



McMaster **IT** Strategic Plan

2019-2021



Towards the 21st Century Institution

The three-year McMaster University IT Strategic Plan will deliver technologies that befit a 21st century institution, where individuals are excited to engage with the delightful technologies and complex digital systems and experiences that surround them. By working together to achieve this exciting future, we will differentiate McMaster University and enhance its reputation and its ability to attract talented students, staff, researchers and faculty.

The focus of the IT Strategic Plan is institution-wide. McMaster University is multi-faceted with multiple locations and constituencies. Technological and digital needs vary and the distribution of information technology support and services at McMaster has developed over time to meet a spectrum of stakeholder needs. The ability to provide value to smaller subsets of the population with an attention to uniqueness and agility will continue to be an important aspect of information technology and service delivery. At the same time, it is vital for McMaster University to evaluate and improve upon its investments and the delivery of core technologies and services to meet the aspirations of the full community, simultaneously expanding its digital capabilities to maximize productivity and satisfaction, advancing the collective experiences of students, staff, researchers and faculty.

The digital storytelling activities, Digital Moments, used to engage the imaginations of those participating in the McMaster IT Strategic planning process, indicate a strong desire for imaginative and interactive digital and technological capabilities that will heighten individual's experiences. This is most crucial for our students who are already advanced in their desire for fascinating new integrative technologies that can be laced through their day to day activities and are expected within a place of study, research and work.

The demand for technologies that can support the academic and administrative priorities of the institution will only grow, and the changing technology landscape will require McMaster to change with it. This will require a strong IT culture, along with processes and policies that help the institution and its constituencies adapt to these changes. This in turn will encourage improved and transparent decision making and collaborative partnerships across all departments and service areas. The IT Strategic Plan will blend new implementations with ongoing improvements and enhancements and will value sustainability and scalability. By considering the priorities of the full institution, consolidating efforts and improving efficiencies, McMaster will create increased value and capacity for even more strategic IT investments.

McMaster IT Strategic Vision

Working as a **connected** community, McMaster will deliver a **seamless** foundation of core and **transformative** information technologies and services, accelerating the university's teaching, learning, and research mission.



CONNECTED.



SEAMLESS.



TRANSFORMATIVE.

**WHAT IS A
FUTURE
McMASTER
DIGITAL
MOMENT?**

Storytelling McMaster's Digital Moments...

McMaster University. A 21st century institution. Where students use technology to build and enhance their education experience. Where researchers, faculty and staff push the boundaries of discovery, learning and efficiency with digitization. Where the IT experience is seamless. Where people know how to attain technical help and support and which tools and systems to use when collaborating and innovating.

Through storytelling our digital moments, the McMaster community has envisioned our IT future. Across 2018, as part of the consultation process for the McMaster IT Strategic Plan, groups of McMaster leaders, researchers, IT colleagues, faculty, administrators and students brought their imaginations together to create digital moments and stories in pursuit of the McMaster IT Strategic Vision. The McMaster IT Strategic Plan has been informed by the many digital moments created and illustrates the power of storytelling and visioning and will move us towards McMaster's IT future.

**A FUTURE
McMASTER
DIGITAL
MOMENT:**



Digital moments, digital future.

My digital moment is the journey we are embarking upon, towards our digital future, through the implementation of the McMaster IT Strategic Plan.

It is clear the idea of a digital future is already becoming a reality at McMaster University. We can look around on any day and see advanced technological integrations and capabilities taking hold. Our researchers and faculty are already experimenting and exploring with technology and its capabilities. Students straddle technology in their daily experiences. Administrators are seeking technologies to improve their services. And the digital moments we gathered as part of our McMaster IT Strategic Planning activities, including those we share in this publication, represent an optimism and anticipation towards continued integrations with technology in all aspects of McMaster's day to day activities.

The key opportunity open to McMaster University is how well we adopt and adapt to increasing digitalization, and how well we do this together. This is everyone's journey. The McMaster IT Strategic Plan will guide our way.

NAME

Gayleen Gray

ROLE

Assistant Vice President & Chief Technology Officer

GOAL

Help to guide the institution to its digital future

WHEN

2019 – 2021

WHERE

McMaster University





**A FUTURE
McMASTER
DIGITAL
MOMENT:**

Optimizing research to promote healthy lifestyles for McMaster students

Saraya, a PhD student, communicates her research project to prospective and current Mac students via the McMaster smartphone app.

Potential research participants learn more about her study via video and live chat session and can sign up and provide their online consent from their smartphones, with an option to allow GPS tracking to monitor gym usage, activities, etc.

Study participants receive a daily ping to check their mood, drinking patterns, risk factors and eating habits and the study methodology includes links to online games in the app which will measure attention, memory and other outcomes. Once in the study, participants can inform friends about their experience automatically through social media posts.

Participants get regular feedback on their performance and are able to see graphical images of their moods, alcohol consumption, and cognition on a personalized study dashboard.



Saraya uploads her research data daily in real time to a parallel computing cluster where the data is analyzed, anonymized and stored securely. The data also gets uploaded to public health network data repository.

Eventually, using the archived data records, study alumni are chosen and recruited as ‘coaches’ for the next cohort of participants.

NAME

Saraya

PROGRAM

PhD Student, Faculty of Health Sciences

GOAL

Make the research process more interactive

WHEN

Multi-year study (2019 – 2021)

WHERE

McMaster University

Strategic Pillars

The McMaster IT Strategic Vision is a long term, enduring goal that is purposefully aspirational. The corresponding strategic pillars provide a critical framework for an interrelated set of objectives and initiatives. The strategic pillars are reflective of the McMaster IT Strategic vision to which we aspire. Each strategic pillar conveys key elements that must be achieved for the IT Strategic Plan to be successful.

These pillars are interdependent, and the vision cannot be achieved without all three of them: a strong and collaborative community (A Connected McMaster Community) creating the capacity to deliver on sustainable and cohesive core IT infrastructure (Seamless Foundation) with the goal of creating a 21st century experience at McMaster (Transformative information technologies and Services). Each of these strategic pillars and the supporting objectives and initiatives is critical to the overall success of the McMaster IT Strategic Plan.



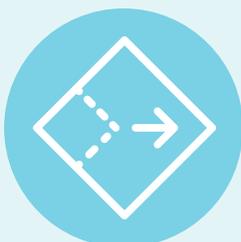
A Connected McMaster Community

McMaster's cooperative and transparent approach to prioritizing and funding information technologies for the institution will include aligned leadership and partnerships across campuses, allowing the institution to reach its highest potential by drawing on the expertise of our talented IT community, enabling engagement, adaptability, and connections at all levels of the institution.



Seamless Foundation

A standardized, scalable, secure and integrated technology infrastructure is the necessary foundation for transformative information technologies and services at McMaster. This 'rock solid' and seamless environment of core capabilities will be fostered through coordination across IT service areas and will provide McMaster with valued and high performance information technologies.



Transformative Information Technologies and Services

McMaster's evolution as a 21st century institution will depend on strategic solutions based on leading edge technologies and innovations, and investments in strong data integrations and automation tools to create 'delightful' technologies and world class experiences for students, faculty and staff.

Key Objectives

Each strategic pillar encompasses three-year objectives that represent the main areas of focus for the McMaster IT Strategic Plan. These objectives further cascade into a series of initiatives that will require investments and resources and will deliver the outcomes necessary to move closer to achieving the McMaster IT Vision. Corresponding initiatives will unfold over the next three years. Many will be undertaken concurrently, while others have interlinked dependencies that require sequenced implementations. A high level timeline is available at the end of the document and will provide a visual representation of the anticipated priorities across all initiatives.

Key Objectives

- 1 Institutional Adaptiveness
- 2 One IT Community



Connected

Key Objectives

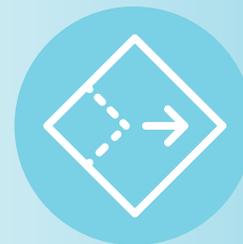
- 1 Optimized Core IT infrastructure
- 2 Enhanced Productivity Systems



Seamless

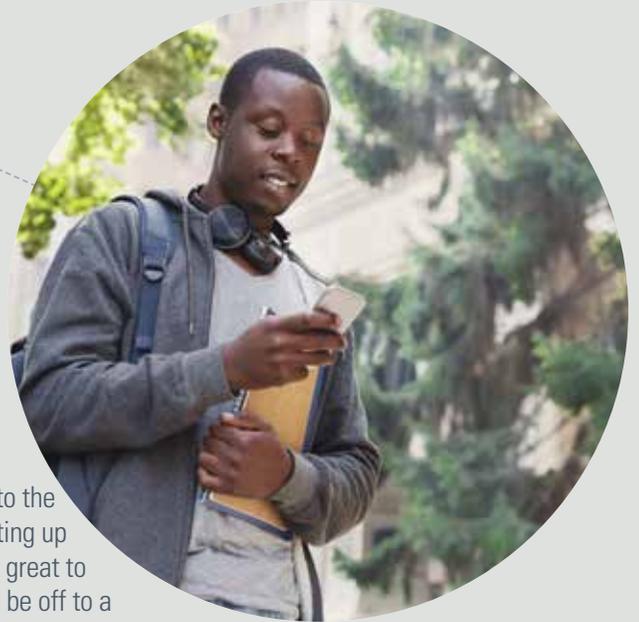
Key Objectives

- 1 Expedited Collaboration and Decision Making Tools
- 2 Reimagining the McMaster IT Experience



Transformative

**A FUTURE
McMASTER
DIGITAL
MOMENT:**



Student Time Savers

John takes a few minutes between all the excitement of Welcome Week to sit down on a bench behind University Hall to take care of some of the tasks that will set him up for success this semester. Last year he had to stand in line multiple times to get some key things done. Luckily, there is a new way to do things this year, thanks to the new McMaster app.

John downloads the McMaster app on his smartphone and accesses the Office of the Registrar's 'Virtual Kiosk'. John decides to confirm his OSAP requirements through the Virtual Kiosk rather than in person. It walks him through the necessary clicks. He will get a mobile alert when the money is transferred into his bank account.

Next, John uses the McMaster app to access the Student Services 'shopping cart' to choose other services he needs to support him this year.

Before he knows it, all of John's tasks are completed and he can head back over to the quad where he will be meeting up with other students. It feels great to know that his semester will be off to a smooth start with a few fast and easy clicks on his smartphone.

NAME

John

PROGRAM

2nd year Humanities

GOAL

Make the most of student time

WHEN

September 2020

WHERE

University Hall,
McMaster University





A Connected McMaster Community

1 | Institutional Adaptiveness

The impact of the McMaster IT Strategic Plan will be felt across all areas of the institution and will require the institution to engage, adapt and evolve. Creating a capacity for change will involve substantial IT investments, a strongly connected McMaster campus community, and transparency in the decision making and funding of technologies and services. There is a demand for excellence in communicating needs, actions and successes. There is also a need for increased commitment towards embracing standards and sustainability.

- IT Asset Management
- One IT Service Desk – Strategy
- Cohesive IT Community & Culture Strategy
- IT Career Framework Strategy

2 | One IT Community

Providing McMaster with transformative information technologies and services depends on a cohesive and aligned IT community, across the full institution, and a strong IT culture. Investments in career frameworks, learning and development opportunities and adoption of McMaster IT Guiding Principles will contribute to the creation of an engaged, optimistic, trusted community of IT professionals. Delivering exceptional service and maintaining a commitment to core technologies and innovative solutions will result from an integrated IT support services model that leverages the best organizational structures and delivery sources.

- Project Management Office Implementation
- Cohesive IT Community & Culture Implementation
- IT Career Framework Implementation

- Modern Desktop Management
- Project Management Office - Strategy
- One IT Service Desk – Implementation
- Cohesive IT Community & Culture Implementation
- IT Career Framework Implementation

**A FUTURE
McMASTER
DIGITAL
MOMENT:**



The 360 Online Experience

Christine is a prospective student trying to choose a university to attend in the Fall. Through online university ranking sites, she is drawn to McMaster University and when she visits the main website, she is able to find a welcome page where current students are able to upload their personal video testimonials to provide prospective students with a fun and engaging overview of their Mac student life.

Christine is excited by everything she learns and as she registers, she is able to create an online profile to assist her in her application process, including her preferred courses and residence location. She can also tailor what experiences she wants to have when she visits the campus.

Once accepted to McMaster, Christine's profile remains live and interactive, and she can choose orientation experiences, and the site also provides her with suggestions for activities that will help her to become more prepared, including interactive video chats with orientation volunteers. Through this interface, Christine is better equipped to adapt to her introduction to Mac and can create an experience tailored to her needs and preferences.

NAME

Christine

PROGRAM

First year Science

GOAL

Create a personalized online McMaster experience

WHEN

September 2020

WHERE

mcmaster.ca





Seamless Foundation

1 | Optimized IT Infrastructure

Creating a 'rock solid' IT infrastructure will provide a stronger IT foundation for McMaster's teaching, learning and research environments. A commitment to scalability, standardization, stability and sustainability across all of the underpinning IT components will result in optimization. This includes a focus on enhanced capabilities across a consolidated set of facilities and systems without sacrificing end users' needs. Infrastructure as a term is used broadly in this context, and includes all aspects of the important foundations that are used to deliver the critical building blocks and platforms that ensure other systems and solutions can be delivered. This includes the advancement of McMaster's IT Security posture and the implementation of a modern and cohesive identity and access management system.

- Mosaic System Enhancements
- Research, Teaching & Learning Technology Infrastructure Strategy
- Cybers Security Roadmap & Strategy
- Data Centre & Firewall Strategy
- Campus Storage & Backup Strategy
- Web Delivery & Development Strategy
- Digital Spaces Strategy

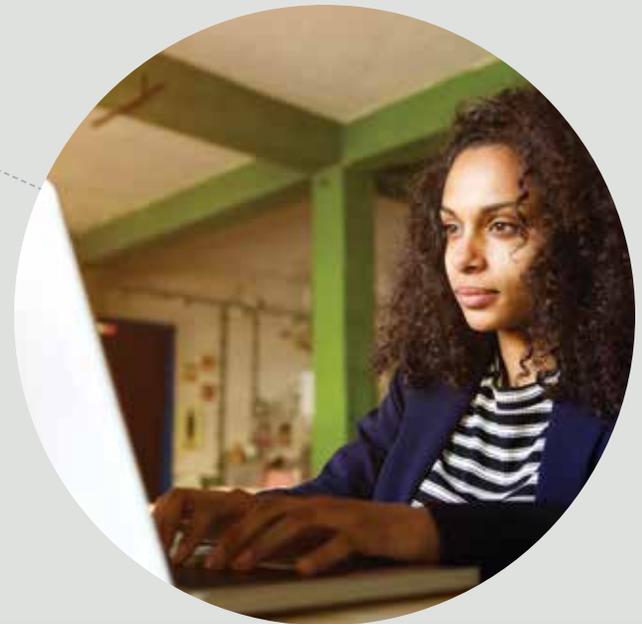
2 | Enhanced Productivity Systems

Trusted and easy to use productivity systems, accessed daily by end users to complete the tasks necessary for their roles on campus, are a critical element for institutional success. This includes 'utility' IT systems and tools and should provide value and enhanced capabilities that meet broad needs across the campuses. This objective will focus on improving systems that are already in use at McMaster, taking them to the next level through enhancements to usability, accessibility and delivery.

- Mosaic System Enhancements
- Cyber Security Roadmap Implementation
- Research, Teaching & Learning Technology Infrastructure Implementation
- Campus Storage & Backup Implementation
- Web Delivery & Development Strategy
- Digital Spaces Implementation

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- Cyber Security Roadmap Implementation
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**A FUTURE
McMASTER
DIGITAL
MOMENT:**



Accessibility by design

Thea is a first-year international student with a print disability that results in her having difficulty accessing print materials without the correct assisted technologies. Thea uses a McMaster integrated app with audio capabilities to access the online bus schedule. The app informs her which bus she will need to take to get to campus in time for her exam and interprets the online campus map to tell her which building her exam location is in.

Once on campus, Thea is notified through the app that her exam location has been changed. This doesn't alarm Thea as she knows the app can help her get to the new location using audio directed GPS beacons for navigating. Thea can also use voice to text in the app to communicate with her instructor, SAS coordinator, or friends through the app if she needs help.

After arriving on time, her exam is pushed to her laptop and she is able to complete the open book exam using her accessible textbook. Thea successfully completes the exam and joins her friends for a celebratory coffee.

NAME

Thea

PROGRAM

First year Engineering

GOAL

Use technology for better accessibility

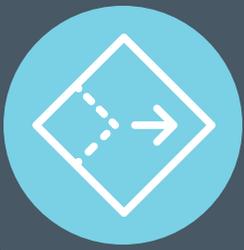
WHEN

September 2020

WHERE

mcmaster.ca





Transformative Information Technologies and Services

1 | Expedited Collaboration and Decision Making

McMaster's academic and administrative activities require collaborative and informed decision making. Investments in platforms and processes will focus first on implementing solutions that have already been identified as core requirements and then will create opportunities for the discovery and implementation of new initiatives that support the ongoing digitalization of McMaster.

- Microsoft O365 Roadmap
- Document Management & Workflow Strategy
- Data Governance & Data Management Strategy
- Contact / Customer Relationship Strategy
- Research Technology Services Review
- Mobile Applications Strategy

- Microsoft O365 Roadmap Implementation
- Document Management & Workflow Implementation
- Data Governance & Data Management Implementation
- Contact / Customer Relationship Implementation
- Research Technology Services Review Implementation
- Mobile Applications Implementation

2 | Reimagining the McMaster IT Experience

McMaster's evolution into a 21st century Canadian university with world class experiences for researchers, students, faculty and staff relies on investments in leading edge, data-driven technologies and innovations. Advanced technologies create a sense of pride and appreciation both for the individual delivering the solutions as well as the end user who experiences them. Delightful technologies, those that engage and create pleasure or excitement, that can offer unlimited potential for advanced and imaginative solutions to meet campus challenges will elevate McMaster to new capabilities and bring us closer to achieving the IT strategic vision.

- Document Management & Workflow Implementation
- Data Governance & Data Management Implementation
- Contact / Customer Relationship Implementation
- Research Technology Services Review Implementation
- Mobile Applications Implementation

Achieving our Vision

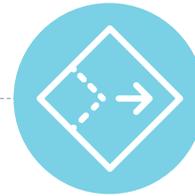
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CONNECTED.



SEAMLESS.



TRANSFORMATIVE.

A successfully delivered campus-wide McMaster IT Strategic Plan will fundamentally change the way McMaster University functions across all of its capabilities, creating the potential to differentiate the university and enhance its reputation. Achieving a 21st century institution can be realized through a sustained series of investments and a shift to a connected campus culture that sees the value in technology and strives to achieve the IT vision by delivering the objectives and initiatives outlined in this plan.

Committing fully to the McMaster IT Vision and the exciting future it promises to deliver, McMaster will excel in a new digital landscape and has no time to waste when preparing for the changing expectations and unwavering demand for personalized and supportive technologies. The ability to embrace technological change will improve the experience of all who engage in the mission of the institution, whether it be research, teaching, learning or the day to day administrative activities that help the university to function.

The McMaster IT Strategic Plan outlines changes on a scale that will require the effort, investment and commitment of the institution's leadership, IT service providers, and all campus communities and constituencies and will be fully dependent on a strong and cohesive culture that sees each individual at McMaster, regardless of their role, as an important partner and contributor to achieving the IT vision. This is as much a mindset as it is a series of initiatives and activities.

2016

November 2016 IT Services Review completed

2017

January 2017 First IT Executive Committee meeting

April 2017 IT Governance Standing Committees formed

August 2017 Gayleen Gray AVP and CTO joins McMaster University

August 2017 Microsoft Campus Licenses available to Students and Staff

September 2017 Aligning with the budget cycle: 9 project proposals reviewed through IT Governance processes

October 2017 Inaugural McMaster IT Forum

2018

January 2018 AVP & CTO commits to developing McMaster IT Strategic Plan

March 2018 McMaster IT Town Hall

March 2018 cto.mcmaster.ca website launches

April 2018 McMaster IT Strategic Planning Committee is formed

June 2018 McMaster wins 2nd prize in the 2018 CAUBO Quality and Productivity (Q&P) Awards for IT Services Review

June - July 2018 Storytelling the future: McMaster IT Strategic Plan community sessions with approximately 200 staff and members of the McMaster community

August 2018 Students & the McMaster IT Strategic Plan Digital Moments Activity

September 2018 First IT Student Advisory Committee (ITSAC) meeting

September 2018 Faculty discussions

October 2018 2nd Annual McMaster IT Forum

November 2018 McMaster IT Strategic Plan endorsed by IT Executive Committee

2019

January 2019 McMaster IT Strategic Plan 2019 – 2021 launched



McMaster **IT** Strategic Plan

2019-2021

<https://cto.mcmaster.ca/it-strategy/>

