Information and Technology Services
ANNUAL REPORT
2022 - 2023

Luther College

This annual report was published June 2023, and was written by staff of Luther College Information Technology Services (ITS). It is the synthesis of many individual and team reports covering work completed during the 2022-23 academic year. Work that reflects our ongoing initiatives in support of the mission of ITS and the College is included in our team reports.

For more information about Luther College Information Technology Services, visit www.luther.edu/offices/its

Vision

The following principles help us to consider the services that meet the mission of the college and how we go about deploying the resources that allow us to adapt to an environment of continual technological change. These principles also inform our decision making and help us to carefully allocate limited resources. As technology continues to evolve, our focus on, and approach to, a particular principle might vary from year to year.

1) Improves Teaching and Learning Outcomes for Faculty and Students

With each discussion of a new service, process improvement, or project we need to think about how it enables and supports improved teaching and learning for faculty and students. Our success is a reflection of the successful transformational journey our students experience at Luther College. In our efforts we need to consider how we contribute to student retention, improved graduation rates and students' transition to their first "next step" after they graduate. Besides providing basic essential services, we endeavor to bring our campus community innovative technologies such as the Digital Media Center which enables students to develop advanced forms of video communication and the Makerspace which helps students to visualize the world in new ways through virtual reality experiences and 3D object development. Ensuring that faculty have the appropriate technological classroom resources is essential to the success of these efforts and facilitates the creation and nurturing of learning communities. Teaching our campus community how to use the resources we make available is essential.

2) Provides students exposure to and hands-on experience with the technologies they will use both at the college and in their pursuit of lifelong learning

There continues to be a heightened level of concern about students' success in whatever post-college experience they may choose to pursue whether it be a job, a service program, graduate studies or other endeavor. Whatever that choice might be, we want to make sure we think about what will help make our graduates differentiated and successful in achieving their desired next step. We do this when we have facilitated teaching and learning through the technological tools we provide that will lead to additional skills and hands-on experiences that make a difference in their pursuit of those. We seek to make available the tools necessary for our faculty to provide learning experiences that our students can leverage to differentiate themselves and continue the journey of "lifelong learning." Within ITS we need to evaluate each new service, process improvement, or project with an eye towards how it increases the likelihood that students and parents will select Luther College. We strive to meet and exceed expectations in service levels of essential services and hope to have had a positive impact on graduates' success attributable to the efforts of ITS.

3) Provide reliable, effective, and efficient information technology infrastructure for Luther College

We are charged with providing essential information technology infrastructure which will support and enable the processes of delivering higher education at Luther College. An additional major factor in our planning and decisions is the fact that the student population is almost entirely residential and the services they expect in their living environment are often based on what they experienced in their home. There are many interdependencies

that require a concurrent focus on security, high reliability, ubiquitous availability, and excellent performance. The ability to provide 24/7/365 system accessibility is essential. New and alternative site-based or cloud-based architectures in networks, systems and services provide us choices but it also complicates decision-making. Staying ahead of aging and obsolete hardware and software is an ongoing effort. Additionally, business continuity and disaster recovery are critical elements that need to be embedded in our planning process.

4) Provide technical support to offices with the collection and transformation of 'data' into 'information' that leads to timely and effective decision-making.

The many data collection systems we operate in coordination with our internal constituencies and our external vendors generates a significant amount of potentially useful data. It is imperative that information is collected in a manner so that it can be transformed into useful information. We need to make sure the data the college collects is relevant, timely, accurate and complete. Key components to accessing that data and transforming it into information are the reporting tools those various systems provide. ITS must assist the college community with those reporting tools in a manner that allows them to extract information in meaningful ways. We need to be in the forefront of providing expertise to our constituencies in the selection, implementation and ongoing maintenance of those systems.

Our Mission

Information Technology Services supports the work and mission of the Luther College community by providing:

- **access** to appropriate communication and information resources,
- **expertise and training** in the effective and efficient use of information and technology, and
- **places** to explore and express ideas, ourselves, and our community.

ITS Team Reports

At the conclusion of the 2022 - 23 academic year, the Information Technology Services (ITS) team included:

- **Dustin Cote** (Programmer Analyst and Database Administrator)
- **Eric Ellingsen** (Telecom and Program Support Coordinator)
- **Robert Erickson** (Classroom and Meeting Space Technology Lead)
- **Adam Forsyth** (Director of Network and Systems)
- **Faust Gertz** (Programmer Analyst)
- **Diane Gossman** (Executive Director of Information Technology Services)
- **Marcia Gullickson** (Director of Enterprise Applications)
- **Cyndi Hageman** (Director of User Services)
- **Matthew Hammen** (Information Security Analyst and Systems Administrator)
- **Aaron Harris** (Workstation Support Specialist)
- **Matt Hughes** (Workstation Support Communications Administrator)
- **Keshawn McCain** (Multimedia Strategic Fellow)
- **Jesse Mulert** (Technology Help Desk Lead)
- **Jay Raabe** (Multimedia Lead)
- **Jean Ryan** (Programmer Analyst and Database Administrator)
- **Lane Schwarz** (Systems Administrator and Technical Support Analyst)
- **Aaron TerBeest** (Workstation Support Specialist)
- **Chris Stuckman** (Systems Administrator)
- **Paul Vanney** (Programmer Analyst)
- **Erin Zidlicky** (Instructional Technologist)

Software Development

Regroup is our emergency, student, staff, and parent communications system. In early June, we worked with Regroup to upgrade to version 2.0 with improvements including navigation simplicity, contacts distribution, two-click messages set ups and single sign on (SSO).

Eval.luther.edu, our course evaluation system, was moved from our own servers to a cloud-based platform. That transition included SSO for students and staff access and reconfiguring the data transfers from Colleague.

VIA, the software to support the Center Global Learning and student study away programming, went live in August.

ITS worked with Financial Aid to utilize the Content document imaging system to manage the many forms and workflows for staff to award and distribute financial aid information more efficiently. The team also collaborated with OFS to organize and create new workflows to facilitate the additional department's ability to use Content for paperless invoice approvals.

Luther discontinued the use of the Medicat software solution that supported the Health Services in the past. ITS worked with Student Engagement to organize a system for storing student physical forms in Content for emergency purposes.

Norse Hub enhancements include allowing students and employees to edit their profile for preferred pronouns and gender identity. Staff and students can add and update their banking information for payroll and other payments. ITS worked with Financial Aid and Financial Services to create a more efficient student work payment process.

Slate Advance implementation includes the migration of Colleague Advance alumni and giving data. Registration for Luther's Homecoming event and online giving forms are live in Slate. The team also created alumni event participation reports and gift reports and they track data changes in both Slate and Colleague Advance. Slate Advance will eventually include an Alumni portal to replace the current Alumni Directory.

The Registrar's office and ITS moved our Luther course catalog to Course Dog and catalog.luther.edu/ now takes you to the Course Dog published catalog.

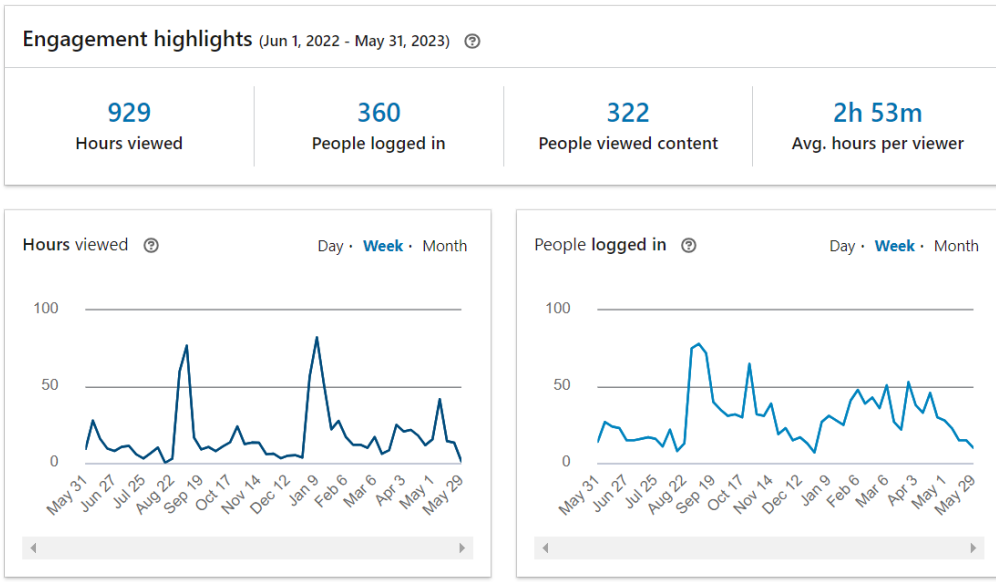
Many tasks and projects were completed to support and improve the Infrastructure for systems like Zoom Phone, account management in LDAP and Active Directory, and increase security to protect the privacy of our data. ITS continues to assist in evaluating requests for software and technology acquisitions, reviewing infrastructure requirements, risk assessments, service agreements, and data privacy measures.

Network & Systems

- Migrated from a very old on-premise phone system to Zoom Phone, a modern cloud hosted Voice Over Internet Protocol (VoIP) phone system.
- UPSes were added to wiring closets. This will improve network reliability and allow the network and VOIP phones to remain operational through short power outages.
- All wiring closets in Main and the Union, as well as the primary Library wiring closet were connected to building generator power. This will allow the network and VOIP phones in these buildings to remain operational even in the event of an extended power outage.
- New network switches were installed in Larsen, Olson and Brandt.
- The wireless network in the college apartments was improved with the installation of additional wireless access points.
- We switched from purchasing the LastPass password keeper for only a small portion of our faculty and staff to purchasing licenses for Keeper for all faculty and staff.

Training Summary

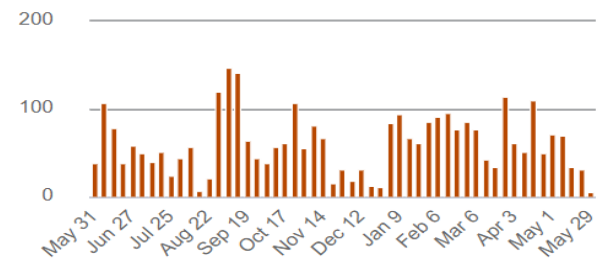
The The following charts show the usage of LinkedIn Learning, web-based software training videos and resources, from June 1, 2022 to May 31, 2023. Faculty, staff, and students interested in using the software may login to linkedinlearning.luther.edu with their Luther credentials.



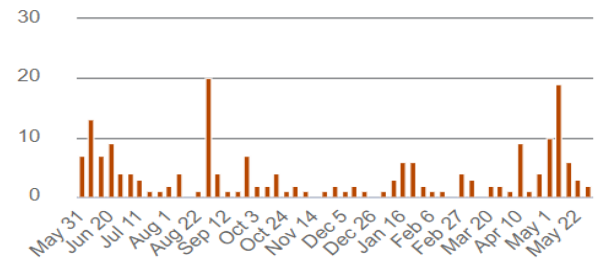
LinkedIn Learning content highlights (Jun 1, 2022 - May 31, 2023)

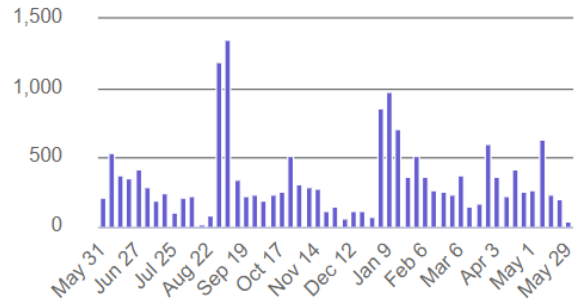
3,221	194	17,833	13,256
LinkedIn Learning course views	LinkedIn Learning course completions	LinkedIn Learning videos viewed	LinkedIn Learning video completions

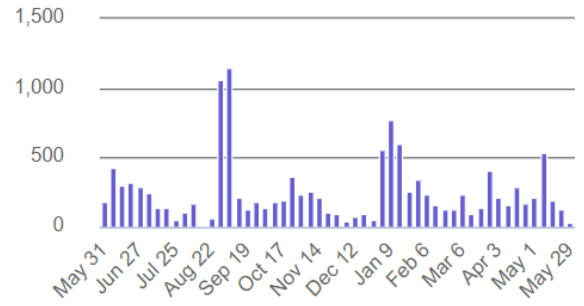
Course views — Day · **Week** · Month



Course completions — Day · **Week** · Month







Workstation Support - Classrooms and Labs

The Fine Arts and Computer Science labs in CFA 118 and Olin 202 were refreshed with new workstations and the older systems used to upgrade Valders 377, the Psychology student labs in Valders 344T and 340H, and the common areas in Sampson Hoffland. The Psychology student lab laptop pool was upgraded. Some podiums were upgraded with newer workstations formerly used by faculty or staff.

Improvements were made to the deployment process to make image creation faster and drastically reduce the amount of technician input during deployment.

Mac labs were removed from campus due to aging hardware and diminishing use. Loaner Mac Laptops (checked out from the Circulation Desk) were replaced with upgraded MacBook Airs.

Workstation Support - Faculty

New computers were purchased for faculty and staff this year. During the summer of 2022, workstations were upgraded for faculty in the Divisions of Biology, Chemistry, Physics, and HPES, as we continue our move to a staggered replacement cycle with 1/4th of the Luther faculty receiving refreshed workstations each summer. All other faculty Windows workstations received a Feature Update.

Improvements were made to the deployment process to make image creation faster and drastically reduce the amount of technician input during deployment.

M1 MacBook Airs were rolled out to Faculty in the Biology, Chemistry, Physics, and HPES departments. The new Macs are running macOS Monterey. Our MDM system has made management of updates and responding to changes and situations far easier and faster than in previous years.

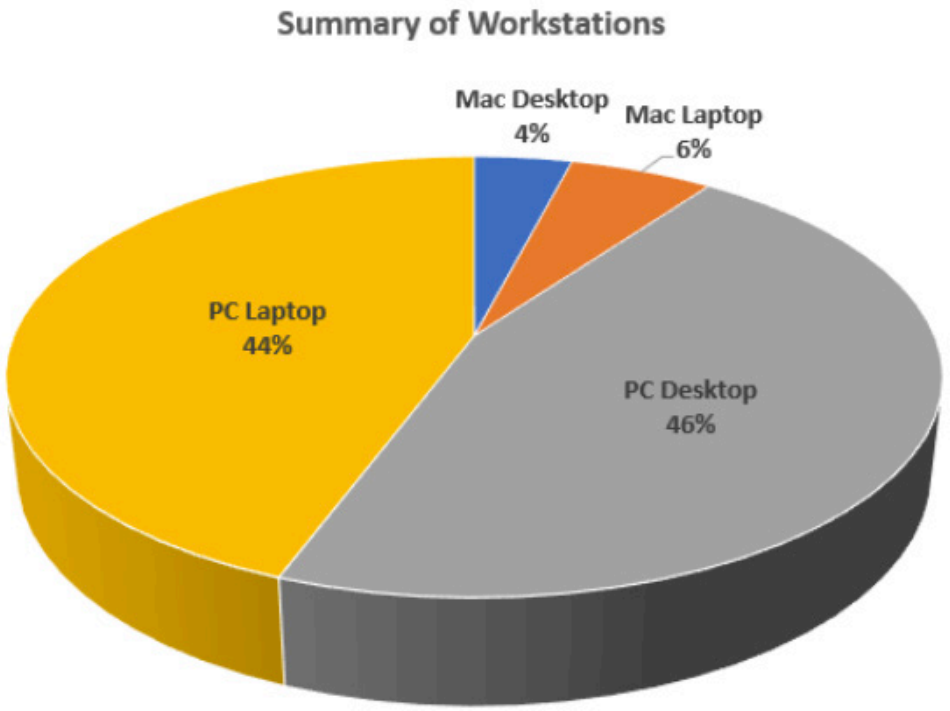
Workstation Support - Staff

Beginning with the 2010-11 academic year, staff computer upgrades are now on a staggered 3-year cycle. The departments are divided into thirds, and every year one third of all staff computers are refreshed. This cycle is manageable for most needs and maximizes our hardware investments. Departments receiving a refresh included: Athletics, Sports Information Document Center, ITS, Counseling Services, Book Shop, and KWLC. All other staff Windows workstations received a Feature Update.

Improvements were made to the deployment process to make image creation faster and drastically reduce the amount of technician input during deployment.

M1 MacBook Airs were rolled out to Staff in scheduled departments.The new Macs are running macOS Monterey. Our MDM system has made management of updates and responding to changes and situations far easier and faster than in previous years.

Workstations on Campus



Count of Asset Id	Column Labels				
Row Labels	Mac Desktop	Mac Laptop	PC Desktop	PC Laptop	Grand Total
Acad	9	38	55	150	252
Admin	33	45	163	310	551
Kiosk	8				8
Lab	6	5	359	181	551
LIS				1	1
Podium	1		73	1	75
Research	3		29	15	47
Grand Total	**60**	**88**	**679**	**658**	**1485**

Classrooms and Meeting Spaces Audio-Visual Support

- Worked with EPA to develop a new IP# scheme for Vaddio equipment in Hovde Room, Main 111 and 112.
- Installed New JBL 28t speakers in Regents Center 224 classroom.
- Attached new 55 inch TV to the Sim Lab portable stand.
- During the fall break, installed all the BluRay Players in Main and updated all the 1608 firmware in Main.
- Installed HDMI cables and equipment into the wrestling office and practice room to enable viewing on TVs.
- In the Main classrooms, 12 new Epson projectors were installed, developed new controller programs, and finished firmware updates.
- Moved Education portable Smart Board from the Library to Koren for use in the new classroom.
- Converted V379 from an analog to digital classroom.

Digital Media Center

The Digital Media Center is located on the lower floor of Preus Library. Luther faculty, staff, and students are welcome to use the multimedia lab and multimedia studio. The lab is available for use whenever the library is open; the studio is available by appointment.

Fall 2022

- August Room Checks - visiting each classroom (83 total) to start and test A/V presentation equipment systems to support curricular activities.
- Develop and implement Live-On-Tape program for Visual Communication courses in the DMC studio using the BlackMagic multicam system.
- Event Support
  - Collaborate with SAC to support their events across campus, including Bentdahl Commons and Marty's.
  - CFL event support, highlights including: Convocation, Farwell Lecture, DJ Spooky, Town Hall Meeting, Christmas at Luther
  - Monthly: Luther College Women's Club, Paideia visiting lecture, and support.
  - Support for Homecoming was a full week of reunions and current Homecoming events, including 19 events/locations (11 on-campus, 8 off-campus). Event support includes: audio, visual, technical training for participants, live streaming (2 events), and direct support hotline.
  - Cabinet meetings and Board of Regents events were supported by Multimedia as hybrid Zoom events, allowing for remote and in-person attendance.

Spring 2022

- Develop and implement a hybrid technology learning cart with the Education Department for their teaching laboratory. All items sourced from existing resources at zero cost.
- Hosting and teaching podcast training sessions in the DMC to train for workflow and techniques for requests from the Theater, Spanish, and Sustainability departments. Continued individual student support provided by the Multimedia technician team on a one-to-one basis.
- Advise Dining Services in the upgrade of their photo ID system. System changed to secure department tablet to replace existing fixed camera system.
- Advise Visual Communications team in the upgrade of student-use cameras for photo, video, and design curricular activities.
- Begin review and upgrade of technology available at the Circulation Desk in the Library.
- Livestream support provided across campus in: CFL, CRH, Oneota Market, and Zoom Webinars for Scholar Recognition event, CEPE guest lectures and events, and the Turkish Election.
- Infographic, Canva, and Illustrator training provided to the Spanish department, followed by Digital Media Center technician support on a one-to-one basis.
- Commencement ceremony was live streamed from Carlson Studium, including Youtube production and DVD publication for bookstore sales.
- Four ROAD sessions were planned in collaboration with Admissions, the Registrar, Student Success, and advisors for a

complete Zoom registration and advising experience. 400+ incoming students were registered on Zoom in these events.

Notes

- The majority of tickets submitted are completed within 1-2 days. Tickets that remain in the Multimedia queue represent a number of long-term equipment loans and a ticket is a record of this loan.
- Multimedia sees a spike of ticket activity at the beginning of each term (see: September & February) to adapt or upgrade technology for curricular activities.

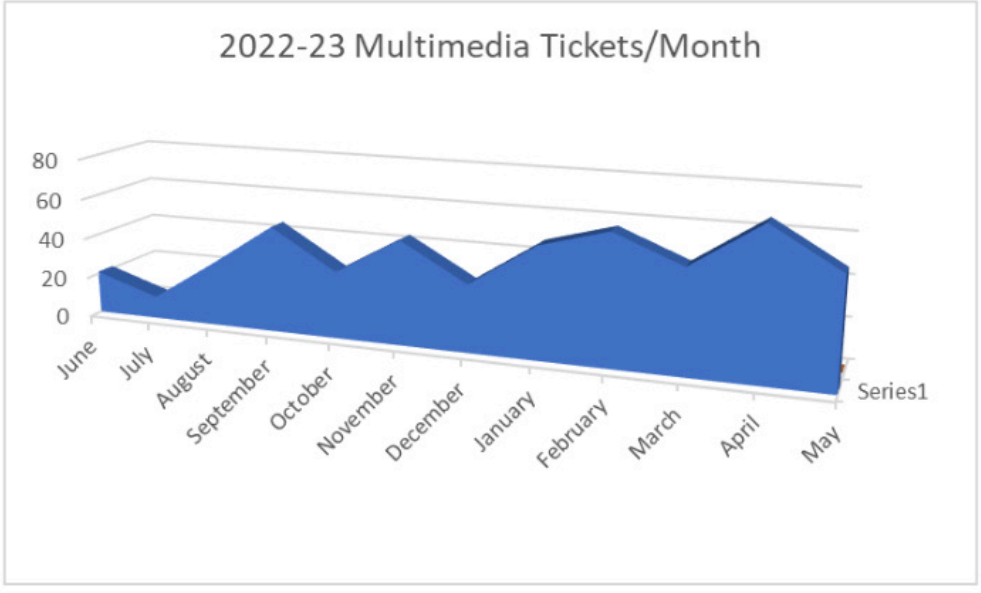
Professional Development

The Multimedia Department employs roughly 16 active student technicians, allowing for study away terms, to cover activities in two key areas: The Digital Media Center and event support.

DMC KBOX Traffic Synopsis

Total Tickets	458
Total Tickets Closed	432
Total Edits	1030
Total Comments	779
Average Total Working Time	29.13820699
Median Total Working Time	6.7315
Average Satisfaction Rating	5

Digital Media Center (DMC)



Training as a Multimedia technician includes support of classroom curricular activities across campus. The DMC functions as the call center in collaboration with the Technology Help Desk to provide just-in-time support for students, faculty, and staff. In addition to campus A/V support, the lab and studio serve as campus support for production and project support, featuring training on Adobe Creative Cloud and studio production equipment and training.

Event Support

The training and experience of supporting an event is specialized and valuable. Technicians learn not only how to set up equipment, but also the analytical problem solving skills to adapt equipment and requests to shifting requirements. Event support is offered to all students, faculty, and staff who are currently enrolled or working at Luther and occur during and outside of operating hours at the DMC.

The Multimedia training philosophy is grounded in allowing students to first support campus requests and then grow to lead event support and offer training to fellow technicians and campus stakeholders. The emphasis is on building their troubleshooting and critical thinking skills to assess, communicate, research, and document problems as they arise.

Instructional Technology

KATIE (Moodle) is our current Learning Management System. This was upgraded to version 3.9.17 and PHP 8.0 in January. In addition, upgraded the LTI's to version 1.3. The success of this upgrade can be attributed to working closely with CELT and OpenLMS to properly test and implement the new version of KATIE. This upgrade has enabled us to upgrade to version 4.1 in June of 2023. This next upgrade will keep Luther College current on the needed security and support for this product.

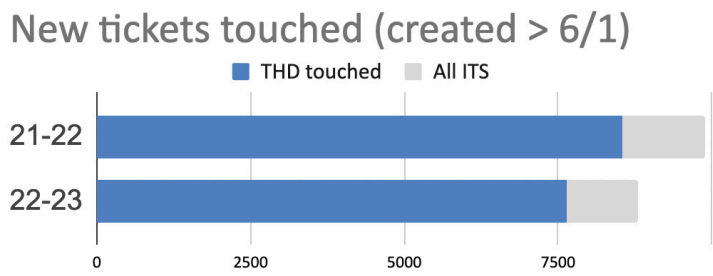
Partnered with CELT and provided KATIE training for new faculty as well as workshops for designing KATIE for student success and gradebook assistance throughout the semester. Provided training and migrated to a standalone iClicker system. The Instructional Technologist is a member of the Instructional Technology Team.

Technology Help Desk

The Technology Help Desk is where the Luther community and visitors most commonly start seeking help from ITS. Every day, the Technology Help Desk student technicians and professional staff accept issues ranging from basic device use to in-depth training, from bug report to system outage.

Between June 1 2022 and May 31 2023, the Technology Help Desk team touched 9,725 of the 11,421 tickets touched by ITS as a whole (85%). ITS as a whole touched 6% more tickets than the year before and the Technology Help Desk touched 10% more tickets.

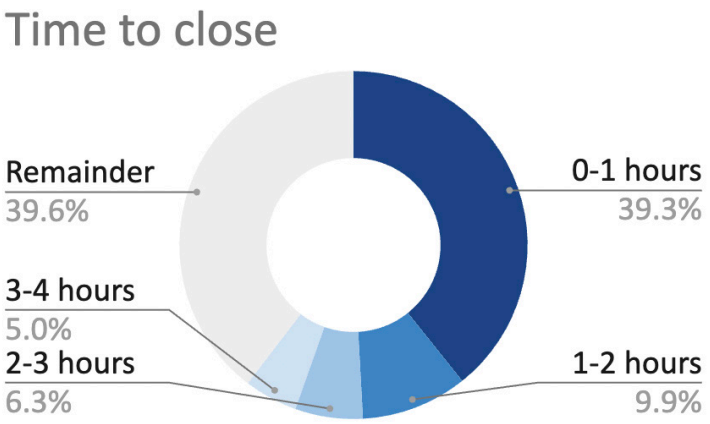
While overall touches are a good indicator of work performed, new tickets better represent the current demand for services: If we only consider those tickets created after June 1, then the Technology Help Desk touched 7633 of ITS's 8810 tickets (87%). Compared to the prior year, the Technology Help Desk touched 11% fewer new tickets in total. In other words, both ITS and the Technology Help Desk experienced less current traffic but worked more old tickets than usual.



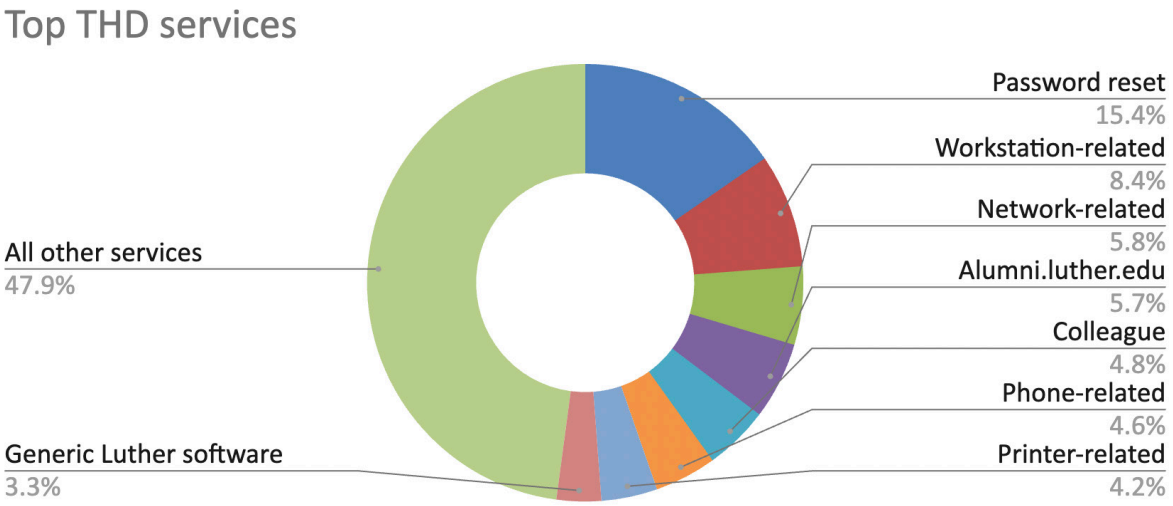
With respect to just new tickets, 18% were resolved on first contact, they took 13 hours to resolve on average (vs. 20 hours last year, though median resolution time was largely unchanged), and our average satisfaction rating was stable at 4.9 out of 5.

Our list of most-sought-after services is largely unchanged from most years, except for the addition of tickets related to Alumni Google accounts (broadly categorized as "Alumni.luther.edu"), which made up nearly 6 percent of overall tickets.

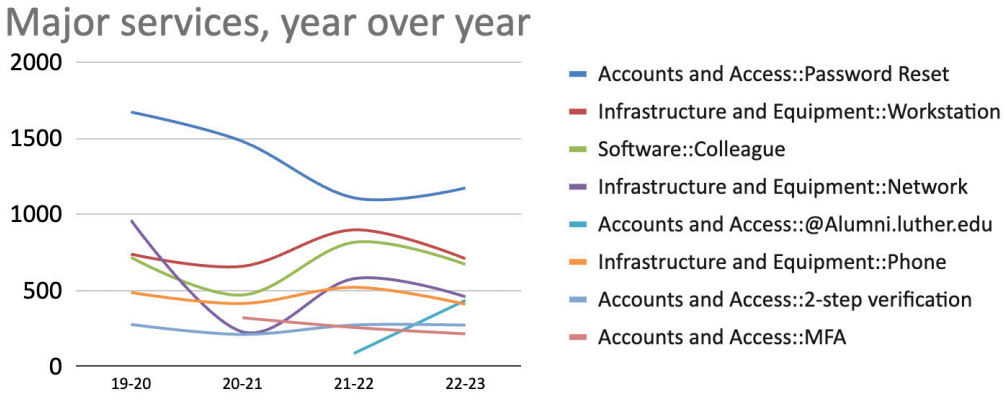
While the actual major services that our patrons seek has remained consistent over time, the frequency of those requests has been a see-saw over the last few years. While most of our major services were sought an average of 20% less than last year, in actuality the 2022-23 numbers for most categories are a return to normal. The only notable exceptions are the frequency with which people seek password resets, which has broadly declined by roughly a third over the last four years; and network issues (including network registrations), which have declined by roughly half over the same period.



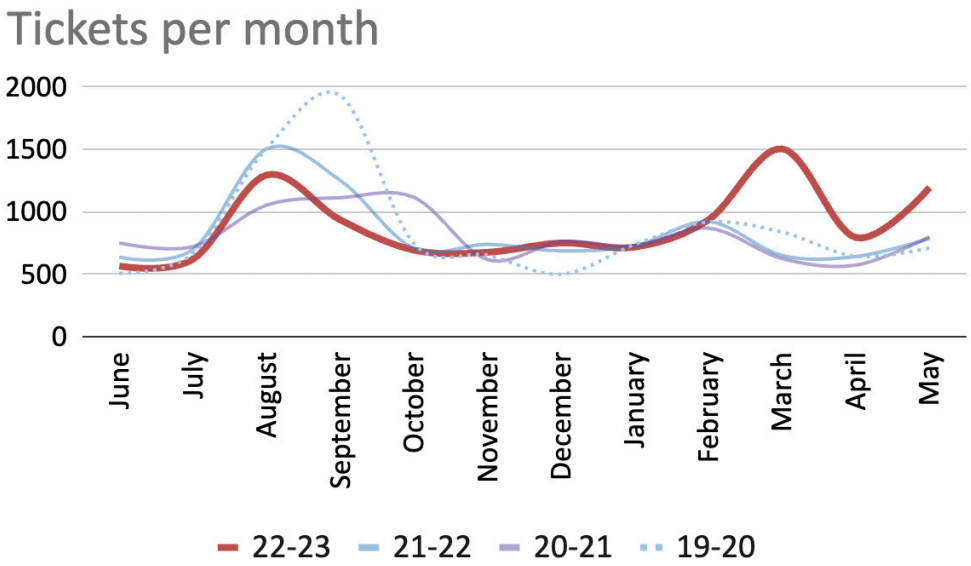
Although patrons are seeking services at different rates year over year, the rate at which they seek any service is generally very consistent — Except for August and September, we usually handle between 690 and 750 tickets per month. This year has two major anomalies: a huge spike in the spring from a ticket audit and significant, continuously weakening demand for services around the beginning of the academic year in August and September.



Over half (58%) of the yearly decline in new Technology Help Desk tickets is attributable to weaker demand in August and September. Decreased pressure at the beginning of the school year has long been an explicit goal, and we believe that our efforts at least partially account for the decline: For example, we have made a concerted effort to improve public-facing documentation (e.g. by improving our web pages and in-hall postering) and to provide easier routes to self help (e.g. self-registration to the network through LCSecure and self-installing printers through Mobility Print).

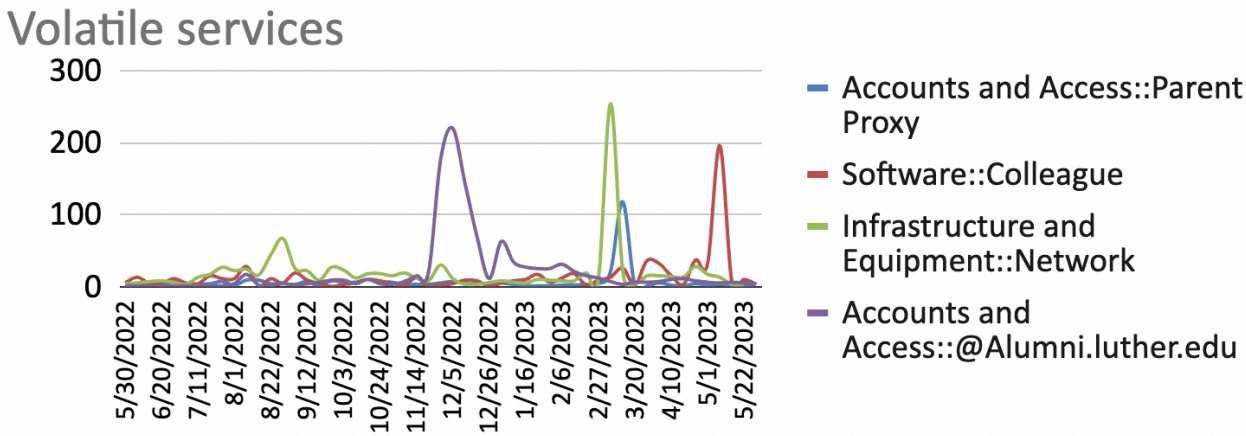


Similarly, the increase in overall ticket touches by the Technology Help Desk is very much the result of our ticket audit. Audit work is harder to quantify, because at a granular level, it looks very much like standard technician work—but from from a high level, it's readily apparent: For example, when looking at our most volatile services (i.e. those with the largest spikes relative to the norm for that service), we can clearly see when technicians targeted Parent Proxy, Colleague, and then Network tickets for audit. Alumni Google transitions (broadly categorized as "Alumni.luther.edu") are another standout volatile service, with most ticket-



based work compressed into December. Raw ticket numbers understate the magnitude of this project: We averaged 11 touches per alumni.luther.edu ticket (2.4 times more than average), representing more than 10% of our overall touches and more overall touches than any other service. For illustration, that means we performed more alumni.luther.edu ticket touches in just a few weeks than we did for password resets for a whole year. It should be noted that the Technology Help Desk wasn't alone in this project and assistance from Netsys was particularly instrumental.

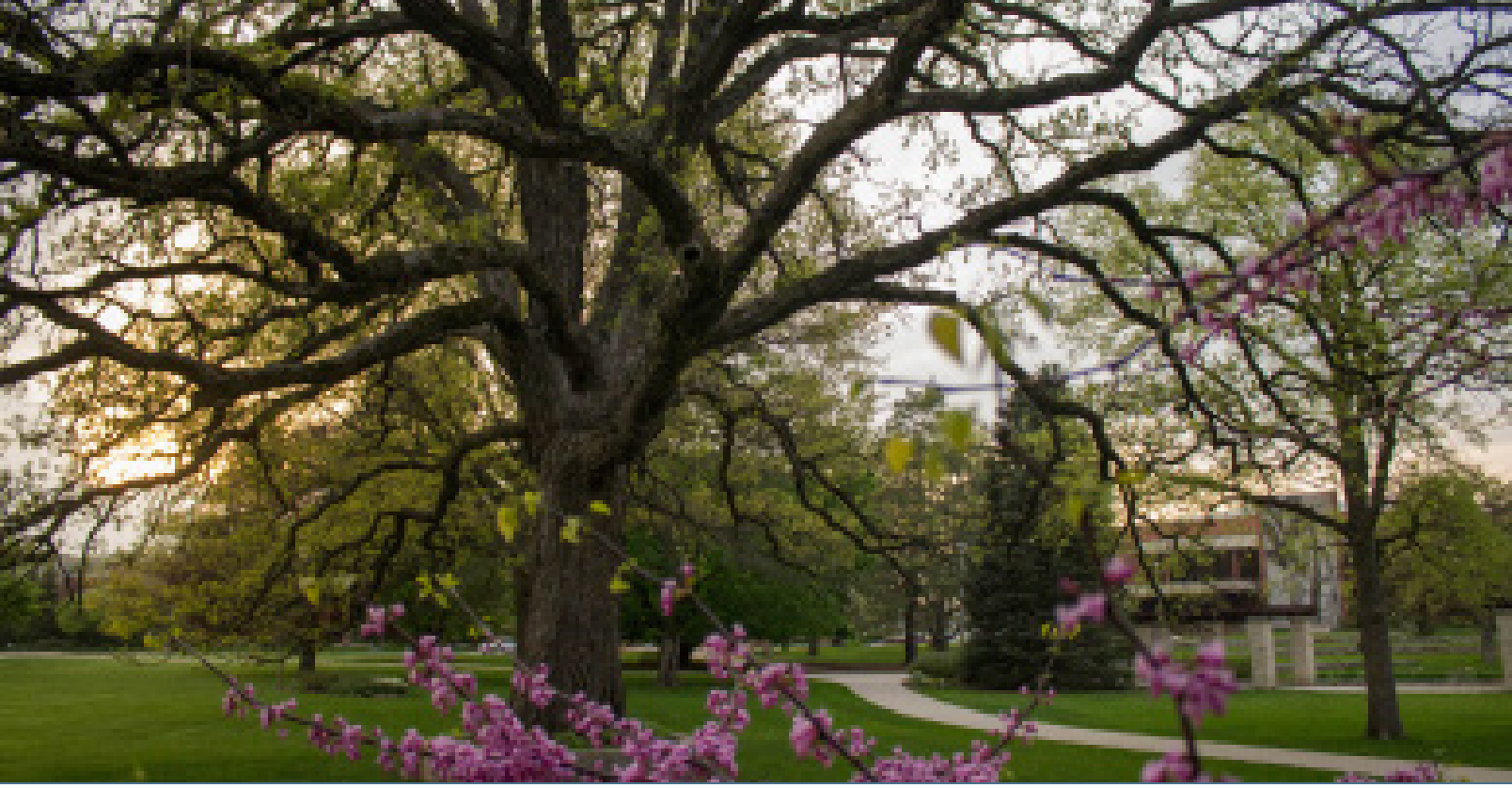
Behind the scenes, the Technology Help Desk works with others in ITS to identify and plan for transitions in campus technology and the effects those changes may have on our users. Through individual and campus wide communications, the Technology Help Desk provides a link to the campus community and ITS. In addition to immediate service, the Technology Help Desk creates and maintains tutorials and self-support resources for the Luther community. Of the major initiatives the the Technology Help Desk team took part in, a few are worth highlighting:



- Collaborated and coordinated the Technology Help Desk work with the Instructional Technologist.
- Helped deploy new VOIP phones campuswide.
- Migrated the ITS website from Reason to Wordpress, rewriting and restructuring many pages in the process.
- Participated in deploying Keeper as a replacement for LastPass.
- Planned and implemented Alumni Google account transitions.
- Planned and implemented a rescue plan for institutional files that would be lost as a result of Google account deletion.
- Overhauled Loaned Devices policies and procedures.
- Asserted Google Drive ownership on behalf of active Student Organizations to prevent file loss.
- Provided one on one ROAD Be Tech Ready training for International Students.

The Technology Help Desk also provides an opportunity for professional growth among our student staff, many of whom aspire to careers in information technology, but also go on to other fields where technology plays a key role. Here are some of the larger changes to and efforts by our student technician team:

- We hired nine new technicians, who were interviewed by student managers and trained by current technicians and student managers.
- We elevated 5 technicians to student manager.
- Student managers revised our training procedures and created a new training procedure targeted at student managers.
- One of our student managers took on a new staff role over the summer—They had elevated access similar to the Technology Help Desk Leads and had shift supervisory responsibilities.
- Our Team Building team organized many activities, including outside of work.
- Our Media team generated content for our Twitter and Instagram accounts.
- Our Hardware team worked on 56 student computers, our single-most touch intensive and time consuming service.



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