

ITS Applications 2008-09 Annual Report

ITS Applications supports the mission and goals of ITS and the university by providing quality software and expert staff that connect individuals to their vision. We fulfill this purpose by providing and supporting:

- **Middleware and software infrastructure** – identity management, authentication, authorization, data access tools, enterprise workflow, e-communication, e-commerce, and other software
- **Utilities and tools for software and Web developers** – developer environments, testing and deployment tools, developer productivity tools, monitoring and reporting utilities
- **Enterprise-wide applications where we possess business knowledge** – enterprise portal, group e-mail, Web-based collaboration software
- **Administrative applications for ITS** – administrative, accounting, billing and reporting applications for ITS
- **Contract programming and Web development resources for campus departments** – solutions that departments pay us to develop or maintain for them

In addition to the services above we also provide:

- Consulting to departments on technical issues
- Education to the community
- Leadership through best practices and research and development
- Facilitating solutions, processes, and/or policies with a broad campus impact

Priorities

Last year, we identified the following important initiatives for 2008-2009:

- Enhance the existing Apollo system and plan for the next generation authorization system.
- Continue work with the developer community and ITS Systems to incorporate Python into the administrative toolset.
- Extend the document upload solution developed for SIS to a more general campus solution.

These three items were also identified by the Administrative IT Leaders group as their highest priorities for the year. While we did encounter some bumps along the road, we made significant progress in each of these areas, as described in detail below.

Apollo Enhancements

In June 2009, we installed a new version of Apollo, called Apollo Lite, which provides a more usable, streamlined user interface. Apollo Lite was well received by our stakeholders.

“Thank you all for your persistent dedication to producing a quality product. I'm quite excited about this new interface!” – Tim Tashjian, SIS

Since June, we've had an additional release that includes enhancements and bug fixes. Release notes are available at https://utdirect.utexas.edu/apollo/release_notes.WBX. While the project took longer than we anticipated, we produced something valuable and developed an improved roadmap for future

enhancements. Work continues on Apollo in several facets, including additional metadata and security improvements.

Python

In 2007-08, the administrative community identified Python as the next-generation Web programming language and Django as the next-generation framework for Web development. The implementation of these recommendations required training for a core set of developers as well as developing tools and an environment to support Python and Django applications.

In early August 2009, the Python Production Environment (PyPE) was launched and the first two production Python applications were installed, including All My Addresses, which allows users to update their biographical information. During August, PyPE served over 100,000 page views to the university community with 100% uptime. We consider that a good start, but recognize that there is still more work to do for Python and Django to be widely adopted.

Document Repository/Upload

In 2007, Applications developed a custom solution for SIS to upload documents for graduate student applications. In 2009, we generalized this solution to a more robust platform that is currently supporting several production applications and managing over 180,000 documents for HRMS, Liberal Arts, and Housing and Food.

Accomplishments

In addition to the prioritized items above, several other notable accomplishments for 2008-09 are described below.

Efficiency Improvements

Staff dedicated significant time to improving the efficiency of our own applications and also helped the campus community improve the efficiency of their applications. During the fall 2009 registration periods, the results of these efforts were clear, as the more efficient applications reduced the overall mainframe workload by 12% and the maximum daily processing activity by 7%, when compared to the fall 2008 registration period. ITS Applications contributed to these efforts in the following ways:

- **Enhancements to UT Direct core modules** removed these modules from the list of the top 20 programs with slow response times (according to ITS Systems).
- **The creation of a UT Direct Lite interface** that has been widely adopted by the administrative community. The new interface conserves hundreds of thousands of Broker calls weekly.

“Once again, I would like to emphasize that the UT Direct team communicated well with clear and detailed instructions and made the process very easy to implement.” – Cheryl Fuller, IMA

- **The creation of a new Inbox** for electronic document approval. The new Inbox is 30% more efficient in terms of mainframe resources than the previous Electronic DEFINE Inbox, and provides a number of new features as well.

"Thank you for doing this! It makes life at UT easier." – Eddie Ibarra, Cockrell School of Engineering

- **Enhancements to the EID Logon page**, which eliminated approximately 300,000 Broker calls and 1 GB of transferred data daily.
- **Refactoring the TRAC system** for improved performance and greater separation of business rules.

"In the same vein, I have written a few notes but never one solely to express our appreciation of your TRAC team and all of the improvements that have been implemented this past year." – Nicole Evans, Jackson School of Geosciences

Identity Management

Progress was made on the uTexas Access Manager (TAM) project, but the project is taking longer than expected. During the last fiscal year, a TEST environment was implemented. A QUAL environment was also largely completed and thorough testing of the QUAL environment is scheduled to begin in November 2009.

In addition to work on TAM, we established a new build system for the uTexas Identity Manager (TIM) that includes over 300 automated integration tests. We began a monthly release schedule for TIM with release notes at <https://www.utexas.edu/eid/relnotes/index.php>. We added a new EID lock type for handling compromised credentials and worked with SIS to move student EID affiliation management closer to the appropriate business area. Since January 2009, we have implemented 54 bug fixes and 26 new features and enhancements to TIM.

e-Commerce

Two important e-Commerce projects that were completed during the last fiscal year were security enhancements to TXShop and the installation of a new credit card processing infrastructure. Stewardship for TXShop was transferred to Financial Information Services after security enhancements were implemented. The new central credit card application now provides a more generalized API, improved monitoring and reporting, and additional security features.

"Your speed on these requests has been wonderful. I really appreciate the fast turn around with my many changes." – Tiffany Burns, Development Office

In September 2009, the new credit card software processed 28,213 transactions for a total of \$9,715,041.18.

Accessibility

Accessibility consulting and testing continued to grow; staff spent over 600 hours in 2008-09 assessing applications, consulting with and educating Web developers, and improving the accessibility of the utexas.edu Web. Section 508 accessibility scores across campus rose from 22 to 69 percent, which we believe is the direct result of our focus on accessibility education and outreach with departmental Web developers.

In the memory of Dr. John Slatin, ITS Applications continued accessibility work funded by an ITAC grant rewarded to the Accessibility Institute. Funds from this grant were used to provide captioning services for popular video content, accessibility training scholarships, and additional copies of JAWS, a popular screen reader, for departments.

Blogs and Wikis

The blogs.utexas.edu service went into production in June 2009 and had over 175,000 sessions over the three summer months. The wikis.utexas.edu service is not yet in production, but had over 32,000 sessions for the month of August 2009.

“Again, my group wants to express their appreciation for this wonderful new feature provided by UT to its staff.” – Clair Lavaye, Center for Transportation Research.

New Search

In mid-August, we upgraded the search on <http://www.utexas.edu> from the Google Syndicated Search service that we have been using since 2003 to the Google Custom Search Engine (CSE). CSE includes a number of new features, including indexing domains outside utexas.edu, weighting domains for visibility, and uploading custom sitemaps for indexing. We are now recommending that any Webmasters who are using our older search technologies, such as Syndicated Search or htDig, upgrade to CSE.

Contracts

In the last year we have continued to see significant increases in contract programming opportunities. Contract programming services included targeted development projects (generally shorter than four months) and ongoing software and Web maintenance. Total contract revenue exceeded \$500,000, an increase of more than 50% from the previous year. Notable contract efforts in the past year included:

- Liberal Arts Career Services – new Web site and content management system
- University Interscholastic League – Web application for Prescribed Music List
- School of Architecture – application to manage material checkout
- UTeach Program – portfolio application for students

“The best part of all of this is that I have always—always—felt listened to. The team’s willingness to listen closely, never condescendingly and always with humor, has given me a great deal of confidence that the final outcome will be precisely what we need.” – Brett Westbrook, UTeach Program

- Undergraduate Studies – online advising application for undergraduate students

“I love what you all are doing. This is exactly what I had envisioned.” – Lara Harlan, Undergraduate Studies

- College of Pharmacy – Web-based continuing education application
- Counseling and Mental Health – online interactive Stress Management tutorial
- DIIA – installation and configuration of Drupal content management system

- College of Education – systems to manage applications to various programs

Community Support and Education

During 2009, ITS Applications continued to contribute to HRMS with staff time (2 FTEs), application enhancements, and business process support. Applications staff helped streamline the DEFINE Internals authorization system, enabling new HRMS authorization processes. Staff members also improved data management by programmatically creating authorization and routing records for the large numbers of new HRMS business processes. This saves HRMS functional staff from coordinating the creation of those records by hand. In addition to supporting the HRMS project, Applications also contributed two education coordinators to the analyst training program and spent hundreds of hours teaching classes on application security, accessibility, and Python/Django.

Blue Timesheets

The Blue Timesheets project was a collaborative effort between ITS Applications and the Division of Recreational Sports. The project, one of the first written in Python and Django, streamlined the process of part-time employees completing blue paper time sheets and submitting them to their supervisors for approval. The new application allows departments to identify themselves and their part time employees, assign those employees to supervisors, and create routes for timesheet approval. Once timesheets are approved, the application allows departments to submit the appropriate OV documents in *DEFINE. Currently this application is being beta tested by the Division of Recreational Sports. Other departments across campus, including ITS, have expressed interest in using the application as well.

Roadmaps and SLAs

One of our goals was to establish service level agreements (SLAs) and roadmaps for our critical services. We established SLAs for Web Central, TED, PyPE, UForge, Group E-mail and TIM, which are available online at <http://www.utexas.edu/its/services/sla>. Roadmap work has been done on several key products, and in the next fiscal year it will be completed and shared with our customers.

Software Practice Improvement

During the last fiscal year, we prioritized improvements in our software development processes. We launched a new Web site for improving requirements engineering. In addition, we have established more automated tests for our key infrastructure pieces and embraced version control, in the form of UForge, for our key applications.

How We Spent Our Time

The table below illustrates how Applications staff spent their time during 2008-2009.

ITS Applications - Time Allocation

Service/Activity/Project	Percent Time
Contracts	11.3%
Identity Management and Authentication	9.7%
ITS Support	9.6%
Education and Professional Development	8.3%
Developer Tools	3.5%
UT Direct	3.4%
Apollo and Authorization	3.4%
e-Commerce	3.1%
Python Production Environment (PyPE)	3.0%
HRMS	2.9%
Define Internals/Enterprise Workflow	2.7%
Document Repository	2.6%
Web Central	2.5%
Research and Development	2.2%
Unspecified Projects	2.1%
Community Assistance	2.0%
General	1.5%
Software Practice Improvement	1.5%
Organizational Hierarchy/Contacts	1.4%
blogs/wikis	1.1%
Electronic Office Management	1.1%
Web Tools (Urchin, WebXM, OUCMS)	1.1%
Accessibility/Usability	1.0%
e-communications	1.0%
Administrative and management time (estimated)	18%
TOTAL	100%

Looking forward

In the upcoming year, we plan to build upon the foundation we created last year. Major initiatives for our customers in 2009-10 include:

- Web Central/UT Direct Refresh
- Implement TAM in production
- Further Apollo enhancements

- More production Python apps

We will also align our department with the recommendations of the SITAC Report by improving efficiencies, focusing on infrastructure components and processes, and better meeting customer needs. In addition, we will continue work on improving our software development practices by implementing more robust requirements engineering, estimation tools, and improved quality assurance and testing. Through these efforts we hope to improve our ability to connect our customers to their vision.

Statistics and Usage

The following table illustrates the scope and impact of the work that ITS Applications does for the university.

Service	Description	2008-09	2007-08
uTexas Enterprise Directory (TED)	Campus LDAP used for queries	Over 4,000,000 queries a week	Not Available
XML Gateway	Gateway to enable non-mainframe programs access mainframe data	3,857,858 transactions	1,187,511 transactions
Document Repository	Set of APIs and repository to store uploaded documents	171,000 documents stored (May – August 2009)	New service, not available
PyPE	Python Production Environment	26,240 sessions (August 2009)	New service, not available
UTForge	Subversion repository and software collaboration suite	9,000 sessions (Summer 2009)	New service, not available
Web Central	University's main web presence, www.utexas.edu	4,000,000 page views per month (UT Home page)	4,000,000 page views per month (UT Home page)
Mysoft	Telecommunications accounting and billing tool	208,461 transactions were processed and billed for a total of \$15,751,636.79; 39,182 work order items	209,562 transactions were processed and billed for a total of \$15,310,788.83; 40,133 work order items
DEFINE Internals	Infrastructure software used for enterprise workflow and authorizations	Over 177,777 documents created and routed each month thus far/January – September 2009	Over 158,000 documents were created and routed each month for calendar year 2008
mobile.utexas.edu	UT Web resources designed for mobile devices	1,150,000 page views	989,000 page views