University of Houston-Downtown
Information Technology

Technology Road Map
A Long-Term Technology Plan

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# Information Technology Long Range Strategic Plan

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Executive Summary

Changes in technology are taking place at an increasingly faster pace; and today’s high tech facilities and services can quickly become obsolete if not evaluated regularly. Add to this the significant transformation of UH-Downtown during the past few years, and we have a perfect formula for our technology systems and services to drift out of step with university needs and to be ineffective at supporting and promoting key objectives.

Over the years, IT has been working with key individuals across the university to review current and future technology needs and issues facing UHD. In the process, a set of long-term strategies have been developed to serve as a roadmap for technology-related initiatives over the next three to five years. Although the plan is a living document, IT Leadership reviews and updates the plan regularly to reflect the most recent technological issues facing the university.

The plan addresses a number of dynamics that will impact our environment as we strive to provide effective technology support in the future. The key drivers impacting the university’s technological needs were identified as:

- The changing demographics and characteristics of the student community and students’ expectations based on their personal experiences with technology prior to arriving at UHD;
- The shifting nature of university funding sources, and the impact on capital acquisitions and human resources;
- The changing higher education market and overlapping of the traditional institutional “territories,” along with the growth in presence of private education providers.
- The increased reliance on technology to reduce costs, enhance services, and improve student recruiting and retention.
- The recognition that most of our faculty, staff, and students have access to a significant number and range of technology resources, including high-speed Internet access from home and mobile devices.
- Previous and planned changes and growth in the size of the university, modes of instructional delivery, including academic programs, student body, and facilities.

This plan attempts to establish key technology strategies that will allow UH-Downtown to continue to meet current university technology needs effectively and also position the university to meet the challenges it will be facing in the coming years.

The goal is to incorporate this long term technology plan into the unit planning process to serve as guiding principles for technology-related initiatives. We will ask that each top level executive require technology-initiative requests to be directly tied to strategies identified as priorities in this plan. We will also work with the university community and university leadership to ensure that this document continues to be updated regularly to reflect changes in university priorities and technology needs.
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Mission Statement

Information Technology at UHD plays an integral role in identifying and supporting opportunities for the University of Houston-Downtown to meet its mission and objectives through strategic use of technology. Our mission is to empower our students, faculty and staff to meet or exceed their goals by providing quality, up-to-date technology infrastructures and services that support and facilitate all facets of learning, research and service at the University. The unit’s key deliverables are:

- Build and maintain a secure and robust technology infrastructure;
- Provide technology support for all academic and administrative units, and the university as a whole;
- Explore innovative technological opportunities to improve instructional and administrative services;
- Promote collaborative initiatives involving technology;
- Advise university leadership in leveraging technology to achieve strategic objectives and goals.

Strategies

This plan covers addresses two types of strategies: Global strategies that address all IT related activities/initiatives and have university-wide impact and participation, and functional strategies that address major areas of service provided by UHD IT.

Global Strategies

Comprehensive Business Continuity Plan:
Develop a comprehensive university operating plan to address all facets of the university’s key services and establish specific actions and accountabilities for reinstating those services in the event of disaster or major interruption.

Formal Assessment and Continuous process improvement:
Develop a clear and formal assessment methodology as an integral part of all technology-based initiatives that include clear and measurable objectives along with appropriate success measures and concrete demonstrable action to improve processes based on the assessment results.

Integrated Information Security:
Information fraud and privacy concerns are now a top priority of most IT organizations. IT must play a leadership role in remaining aware of information security and privacy issues, and take all steps necessary to minimize risk to the university community.

Centralized IT Services with Decentralized Functional Support:
In order to maximize the use and effectiveness of resources at UH-Downtown, the university will operate with a centralized IT services model while promoting functional support at the unit levels in coordination with the central IT services unit.

Effective and efficient Project Management:
Establish and implement project management processes to support all major IT projects using an agile...
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project management methodology that is suited to support IT projects in effective and non-intrusive manner.

**Functional Strategies**

**Functional areas of focus:**

**Enterprise Systems Management**
Planning, development and implementation of Information Systems that support major institutional functions at UHD;

**Training and Support Services**
Empowering our faculty, staff and students to take advantage of available technology at UHD, when appropriate, to achieve their goals and objectives;

**Technology Infrastructure**
Creating a technology-enhanced environment within the UHD campuses and externally that will allow delivery of services to our users in an efficient and effective manner;

**Online and Distance Education Technology**
Developing a Technology Plan to support UHD’s efforts to deliver online and distance programs.

**Enterprise Systems**

Enterprise Systems are automated application systems that support the functions of multiple units and have (or have the potential to have) enterprise-wide impact. Examples of Enterprise Systems include the Banner Student Records System, the Blackboard Course Management System, and Document Management and Workflow Systems. Enterprise Systems are often integrated with each other in order to provide real time information to various user constituencies.

**Enterprise Systems Strategies**

- Rely on rule-based, commercial applications versus in house development for major applications where possible.
- Utilize a formalized review and selection process for Enterprise Systems that incorporates an impact analysis and assessment of total cost of ownership (TCO).
- Clearly assign application ownership, responsibility, and accountability for all Enterprise Systems. Procedures for ensuring information security and privacy standards should be defined for each application and implemented by application owners and information technology.
- Deploy Enterprise Systems that are web enabled and mobile friendly.
- Implement formal Change Management processes for new development and acquisitions. This should include implementing requirements for impact analysis and approval by all application owners before major changes are put into operation.
- Develop and implement a comprehensive and decentralized Data Reporting, Data Warehousing and Business Intelligence software strategy
- Promote effective and proficient use of Banner Student Records System and university resources as required to meet university needs.
Training and Support Services

The focus of the Training and Support Group is to determine the current state of UHD's training and support services, and to develop long-term technology strategies designed to empower faculty, staff and students to take advantage of available technology to achieve their goals and objectives. The group's efforts facilitate the development of new processes, streamlined procedures, and assist with overall training and support endeavors of the university community.

Training and Support Services Planning Strategies:

- Encourage professional development and training for faculty, staff and students that is appropriate to their role in the university.

- Provide access to systems, training and support for instructional and administrative services and applications, including in-person, online and expanded after-hour support.

- Implement universal single sign-on to reduce the number of accounts and passwords issued to users.

- Establish, promote and, when possible, enforce mandatory orientation or training programs including new faculty and staff orientation programs, including training for ERP and LMS systems, student technology orientation training, and regulatory training programs.

- Increase the percentage of problem resolutions addressed by first-time trouble call response by utilizing real-time or online troubleshooting tools.

- Utilize and support new and widely used technologies such as mobile computing and social media to enhance services.

- Expand online training programs and support services; incorporate online training programs to support faculty and staff preparation for utilizing technology.
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Technology Infrastructure

After an extensive review of current literature and surveys of UHD students, faculty, and staff, the Technology Infrastructure Planning Group concluded that UHD's technology infrastructure must develop more aggressively to meet the need of its constituents. The need is further emphasized by the explosion in number and range of computing devices in use by the faculty, staff, students and prospective students, as well as the expectation that technology use must become progressively more pervasive in the university's operations and instruction.

Technical Infrastructure Strategies

- Build and maintain a robust and secure infrastructure, including the primary data center, to support all technology functions for the university.

- Enhance and expand high-quality and high-capacity wireless network able to support students in the classrooms and provide 100% percent coverage for wireless and mobile computing on campus.

- Implement information security best practices including all applicable compliance requirements.

- Support high quality streaming video service (video on Internet).

- Establish an operating redundant data center to support UHD's critical technology functions during primary data center outages

- Establish and Maintain technology standards for all classrooms to include a computer, a presentation system, a document camera, and basic network and cable connectivity.

- Increase automation in security and A/V control systems.

- Define and validate infrastructure and security implications of telecommuting and emerging modes of online education.
Online and Distance Education

Online and Distance education at UHD includes all credit programs where instruction is delivered to students not physically present at the UHD downtown location. Students may take courses online, and/or at one or more of the off-campus locations in the Houston Metropolitan area, sometimes in addition to taking courses at the downtown campus. Instruction at the off-campus locations is delivered both face-to-face and via ITV.

Online and Distance Education Technology Strategies

• Further develop innovative course scheduling/delivery methods such as use of hybrid and online courses.

• Expand inventory of online courses and programs including undergraduate and graduate online degrees.

• Develop alternative delivery capacity for new teaching centers and partner campuses.

• Expand program support and services for the Northwest corridor.

• Evaluate ITV course delivery options and explore alternatives such as streaming video to desktop and mobile device technology as they become more widely adopted and available.

• Facilitate expansion of online learning opportunities though the successful implementation of Blackboard LMS and online instructional and collaborative tools.

• Identify infrastructure and support service needs to facilitate delivery of large online course sections.