfoServicesUpdate@ccsu.edu

On Our Radar for 2024



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