Supporting the University of Florida
UFIT Contributions
2012-2013
CONTRIBUTIONS:
University of Florida Information Technology
2012 - 2013

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To view Supporting the University of Florida: UFIT Contributions online, visit:
www.it.ufl.edu/contributions.

The University of Florida: UFIT Contributions is a companion progress report to the University of Florida’s Strategic Plan for IT. To view the strategic plan online, as well as the recommendations of UFIT’s governance committees, visit: www.it.ufl.edu/vp-cio-office/strategic-plan.
Our benchmark is top-10 technology services for a top-10 university.

Elias G. Eldayrie
Vice President & Chief Information Officer
eldayrie@ufl.edu

UF Information Technology governance is a well-defined, transparent process. These topical advisory committees provide recommendations and guidance on policies, standards, and priorities in support of the university’s mission and business goals.

Information about the six advisory committees can be found at:

www.it.ufl.edu/governance/advisory-committees/
Which of the University’s strategic directions are addressed by this project?

- Grow the University
- Create a Culture of Operational Excellence
- Reduce Risk

EDUCATION AND OUTREACH:
Enhancing the university’s virtual and face-to-face learning environments remains a top priority. UFIT continues to expand online and distance course support while also improving the ‘bricks and mortar’ educational experience.

Strategic Actions
- Provide support to expand UF’s course management system
- Bridge the university’s analog classroom learning space environment to a fully collaborative, digital environment
- Increase support services for distance and online learning

Outcomes Achieved
- Completed a substantial software upgrade to the e-Learning system that expands user capacity, database performance, and several instructor components
- Enhanced physical spaces (classrooms, lecture halls, labs) for the College of Fine Arts, the School of Architecture, and Flint Hall
- UFIT’s instructional design team produced 55 online courses during the 2012-2013 academic year

"Online teaching removes the prescheduled 50-minute classroom limitation and allows instructors to meet their students wherever and whenever they are, comfortable and ready to learn. UFIT is well-equipped with knowledgeable and helpful personnel to support this effort."

Ximena Moors
Lecturer
Spanish and Portuguese Studies
College of Liberal Arts & Sciences

CONNECTING DISTANCE STUDENTS AND FACULTY THROUGH DIGITAL MEDIA

<table>
<thead>
<tr>
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<th>VIDEOCONFERENCE REQUESTS</th>
<th>LIVE STREAMING EVENT VIEWS</th>
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32% INCREASE
34% INCREASE
“It is time we created more effective learning experiences that increase knowledge retention,” said Dr. Wendell Porter, professor of agricultural and biological engineering.

Dr. Porter is doing just that. His class, Global Sustainable Energy, is among the original courses developed for the Provost’s e-Learning Initiative. This initiative led the way to improve learning outcomes and reduce instruction costs. To meet these goals, UFIT’s Center for Instructional Technology and Training worked with Dr. Porter to apply pedagogical best practice and IT tools to build an exemplary course.

Dr. Porter was surprised on his first meeting with instructional designers on converting his course into an online course. “I was told that I wouldn’t be delivering a 50-minute lecture anymore, and that there was a whole new way of doing things. I got curious.”

Three years later, Dr. Porter is among the first to participate in the university’s Massive Open Online Course (MOOC) effort. “I have 22,000 students enrolled in my current Coursera course. The perspective brought by students from around the world makes Global Sustainable Energy truly global.”

Dr. Porter’s experience with online courses benefited all modes of instruction he uses in his teaching. “I’ve taken the tools I learned for the online learning environment and applied them to in-class learning. Working with UFIT’s instructional designers has made me a better teacher. I’ve learned to mix the online and in-class technologies and evaluation techniques to build a better, more effective learning experience.”

With UFApps, students now have access to many of the software applications available in campus labs...at any time, anywhere. Students can use their PC, Mac, Smartphone, or tablet, including iOS, Android, and Blackberry mobile devices, to securely use UF applications from anywhere in the world.

UFIT launched the UFApps program as a pilot in March 2013. Through May, applications have been accessed 17,082 times.

The “flipped classroom” is a form of blended learning, where students watch lectures online and work on problem sets with other students in class. This approach allows teachers to spend more time interacting with students instead of lecturing.

Because the 21st century classroom involves providing asynchronous content to students before, during, and after class hours, UFIT has invested the necessary resources to meet the growing demand for streaming capabilities. From May 2012 to May 2013, the demand for this service increased by 48%.

In May 2013, there were 736,588 streaming presentation views. In May 2012, there were 496,392 streaming presentation views. This is a growth of 48%.
RESEARCH COMPUTING:

A service organization for research faculty, providing academic, administrative, and IT services, is now in place. The full-service operation includes computational resources, grant preparation, training and outreach, technical consulting, and troubleshooting.

Which of the University’s strategic directions are addressed by this project?

- Grow the University
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- Reduce Risk

Strategic Actions
- Strengthen the competitiveness of UF’s researchers by providing high-level staff support from Science, Technology, Engineering and Mathematics (STEM) domain specialists
- Expand training and outreach activities offered
- Provide faculty with a simplified, standardized process to complete required documentation in support of high-impact research

Outcomes Achieved
- Increased participation in High Performance Computing activities from 200 to 500 researchers, allowing faculty to focus on research and efficient use of resources
- Improved the ability of the university to attract the finest faculty and graduate students
- Created synergies amongst previously decentralized research groups, improving collaboration and research outcomes
- Increased the visibility and reputation of the University of Florida in national and international arenas

“Our work depends heavily on computational power...we could build our own farm in our own lab if we wanted to. But to do that, we’d have to spend an extraordinary amount of time away from the science itself. Plus, there are costs that people don’t think about: air conditioning, power, redundancy, storage, upgrades. The time alone for just these tasks would take one to two graduate students. With the HPC we simply clear our mind and don’t have to worry about any of it.”

Adrian Roitberg
Professor of Chemistry
Quantum Theory Project

UF RESEARCH COMPUTING:
INCREASE IN EXTERNALLY FUNDED PROJECTS

CAMPUS RESEARCH NETWORK CAPABILITY EXPANSION
"I am very interested in how material fronts move, what is happening all around us," offered Dr. Bala Balachandar, professor of mechanical and aerospace engineering. "If it’s an oil spill, understanding how fronts move will allow you to prepare the coastline. We can learn how to mitigate disasters."

Balachandar is an investor in UFIT’s Research Computing Matching Program. The program provides funding to match faculty investments on a dollar-for-dollar basis, effectively doubling the buying power of UF’s faculty when working with the High Performance Computing Center for their computing needs. Computational resources and technical support provided by the HPC means that researchers can more fully devote their time to the science, said Balachandar:

"Say, for example, we want to simulate a tsunami," continued Balachandar. "This is a very large-scale problem requiring a comprehensive mathematical model that describes the various physics. When trying to solve these equations, we want to focus all of our energies on the Laws of Motion—not the maintenance of computers."

International research and education alliances with universities in France and Japan means Balachandar and fellow UF faculty members need the ability to compute, store, and move big data using HiPerGator, UF’s supercomputer.

"You want to have the most powerful computing machines at work for you. UF’s High Performance Computing Center plays a wonderful role for us because we need very big computers. The HPC has proven to be a valuable asset for us."
INFORMATION SECURITY AND COMPLIANCE:
Through more rigorous safeguards implemented in 2012, the University of Florida enhanced its ability to protect its data and IT systems. The additional safeguards include new policies, increased monitoring of university systems, and extended outreach activities.

WHICH OF THE UNIVERSITY’S STRATEGIC DIRECTIONS ARE ADDRESSED BY THIS PROJECT?
- Grow the University
- Create a Culture of Operational Excellence
- Reduce Risk

Strategic Actions
- Establish workflow and reporting metrics to determine value of Incident Management Program
- Collaborate with academic and administrative units to mitigate issues where restricted data may be at risk
- Provide digital forensics and investigative support services to Cabinet-level stakeholders

Outcomes Achieved
- Improved processes for campus-wide information security and data privacy incident responses
- Partnered with campus to provide forensic support for 111 investigations in 2012
- Implemented vulnerability scanning of Web applications for Restricted and Sensitive data, like protected health information and personally identifying information, reducing the risk of data exposure

MINIMIZING VULNERABILITIES FOR UF

IDENTIFIED AND RESOLVED
37,458 CRITICAL VULNERABILITIES

NOTIFIED SYSTEM OWNERS OF
4,917 MALICIOUS SOFTWARE AND VIRUSES

SECURITY SCANNERS
UF SECURITY MONITORING INFRASTRUCTURE

“UFIT staff and Employee Relations have created a great partnership. In 2012 we worked with the Information Security and Compliance group on proactive issues, including developing better policies for campus, and reactive issues, such as investigating more than 20 cases of potential misuse of university resources.”

Kimberly M. Czaplewski
Director, Employee and Labor Relations
Human Resource Services
Three topics in Amy Hass’s daily vocabulary: e-Discovery, compliance, and electronic records requests.

“Part of my role is to oversee litigation and disputes involving the university and its affiliated entities,” said Hass. “Everyone communicates electronically now, so I rely on UFIT’s Information Security and Compliance group as much—and maybe more—than any other group on campus for operational support.”

Regulations governing conduct and management in research, student and patient privacy, and data protection mean that UFIT depends on the expertise of UF’s legal staff.

“The explosive growth in technology creates an ever-changing environment,” stated Hass. “There are certain controls and protections we are required to have. We prioritize resources to advance client’s goals and minimize the university’s legal, reputational, financial, and operational risks.”

Now in her eighth year with UF, Hass has seen a definite change in campus IT awareness:

“The understanding of the impact of IT systems and services has definitely increased, as have the ramifications of creating and storing university data. When you have a CIO who is positioned centrally like Elias is, he and his staff can survey the campus and create a true inventory of systems and processes. That type of ‘central view’ allows UFIT to identify areas of need as well as cost savings for UF. It also enhances operational efficiency and timely compliance with legal obligations. We rely on our partnership with UFIT to navigate this era of ever-increasing regulations and requirements.”
WEB & MOBILE SERVICES:

The University of Florida is in the forefront of supporting Bring Your Own Device (BYOD), an environment where students, faculty, and staff utilize their own laptops, tablets, and other Mobile devices to learn, teach, conduct research, and manage the university’s business needs. UFIT supports these activities on an expansive list of devices and platforms.

Which of the University’s strategic directions are addressed by this project?
- Grow the University
- Create a Culture of Operational Excellence
- Reduce Risk

Strategic Actions
- Facilitate access to university-related systems and services
- Promote an image of the university as being in the vanguard of academia
- Ensure usability across all UF web resources
- Launch a responsive Mobile ‘m.ufl.edu’ application

Outcomes Achieved
- Conducted over 1,600 laptop diagnostic appointments for students, faculty, and staff in 2012, on a wide-range of device-platform combinations
- Developed intuitive applications for UF enterprise-wide services
- Expanded the number of Mobile devices that can be used to connect to UF academic and administrative systems
- Introduced native application for iOS and Android phones, allowing Mobile access of UF’s enterprise services

Outcomes Achieved
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“I was having a ‘policy key software’ problem that kept knocking me off UF’s Wi-Fi. I emailed the Help Desk and the problem got fixed the same day, and I haven’t had any trouble since. I really appreciate the speed of the UF Wi-Fi network, and the fact that I don’t need my Ethernet cable anymore.”

Gavin French
Sophomore – Biotechnology Major
College of Agricultural and Life Sciences
Christina Bonarrigo was elected president of UF Student Government this spring, but her commitment to serving students began early in her academic career.

“During my sophomore year I got interested in UF’s information technology environment because I was involved in efforts to consolidate the ISIS and e-Learning systems,” noted Bonarrigo. “From there I served on the Web Services Advisory Committee, the Tech Fee committee, and met with UFIT staff on several initiatives, like new software options for students.”

One of Bonarrigo’s high priority items as president is to add a ‘blue light’ application to UF’s Mobile offerings. A blue light app will provide an immediate notification option during an emergency situation on campus.

“When you’re in crisis you don’t have the time or frame of mind to think, ‘Where is the nearest blue light phone on campus?’” said Bonarrigo. “Student Government is working with Business Services, UPD, and UFIT to enable this technology.”

Bonarrigo understands the dynamics behind the issues her constituents raise, such as a consolidated login for student systems. She is confident UF administrators are truly engaged with, and dedicated to, providing students with the best experience possible:

“UF is the most student-friendly campus that I know of,” Bonarrigo stated. “I regularly liaison with students from both SUS and SEC network schools. We’re at the forefront of BYOD, which is so important to students. And, when I bring an issue of concern to the CIO’s Office, we get it resolved—usually very quickly.”
Which of the University’s strategic Directions are addressed by this project?

- Grow the University
- Reduce Risk
- Create a Culture of Operational Excellence

Strategic Actions

- Improve decision-making support for the Office of Admissions
- Streamline the university’s effort reporting system
- Develop a tool to better manage the financial aspects of sponsored research projects
- Enable new business opportunities

Outcomes Achieved

- Improved tracking and management by making the Admissions data warehouse into a more accessible, flexible tool
- Reduced administrative time needed to generate effort reports while maintaining all legislative requirements
- Deployed myinvestiGator, an online reporting tool, that quickly enables intuitive views of all sponsored projects
- Created the capability to track applications, admission, progress, and analysis of students enrolled in certificate and professional development programs

“myinvestiGator will save me significant amounts of time and money. It is a great example of administrative and IT services that truly serve UF by making faculty more efficient and allowing them to dedicate more time to UF’s mission of education and research – and less time to ‘administrivia’.”

José A. B. Fortes
Professor and AT&T Eminent Scholar
Department of Electrical and Computer Engineering
Director, Advanced Computing and Information Systems (ACIS) Laboratory

Administrative Systems
Faculty now have a tool to ease the burden of tracking the nearly $700 million in annual research funding they generate: myinvestiGator.

“Researchers have many funding sources, all with different rules and different reporting deadlines,” said Gray. “We asked them what would be most helpful to them, and they said something that looked and worked like online banking, but for research dollars.”

Gray joined the Office of Research in 2011. When she reached out to faculty for ways to improve research administration, she learned that easy access to up-to-date information on grants was needed. So, with Brad Staats, Assistant VP for Contracts & Grants, and Jim Ferrer, Assistant VP for Finance & Planning, Gray worked with UFIT’s Enterprise Systems to engage faculty to develop the best tool possible.

“There was a true gap in terms of fiscal reporting,” continued Gray. “It was clear we could substantially increase the value proposition by reducing the time burden faculty spent trying to keep up with their sponsored dollars. What they needed was a better view of what they had – not a new accounting system.”

Launched in December 2012, myinvestiGator was an immediate hit. Faculty involved in the initial project volunteered for the Phase II enhancements project. Gray said they are responsible for the project’s success:

“The level of faculty feedback and project participation was the key! Their input, coupled with great technical and functional project management, made it a joy to be part of a project that immediately upgraded the support we offer our researchers.”
Which of the University’s strategic directions are addressed by this project?

- Grow the University
- Reduce Risk
- Create a Culture of Operational Excellence

**Strategic Actions**
- Expand data center infrastructure capabilities and capacity
- Upgrade the Campus Research Network (CRN)
- Expand wireless services across university campuses

**Outcomes Achieved**
- Reduced risk and improved service recovery and continuity under disaster scenarios
- Installed the necessary infrastructure to connect UF to the Internet2 Innovation Platform
- Improved faculty opportunities for external funding and collaboration
- Created efficiencies that allow resources to be reinvested in other services

"Having this level of facility here, with the research staff and storage capacity, means we can get our computing done in a much faster timeframe—and timing is everything."

Paul Avery
Professor of Physics
Institute for High Energy Physics and Astrophysics
PARTNERING WITH CAMPUS
Putting Constituents First

Larry Benton
Director of Telecommunications
UFHealth

Larry Benton has seen a lot of technological advancements in his 37 years at UF.

“I started at UF in 1976 as an electrician,” said Benton, smiling. “And now, here we are, talking about managing VoIP phones and TDM systems with 25,000+ stations.”

This year, UFHealth collaborated with UFIT to expand the distributed antenna system, or DAS. A DAS is what makes Mobile technologies work inside campus classrooms, patient areas, and administrative buildings. Because UFHealth had prior DAS contract experience they provided a lot of “lessons learned” that benefitted negotiations for the main campus component of the agreement. Benton pointed out other advantages:

“You don’t have two distinct organizations negotiating telecommunications work on behalf of UF: we’re all at the table together, so campus systems will be consistent. Working with UFIT means faculty and staff have reliable service. Whether conducting clinical rounds, lecturing at McCarty, or cheering in the Swamp—the service is there.”

With so many vendors and Mobile platforms in use, it isn’t a given that cell phones always work on campus. While it’s important to have phone and data capabilities for faculty and staff, Benton pointed out that people come from all over for treatment at UFHealth’s hospitals and clinics.

“We want people to be able to stay in touch when visiting someone in the hospital,” said Benton. “It’s important for UF’s business model to think of the families we serve in UFHealth’s hospitals and clinics as well as our students, faculty, physicians, and staff.”

INTERNET2
UF is Connected to Internet2

The University of Florida is the only university in Florida able to move BIGDATA.

GATORNET
Enhancing Networking Services to Campus

Providing capacity and support to faculty and staff has been addressed by UFIT in a unified way through governance, collaboration, and strategic investments in both infrastructure and staff.

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Shared Infrastructure
BECOMING A TOP-10 ON THE WORLD AND NATIONAL STAGE

UFIT Staff Collaborate with Peers at Top Institutions Across the Globe

UF Information Technology supports the university's mission of teaching, research, and service. That support extends beyond campus borders: UFIT staff share their expertise with organizations nationally and around the world.

In 2012, UFIT staff served in leadership roles in higher education, scientific, technical, and social organizations. Our staff were invited to deliver keynotes, present at conferences, and published articles in peer-reviewed journals of the following organizations:

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<th>Name</th>
<th>Location</th>
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<tbody>
<tr>
<td>African Network for IT in Agriculture</td>
<td>Johannesburg, South Africa</td>
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<tr>
<td>Sonic Foundry/Mediasite Users Conference</td>
<td>Madison, WI</td>
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<td>Florida LambdaNet</td>
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<td>Sakai</td>
<td>Athens, GA</td>
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<td>OpenSFS</td>
<td>Salt Lake City, UT</td>
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<td>Philadelphia, PA and Arlington, VA</td>
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<td>Apereo</td>
<td>Worldwide</td>
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<td>United Way of Gainesville</td>
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<td>The Leadership Board for CSO</td>
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<tr>
<td>Sunshine State Edu &amp; Research Comp Alliance</td>
<td>Tallahassee, FL</td>
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UFIT's governance structure is poised to determine our next set of priorities, policies, and standards.

UFIT's leadership team is ready to meet the challenges of the 21st century academic environment.

UFIT's staff is trained in the technologies and has the customer skills needed to assist our large, diverse community.

It's very simple: UF Information Technology’s (UFIT) goal is to support the University of Florida’s mission of teaching, learning, and service. President Machen has made it a priority to support academic and research achievements that will result in Top-10 recognition for the University of Florida. Across the division, the commitment is steadfast: UFIT will respond to the academic, research, outreach, and business needs of the university in any way needed to meet the President’s goal.

This Contributions Report completes the three-year cycle of The University of Florida’s Strategic Plan for IT: 2011-2013.

We have learned a lot. We have done a lot of listening, planning, and executing. Partnerships across university campuses have been strengthened that will serve the institution well.

As a division, UFIT’s priorities are to Grow the University, Create a Culture of Operational Excellence, and Reduce Risk. The divisional planning and community engagement for the university’s next strategic plan for IT has already begun. Our commitment to the students, faculty, staff, alumni, and leadership of the University of Florida is this: UFIT will help our great university achieve Top-10 status.