2015-16 ITS Strategic Plan

Enabling an **Unbounded** University

Update: July 31, 2015
Initiative: Agility Through Technology

Vision
Support student success through the innovative use of technology in the classroom and across campus, while supporting automation of SJSU’s administrative functions.

Mission
Enable Unbounded Learning

IT Strategies
- Enabling Academic Innovation & Collaboration
- Building the Digital Campus
- Supporting Agile Administrative Services

Key IT Programs
- Next Generation Classrooms
- Collaboration Solutions
- Next Generation Campus Technology Architecture
- Ubiquitous Broadcast Messaging
- IT Service Consistency
- Student Success
- Administrative Process Automation
- Single Source of the Truth
- Productivity Improvements
- Enhanced Onboarding, Offboarding

Business Outcomes
- Increased Student Performance
- Reduced Average Time to Graduation
- Innovation in the Classroom
- Eliminate Procedural Obstacles
- Increased Campus Safety
- Secure Data
- Increased Connectivity
- Improved Communications
- Enhanced IT Services
- Improved Productivity
- Improved Onboarding, Offboarding
Where Are We Today?

What is Our Go Forward Vision?
Accomplishments – Removing Obstacles

- Creating ubiquitous connectivity through Network and WiFi upgrades
- Enabling anywhere/anytime access to labs and workstations through virtualization solutions, and BYOD (bring your own device) options
- Providing opportunities for innovation in the classroom through HD video, lecture capture and collaboration solutions: WebEx, TelePresence, Jabber, Google Docs
- Created an integrated voice, video, data infrastructure to power next generation technologies across campus: Unified Communications
### Removing Obstacles: Connectivity: Wi-Fi

**SJSU Mobility: 10x Wireless Capacity Added 2014**

#### Campus WiFi Heat Map

- Weekly Wi-Fi Traffic: ~30TB
- Monthly Wi-Fi Traffic: 120 TB

#### Wi-Fi Coverage Metrics

<table>
<thead>
<tr>
<th></th>
<th>Fall 2013</th>
<th>Spring 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number Unique Devices Connected 1st Week Fall Term</td>
<td>26,000</td>
<td>51,000</td>
</tr>
<tr>
<td><strong>Concurrent</strong> number of devices connected</td>
<td>4,626</td>
<td>14,700</td>
</tr>
<tr>
<td>SJSU Guests connecting</td>
<td>N/A</td>
<td>3,562</td>
</tr>
<tr>
<td>Total Wi-Fi traffic 1st week of school</td>
<td>1,239 (MB)</td>
<td>~30TB</td>
</tr>
<tr>
<td>Housing Student Residents</td>
<td>N/A</td>
<td>3,800 count</td>
</tr>
<tr>
<td>Number Wi-Fi Access Points</td>
<td>~ 700</td>
<td>~ 2,000</td>
</tr>
</tbody>
</table>

**Outdoor Wireless Installation: Fall 2015**
• **Obstacle:** Lab workstations were aged, non-integrated and difficult to support

• **Workstation Refresh:**
  — Refresh all student lab and common use location workstations: 1600 lab machines in 106 locations
  — Refreshed Faculty, Staff and instructor podium machines: 1,300 desktops, laptops, tablets and 1,100 monitors

• **Improved TCO/ROI:**
  — Thin PCs reduce device TCO, improve support and maintenance, increase lifespan

• **Virtualization:**
  — 75% of all central IT and Library servers are virtualized
  — 600% time-to-production efficiency

• **Single Sign-On:**
  — 80+ applications now use SJSUone including Canvas, WebEx, and Google Mail/Apps
  — Lab computers will be on SJSUone in the near future
Removing Obstacles: Classrooms

- **Obstacle:** Classroom technology was outdated making video to the classroom, PC screen projection, and lecture/capture nearly impossible

- **Next Generation Classroom Project:**
  - Integrated enhanced audio and HD video
  - State-of-the-art Telepresence and Lecture/Capture provided to 14 classrooms & 14 conference/meeting rooms
  - Spring 2015: 32 instructors / 45 classes being conducted in Next Gen classrooms
  - WebEx provided to all students, faculty and staff

**More Classroom Technology Updates: Fall 2015**
Removing Obstacles: Phones

**Legacy Voice Complexities**

- **Obstacle:** SJSU maintained 5 legacy phone systems – most were obsolete and not reliable
  - Library – 9 years old / no longer vendor supported
  - Housing – 7 years old / no longer vendor supported
  - Rest of campus – 8 years old and not reliable
  - Voicemail system – 8 years old (reliable)
  - Moss Landing – 8 years old and not reliable

- **Next Generation Phone / Unified Communications Project:**
  - Updated phone systems with Voice over IP system
    - 4,000 phones updated
  - Updated Call Center system
    - 14 Call Centers updated on campus
    - 17 locations
    - Self-service reporting
  - Improved reliability
  - Added functionality, call reporting and integration enabling collaboration for our faculty and staff
Obstacle: Computing resources were out of data, out of support, out of capacity

Implemented Private Computing Cloud
- Private computing cloud
- Enabling infrastructure to support campus computing needs – physical and virtual.
- Virtual server infrastructure
- VDI – Virtual Desktop Infrastructure

Implemented continuous data protection and replication between data centers, cloud environments

Diversified physical locations – risk reduction
Enabled Academic Innovation & Collaboration

- **Next Gen Classroom Technology** — Improved the classroom experience with video, lecture capture and collaboration solutions (WebEx, Google apps) that are simple and self-service ready
  - *And Provide technology integration support!*

- **Unbounded Pedagogies** — Supported innovative approaches to course design through collaboration solutions, classroom technologies, and lecture capture solutions

- **Collaborative Campus** — Provided collaboration platforms to enable anywhere/anytime access to educational resources (e.g., virtual office hours, virtual faculty and classroom collaboration, peer exchanges, video tutorials)

- **Virtual Social** — Enhanced the campus experience through virtual events (e.g., virtual student meetings, virtual alumni events, virtual fund raising, international virtual connections, virtual student council)
Built the Digital Campus: Agile Safety, Mobility & Communications

Broadcast Communications

- Activated: Campus mobile alert system with Rave Guardian smartphone app
  - All enrolled students
  - All employees who “opt-in” my.sjsu.edu

- Enabled 64 digital signs (green initiative) to streamline campus-wide messages; enable video broadcasts; improve security and safety
  - Allow remote access, rather than SIM chip updates
  - Anytime/any where content updates

Mobility and Connectivity

Built the Digital Campus: Agile Safety, Mobility & Communications

- Mobility and Connectivity

LAST CHANCE TO REGISTER FOR FALL SEMESTER CLASSES
This FRIDAY, AUGUST 28th, 2023

Anytime/any where content updates

Built the Digital Campus: Agile Safety, Mobility & Communications
Where Are We Today?

What is Our Go Forward Vision?
## Vision 2017 Agility Through Technology Committee Priorities FY 2015-16

<table>
<thead>
<tr>
<th>Priority</th>
<th>Function / System</th>
<th>Dependency</th>
<th>Priority Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Infrastructure Updates</td>
<td>Campus Strategic Plan</td>
<td>Priority Type</td>
<td>Complete infrastructure updates: Wi-Fi expansion (outdoors), Unified Communications phone and contact center installations, Network Infrastructure, Security (ISE), and Remote Access to Campus Secure Services via VPN.</td>
</tr>
<tr>
<td>1</td>
<td>Computer Center Facility Operationally Required Upgrades</td>
<td>Operational Requirement</td>
<td>Computer Center: UPS refresh, electrical refresh</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>A-G Student Success</td>
<td>Campus Strategic Plan</td>
<td>Operational Requirement</td>
<td>Supplemental Application Eligibility Processing College Scheduler Implementation SB1440 Associate Degree to Transfer Tracking</td>
</tr>
<tr>
<td>2</td>
<td>IPM Replacement (Document Imaging and Workflow)</td>
<td>IPM End of Life 12/31/2015</td>
<td>Operational Requirement</td>
<td>Replace IPM, End of Life, Out of Support-Used by Enrollment Services and Finance</td>
</tr>
<tr>
<td>3</td>
<td>Student Data Warehouse</td>
<td>SADW End of Life 3/1/2016</td>
<td>Operational Requirement</td>
<td>Replace SADW, End of Life, Out of Support. Reporting and support of PeopleSoft Student data, replacing SADW - this serves as critical support in the campus information architecture that helps make SJSU a more effective, more efficient organization supporting student success. It’s a resource to driving data-driven decisions and analysis.</td>
</tr>
<tr>
<td>3</td>
<td>Next Gen Rooms with High Definition TelePresence / Lecture Capture in Classrooms</td>
<td>Room Selection by Academic Affairs</td>
<td>Campus Strategic Plan</td>
<td>Video Conference/TelePresence, Lecture Capture Equipment control with iPad in room. Capability to add additional technology in the future</td>
</tr>
<tr>
<td>3</td>
<td>SJSU Web Portal with Single Sign On</td>
<td>Campus Strategic Plan, Agility Through Technology</td>
<td>Single sign-on via Web portal. Goal is that each person has a role with the Web Portal login that provides them access to only what they’re authorized. The portal functions provide group-identity specific messaging and announcements, deep links (preventing traversing through menus to get to what is most important to you - customizable by person).</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>WebEx</td>
<td>None</td>
<td>Campus Strategic Plan</td>
<td>Integrate with Google Calendar and Canvas</td>
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</table>
## Vision 2017 Agility Through Technology Committee Priorities FY 2015-16

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<tr>
<td>7</td>
<td>Expansion of Document Imaging and Workflow (Additional departments / functions to Enrollment Services and Finance)</td>
<td>Business Process redesign with electronic workflow</td>
<td>Agility Through Technology Committee</td>
<td>Imaging and Electronic Document workflow - HR, Faculty Affairs (faculty hiring), University Advancement, FD&amp;O, perhaps others.</td>
</tr>
<tr>
<td>8</td>
<td>SJSU Mobile App (m.sjsu.edu)</td>
<td>Request SSETF funds</td>
<td>SJSU Mobile application that integrates with PeopleSoft, Canvas, Google apps, other castudent service apps.</td>
<td>When student groups meet with ITS, this is their number 1 priority.</td>
</tr>
<tr>
<td>9</td>
<td>Video Chat with SJSU Students, Faculty, Staff Virtual Link on Web Pages</td>
<td>Virtual access via Web with video, like chat on Web pages, but with Video. Use case: Help Desks, Enrollment Support Services, Faculty Office Hours, Academic Tutors, Receptionists - where you would like higher level of customer interaction.</td>
<td></td>
<td></td>
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</table>
Building a Digital Campus: 2015-16 Next Generation Blueprint (continuing)

**Application Layer Projects**
- SJSU Mobile App
- Digital IP TV
- Messaging
- SJSU Web Portal
- Degree Audit
- Digital Signage
- E-Student Services
- PeopleSoft Enhancements
- Doc File share

**Platform Layer Projects**
- Next Gen Classroom
- WebEx
- Contact Center
- Doc Imaging
- TP/Video Conference
- Workstation Refresh
- Student DW
- Electronic Workflow
- Network Infrastructure Security (ISE) / Secure Data Center

**Infrastructure Projects**
- Virtual Machines
- Network
- Unified Communications
- Ubiquitous Wi-Fi

- App Layer
- Platform Layer
- Infrastructure
Enabling Academic Innovation & Collaboration

- **Next Gen Classroom Technology** — Fall, 2015-Spring, 2016 Build:
  - 35 Classroom TelePresence Mobile Units
  - 7 Next Gen Fixed Classrooms
  - *And Provide technology integration support!*

- **Unbounded Pedagogies** — Support innovative approaches to course design through collaboration solutions, classroom technologies and lecture capture solutions:

- **Collaborative Campus** — Provide collaboration platforms to enable anywhere/anytime access to educational resources (e.g., virtual office hours, virtual faculty and classroom collaboration, peer exchanges, video tutorials)

- **Virtual Social** — Enhance the campus experience through virtual events (e.g., virtual student meetings, virtual alumni events, virtual fund raising, international virtual connections, virtual student council)
Building the Digital Campus: Cloud Enablement

- Agility through unbounded access to lab technologies:
  - Simplify access by integrating sign-on requirements across labs
- Enhance Student Services: Admission to Graduation, Student Success initiatives
- Improve device and data security by moving data and devices to the “cloud”
- Reduce TCO for devices by virtualizing more servers, simplifying management
Enhancing Computing Resources

- Implementing central Active Directory services to the campus with file sharing support, maintenance
- Providing VPN services to campus resources
Building the Digital Campus: Agile Safety, Mobility & Communications

Safety and Security

• Bluephones will be upgraded to include IP-based cameras and phones
• Emergency broadcasts will encompass IP-phones in offices, bluephones, digital signs across campus
• Campus mobile alert system with Rave Guardian smartphone app
• Silent Alarm on campus phones – turns on microphone and silently calls UPD dispatch

Mobility and Connectivity

• Wi-Fi will be pervasive, supporting multimedia and video
• Digital signage will reduce paper (green initiative); streamline campus-messages; enable video broadcasts; improve security and safety
Students need to understand their entrance criteria for acceptance to an SJSU college.

The SJSU Eligibility and College Impaction Criteria provides high school and community college guidance counselors and students with a self-service evaluation of their courses, highlighting requirements such as GPA and course requirements.

Once accepted, students need a method to map transfer courses to program course requirements, and new courses they complete to ensure progress to degree.

The Degree Audit tool will map transfer courses against a degree algorithm to show students and advisors which courses are required and which requirements have been met.

Approaching graduation, students need a way to ensure they have met the degree requirements to ensure timely graduation.

The Degree Audit tool allows students to check graduation eligibility anywhere/anytime.

A Degree Audit algorithm will automate the application to degree course evaluation process to confer a degree.
Student Services: Improve Student Outcomes with Admission to Graduation Improvements

**Use Case**

- Colleges need to ensure qualified applicants are selected for admission to assure student success in their chosen programs.
- Determine student suitability based on college-defined criteria for impacted programs to ensure the best selection of incoming students is made.

**Technology Enablement**

**Pre-Admissions**

**Transfer Course Evaluation**

**Graduation Evaluation**

**Admissions & Evaluators Use Case**

- Evaluators need a more automated process to map prior course work to SJSU courses. Previously this was performed manually.
- The eligibility and impaction processing tool will use rules and algorithms to automatically map course work into the SJSU system to determine how completed courses will transfer.

- Evaluators need an automated method to compare degree applicants’ completed course work against degree requirements to identify degree eligible students.
- Degree Audit processing system will automate the degree completion comparison process and allow evaluators to spend more time identifying new opportunities to assist SJSU students.

**WILL MY CREDITS TRANSFER?**

Graduation Rates at 4-year Institutions of Higher Education (Cohort year 2009)