

2017-2019 Wheaton College Technology Plan

Introduction

Technology touches everyone, to some degree, in their personal, academic, and professional lives. Embracing appropriate technologies in support of the mission of Wheaton College has become an imperative in this digital age. As stewards of the resources which God has provided for the College, we have developed the following document to outline specific goals and initiatives for the next three fiscal years. These goals will move us in the direction of increased data security, strengthened teaching and scholarship, enhanced student experience, and improved administrative efficiencies. This document was developed with input from faculty, staff, and students who are committed to seeing Wheaton College flourish, For Christ and His Kingdom, for many years to come.

Drivers of Change

The context for the delivery of technology services at the College is shaped by the significant drivers that have been present for many years. Consumerization of technology, mobility, cloud computing, “always-on,” globalization, big data, social media, and information security are themes that are discussed in the technology world as well as the mainstream media. Taken together, these drivers are creating increased demand and changes in the expectations, consumption, and delivery of online services.

As an industry, higher education is being forced to consider new, more efficient business models, while holding on to the fundamental tenets of relational and broad-based learning that are core to an excellent liberal arts education. Graduate programs are increasingly offered online as the non-traditional student requires flexibility to balance school, work, and family demands. Undergraduate students arrive on campus having experienced innovative and technology-rich teaching environments as K-12 schools issue laptops or tablets to each student, promote active learning, teach students through the daily use of Google Apps, and invite involvement by assigning multimedia projects. These digital natives arrive at Wheaton College with multiple devices and experiences across many social media platforms.

Financial pressure requires that everyone at the College work together to solve problems and make decisions collaboratively and strategically so that resources are focused appropriately. Through technology governance and relationship building this can be achieved.

Responding to Drivers of Change

These drivers impact the demand for technology services and the way they are provisioned at the College. The overarching goal is to support the mission of the

College by providing an excellent user experience. To do this, we need to develop and maintain an infrastructure that is secure, reliable, resilient, flexible, scalable, and innovative where strategically advantageous. The focus remains on addressing immediate technology needs while at the same time prioritizing the foundational work that is necessary to create a new framework for responding faster and more effectively to the ongoing needs of the College.

The [Technology @ Wheaton governance structure](#) (including the Technology & Information Resources Sub-Committee for faculty, Student Technology Advisory Committee for students, and Administrative Application Advisory Committee for staff) meets regularly to identify and advance priorities in a collaborative manner. The College also adheres to a list of [Technology Guidelines](#) to support good decision making around technology issues.

Academic and Institutional Technology (AIT) is fully committed to supporting the institution in meeting its strategic, operational, and educational objectives through leadership and support of appropriate information technology solutions and services. This will be accomplished by:

- Aligning and stewarding resources to effectively support college priorities and objectives;
- Investing in the development of close, transparent, and collaborative relationships with faculty, students, staff, and other community members to best serve the campus' existing and future technological needs;
- Encouraging and supporting innovation in solutions;
- Developing our staff resources to ensure we are leaders in understanding, deploying, and supporting current and future information technology solutions to support the College's mission;
- Partnering with other educational institutions and external organizations with similar objectives to efficiently leverage technology resources.

Existing organizational reporting lines continue to be redefined to improve our ability to deliver services. Pivoting to this new framework by changing our technologies, the skill sets of our people, and our processes for interacting requires ongoing commitment and a degree of patience at times. The press of everyday responsibilities to keep the organization running competes with the time and resources required to be transformational.

The initiatives in this document are admittedly ambitious. It will take the combined efforts of all campus stakeholders to accomplish our goals.

Priorities

The following are our key priorities, organized by functional area:

Academics and Scholarship

- With the launch of Schoology as the College's Learning Management System (LMS) opportunity exists to provide a highly flexible online environment to accommodate a wide range of pedagogical styles. The ability to measure student and course success through included rubrics and tools positions the College to support the new Christ at the Core general education requirements. Enhanced communication and community-building capabilities extend the classroom experience and support student engagement. Effort must be made to expand student-centric teaching methodologies that are focused on learning outcomes, in ways that support faculty adoption of technology and other pedagogical best practices.
- A shifting focus on software solutions versus hardware will provide increased faculty and student flexibility in the classroom.
- Creating and supporting efficient methodologies that enable Graduate School online education while also providing full access to campus resources is key to ensuring the success of the program. Being able to leverage existing campus technologies and developing new support structures that are repeatable will create a scalable learning infrastructure.
- Technology Enhanced Spaces include learning and event spaces of all sizes across campus. Extending our work to put the appropriate level of technology into each space, without over-building, continues to enable the College to better plan technology refresh cycles. Learning spaces must be flexible, streamlined, easy-to-use, allow for self-operation, and support video connections. To support this, faculty will be issued laptops and mobile devices to allow them to connect their personal machines to classroom resources in lieu of deploying extensive equipment in each classroom. Lecture capture spaces will be added as dictated by campus need. As technology proliferates, budget models that are incrementally increased are fundamental to keeping these spaces adequately designed.
- Digital collaboration spaces for students provide community and skill-building areas that prepare Wheaton students for a media enriched world. Flexible, well positioned and equipped spaces that encourage the use of consumer technologies both in and outside of the classroom will enhance the Wheaton College education process.
- Digital scholarship is the use of digital evidence, methods of inquiry, research, publication and preservation to achieve scholarly and research goals. Digital scholarship can encompass both scholarly communication using digital media and research on digital media¹. Supporting faculty and students with digital scholarship endeavors is a strategic part of showcasing the excellent work that is being done at Wheaton College.

¹ https://en.wikipedia.org/wiki/Digital_scholarship

- Developing virtual software computer labs will reduce the expense and need for proprietary computer labs on campus and facilitate greater student flexibility by encouraging the use of each student's own computer.
- AIT is committed to exploring partnerships with faculty and external resource providers to develop reasonable technology solutions that support institutional research and scholarship.

Infrastructure and Security

- The College's online data and other resources should be available, easy to use, and appropriately secured with risk mitigation mechanisms in place. In response to an increasing threat landscape, security policies, education, and engagement are critical for success. Providing services that make "doing the right thing the easiest thing to do" is also a necessary element for an effective strategy.
- Fortifying data security across campus is a top priority. Areas of focus include increased user security training, more timely updates of applications and systems and the encryption of institutional data that is centrally managed.
- Increasingly, technology service providers are offering end-to-end solutions, frequently referred to as "in the cloud." Cloud services allow a vendor to maximize economies of scale across their customer base, while investing significantly in ensuring data and platform security. The security level provided by these vendors frequently surpasses the capabilities of Wheaton College. Concerted effort must be placed in acquiring new services that are hosted in the cloud and moving existing services to the cloud, as appropriate.
- Wheaton College currently has over 30 departments accepting credit cards as a form of payment; this exposes the institution to significant security and compliance risk. In partnership with the Controller's Office, a Payment Card Industry (PCI) Compliance Committee has been formed to quantify the risk, and develop policies and procedures to reduce that risk. To the extent possible, the College intends to outsource credit card processing and alleviate some aspects of the work effort involved in compliance. The Controller's office must be consulted in advance of payment business process development.
- The campus wired and wireless network is vital to the functioning of the College. The increased numbers of devices continually added by students, the increased reliance on cloud based services, and emerging "internet of things" requires that Wheaton College invest in scalable network bandwidth, redundancy, and re-engineering to meet computing needs. Aged networking equipment will need to be replaced within this time period. Residential network options should be considered such as outsourcing of the residential networking and enhancing Wi-Fi in the residences so that expensive wired connections can be retired.
- Wheaton College is a beacon of Christian hope and a frequent target of social discontent; therefore its applications and systems can be a significant target of

hackers or other nefarious people. We must continue to prepare to recover from a potential disaster and make appropriate plans to restore key systems in the event of an emergency.

- To assist the Wheaton College community with understanding appropriate security behaviors, policies must be developed and communicated in partnership with technology governance. We must not assume that well-intentioned people are knowledgeable enough to understand and take appropriate steps to securely manage institutional data and resources.

Enterprise Applications

- Enterprise and Administrative applications at Wheaton College need to subscribe to the following design principles: 1) cloud-based preferred; 2) user-centric interfaces; 3) Wheaton NetID authentication; 4) accessible to all users; 5) web-based; and 6) an architecture that values analytics, agility, and service focus. Departments must review system acquisitions with AIT before purchase, in order to evaluate how they would fit within these requirements and the workload pipeline to ensure that value is fully realized in a timely manner. Our administrative systems must facilitate the core mission of the College, provide appropriately secure access to services and information when they are needed, and be as frictionless and adaptable as possible (easy to find and use, develop and support.)
- Identity and Access Management needs to be redesigned and a standards-based commercial solution deployed to facilitate secure and user-friendly access to systems.
- The College has made a significant investment in the Ellucian Banner Enterprise Resource Planning Systems (e.g. Finance, Human Resources, Student, and Advancement) and is under contract to use these systems for another six years. Effort must be made to leverage this investment by better understanding its capabilities and how they can positively impact the College; deploying more automation and workflow capabilities; documenting the system processes and workflows so that other staff members can be more easily trained; and working cross-organizationally to take full advantage of available resources. Alternatives to Banner should be reviewed and considered as the contract end approaches. Specifically, attention must be given to improving the 1) Human Resources and 2) Financial automation processes.
- Each business area benefits from having a Functional Analyst assigned to work collaboratively with AIT to identify business process and system improvement opportunities, and to successfully launch new functionality. AIT technical staff should focus on the technical aspects of the systems while functional analysts focus on the end-user experience and reporting needs within their areas.
- The Wheaton College website is the virtual front door of the institution. Millions of people access the website seeking information about the college and

expecting to easily find what they are looking for. With the selection of Terminal 4 as the institution's web content management system we will design and deploy an easy-to-use system with distributed editing capabilities; one that is simple for employees across the institution to manage. The new web design will be primarily focused on attracting new students, but also provide access to information for faculty, staff, and other stakeholders. The College's web presence will be as open and transparent as is reasonable, only requiring authentication for those things that are truly sensitive in nature.

- Statistics show that mobility is on the rise. Mobile phones are becoming more like mobile computers, used to access productivity and social media applications on a regular basis. To stay relevant, Wheaton College must develop systems and applications with a "Mobile First" mindset. This includes responsive web applications and, as appropriate, the development/launch of mobile apps to access institutional tools.
- Data is collected across the many systems that are managed by the College. We must develop a strategy for warehousing the available data and providing access to reporting tools that make it easy for administrators to analyze performance, predict outcomes and plan accordingly. The most powerful reporting tool is one that is able to gather data from multiple sources thus enabling reporting managers to, on their own, create and run reports that are most helpful to their needs.
- There is complexity in reviewing and updating the institution's Course Catalog annually. Automation of this process will result in a reduction in workload for faculty, thereby allowing them to focus additional resources on direct support of student learning.

Support & Service

Effective technology organizations develop service strategies (referred to as IT Service Management) that align with the overarching mission of the institution. Documented and repeatable processes increase service reliability, resulting in improved customer satisfaction. Processes supported by an IT Service Management System will advance coordinated efforts within AIT and across the Technology @ Wheaton community.

Technology standards for end point devices ensure that faculty and staff can consistently and reliably access services provided by the institution. Typically, enterprise applications are developed primarily for Windows operating systems. Funding models need to be developed to encourage standardization and take into account the ever-changing device landscape.

Increasingly we go to YouTube for "how-to videos" to fix things at home or elsewhere. Providing a self-service technology environment and making

“Wheaton how-to” information easily accessible empowers the Wheaton Community to solve problems 24/7.

Virtual applications and desktops facilitate access to College technical resources from anywhere or any type of machine (Mac or PC). They can also make cost-prohibitive software available to students who only need it for a short period of time. A strategy to virtualize applications and desktops is one that will create value for the campus community.

Technology support is a shared responsibility across campus. Development of a technically curious community across all departments, and leveraging social media will create new communication pathways that enhance understanding and promote effectiveness in the use of technology.

Conclusion

The priorities outlined in this document may be ambitious, but, when achieved, will provide Wheaton College with an excellent technical infrastructure that is user-centric and aligned with best practices within the industry. These plans will be reviewed annually, and adjusted as needed to remain relevant.