Accessible Technology Initiative (ATI)

First Year Web Report

1. Executive Summary

Since initiating activities on October 30, 2006, at the CSU ATI conference, the Web Accessibility Technology Initiative at San José State University has made significant progress in the major effort to make Web resources and services accessible to all students, faculty, staff and the general public, regardless of disability. The SJSU effort is led by an ATI Web Team, which reports to the Core ATI Committee headed by Executive Sponsor, SJSU Provost Carmen Sigler. The ATI Web Team has two sub-teams: Policy and Technical.

Communications and Commitment

To alert the SJSU campus to the ATI initiative, the ATI Web Team revised and greatly expanded the existing SJSU Accessibility web site (http://www.sjsu.edu/accessibility) on

February 5, 2007, to reflect the Coded Memorandum AA-2007-04, and included a quick link to the web site from the SJSU home page (http://www.sjsu.edu). A broadcast email from Provost Sigler was sent to all faculty, staff and students on February 5, 2007, to inform the campus about the project, its importance and its timelines. On January 29, 2007, the Academic Senate passed a Sense of the Senate Resolution (SS-07-1) affirming support for the Accessibility Initiative (http://www.sjsu.edu/senate/SS-S07-1.htm). A Presidential Directive, with our campus policy and commitments for the entire Accessibility Technology Initiative, was distributed by broadcast email on March 15, 2007 (http://www.sjsu.edu/president/docs/directives/PD_2007-02.pdf). All managers were sent an email on April 16, 2007, that as they did budget planning, any new web pages, as well as any major *look and feel* revisions, must conform to baseline accessibility standards, with campus-wide compliance by September 1, 2007. SJSU ATI Web Team committee members have spoken to the staffs of the president, vice-presidents and deans, and met with Academic Senate committees to inform them about the initiative and ask for their support and action.

Training, Evaluation, Repair

The identification of *the top 20 most accessed pages of the campus web sites* began October 30 – 31, 2006, with the SJSU team that attended the CSU ATI Technical Assistance Workshop in Los Angeles. When this team returned to campus, they shared this list and continued its refinement. The first obstacle they found, on a very decentralized campus, was that many web sites did not measure web statistics and when they did, did not use a common software or terminology in this measurement. The Web Services unit sent an email to campus webmasters clarifying that they were not asking for the number of *hits* per page, but rather the number of *page views*. Having reached agreement on this parameter, the Web Services unit then identified and tested Urchin software for measuring page access numbers. The unit also trained campus webmasters and collected the *most accessed page* data.

In January 2007, the Web Oversight Committee, an established entity at SJSU, identified for review 53 web pages that are most critical for students in their progress toward a degree. The ATI Web Technical Team identified the campus webmasters, editors and technicians associated with these pages and established a mailing list to communicate with them. Representatives of all the web pages attended the HiSoftware training. When it became apparent that the HiSoftware training was inadequate (e.g., off-site presenter, no opportunity for Q&A), the ATI Web Technical Team developed its own training workshop and manual for testing the web pages and all campus webmasters were trained by this home-grown method. SJSU's training was enthusiastically adopted as a model by other CSUs.

The ATI Web Team asked that all 53 pages be evaluated manually and using HiSoftware. Those departments with staff to do so completed the evaluation and repairs, based on the current state of knowledge. Departments without staff were allotted time to work with a consultant. Thus, the repair process is well along. Also, based on this process, campus webmasters are estimating the time, staffing and resources needed to remediate the selected sites entirely.

Future Accessibility Upgrades

A series of new templates to supplement the current few templates of the university's web site is under development. This process has been delayed primarily by a lack of technical solutions to JavaScript drop-down menus and keyboard navigation. We have learned that recent versions of JAWS screen reader (starting with version 5.0, 2003) support JavaScript, so it may be possible to keep some drop-down menus that use JavaScript with proper HTML coding. There is also confusion about the need to disable JavaScript. Some experts state that this is not necessary; we are awaiting a final decision by the CSU ATI Team. While current screen reading software will work effectively with JavaScript, keyboard navigation used by mobility-impaired individuals will continue to encounter problems with JavaScript.

The SJSU Web Services unit will ensure that the new templates will comply with Section 508. The wire frames and models were reviewed and approved by the Web Oversight Committee on March 21, 2007. Testing is underway and these templates are expected to greatly add to the ability of campus offices and departments to conform to most accessibility requirements. However, due to staffing constraints, including the resignation of the university webmaster as of April 27, 2007, there will be some delay in roll out for general campus use.

Findings and Recommendations

The Web Accessibility Technology Initiative is similar in scope, impact and complexity to the database transition to PeopleSoft that the campuses made recently. To achieve timely, effective and efficient results at individual campus and across the system, the CSU should provide centralized resources and funding to campuses so that they are able to hire dedicated staff and long-term consultants to move the project forward. We also recommend that the CSU address the accessibility issues posed by the PeopleSoft systems, WebCT, Blackboard and all LMS systems, since these are enterprise applications used by all.

To monitor and evaluate web accessibility, we have learned that no one tool does it all. HiSoftware addresses less than half the issues. We have used more than nine tools just for the assessment of one page. Given this hodge-podge of tools and no real standardized procedure for choosing and using them, we believe that campuses could make best progress with the ability to hire dedicated IT staff with the deep knowledge to assist and advise campus webmasters. This would eliminate costly and frustrating trial-and-error efforts by individual offices and ensure some consistency across the campus.

San José State is a highly decentralized campus with numerous servers and varying

levels of expertise among its many campus webmasters. The campus webmasters report to managers who have competing work priorities. This decentralization challenged our ability to communicate the importance of complying with Section 508 and added unanticipated levels of complexity to the work. The ATI Web Team's priority will be to achieve accessibility on the top 53 sites. Broadening our efforts to other sites will require additional funding, staff and time to achieve compliance. In addition, the campus should consider mandating a university-wide content management system with a set of accessible templates, rather than having to evaluate and repair the current highly decentralized web presence, which will ultimately cost more in time, training and resources.

The data for our first-year report is from campus webmasters who were identified early, promptly trained and completed their assessments with the ATI Web Team's assistance. We were very pleased with their enthusiastic response and hard work. We have discovered, however, that the evaluation and repair phases are far more labor-intensive than anticipated, with a steep learning curve for staff, the need for multiple training sessions and personal assistance from the ATI Web Team and consultants. The need to develop our own training workshop and manual was also labor intensive. Therefore, to expand the circle and get significantly more people on board, we need additional resources for training and IT support. Also, we have learned that there is an important need for dedicated administrative support to schedule training, appointments and meetings, as well as handle minutes and keep accurate records.

In summary, the ATI Web Team has made tremendous progress in achieving web accessibility. SJSU is the first campus to:

- Identify the most accessed sites and send this list to the Chancellor's Office ATI Team;
- Establish home-grown training to substitute for ineffective HiSoftware training;
- Write a training manual to substitute for the material provided by HiSoftware and

ATI;

- Hire a consultant to work with those units without staff to complete this work;
- Complete and fund a mid-year budget adjustment for consultants, software and training.

In addition, SJSU has sent several staff to the CSUN and CATS conferences to better understand their roles.

However, this effort has taken a tremendous toll on staff and administrators. Managers have reordered priorities and let other deadlines and commitments slip to complete this work. The cost of meeting this deadline has had a significant impact on staff morale, health and well-being. Thus we cannot emphasize strongly enough that additional resources are critical to the continuing progress and success of this important initiative.

2. Campus Cross Section (Before Reports)

In September 2006, the Web Services unit adopted Urchin, a web statistics software that analyzes individual hits and page views of a web site.

In October 2006, the Web Services unit, working under the instructions of the Web Oversight Committee, used Urchin to analyze the web statistics for departments, colleges and administrative sites inside http://www.sjsu.edu. The unit determined those pages most critical for students in their progress toward a degree.

Once the sites were reviewed for page views, the top 53 web pages (http://www.sjsu.edu/accessibility/web/critical/) were selected and sent to the Provost, the SJSU ATI Task Force for approval and then forwarded to the CSU ATI Committee.

The Campus Cross Section (Before Reports) are available at http://www.sjsu.edu/accessibility/web/first_year/reports/.

3. Repair Samples (After Reports)

In March 2007, when determining which web pages to remediate, the ATI Web Technical Team asked all campus webmasters that maintain one or more of the top 53 web pages to remediate their individual pages by April 17, 2007. The Technical Team acknowledged that with time constraints and levels of difficulty to fix each page, many campus webmasters would be unable to complete this task. However, because of the magnitude of the project, the team felt it was important for each campus webmaster to at least begin the process of remediation. Because of this foresight, more than seventeen campus webmasters successfully completed the remediation process by April 17, 2007. In addition, as of May 1, 2007, thirteen campus webmasters have requested assistance with the remediation process.

The Repair Samples (After Reports) are available at http://www.sjsu.edu/accessibility/web/first_year/reports/.

4. Summary of Actions Taken

Of the seventeen (17) surveys completed for each critical-list Web page evaluated and/or repaired, campus webmasters were asked to identify their top three issues:

- 3 reported issue with Checkpoint A – Text equivalents
- 1 reported issue with Checkpoint B – Multimedia
- 6 reported issue with Checkpoint C – Color
- 8 reported issue with Checkpoint D – Styles
- 2 reported issue with Checkpoint F – Client-side image maps
- 4 reported issue with Checkpoint G – Simple tables
- 3 reported issue with Checkpoint H – Complex tables
- 6 reported issue with Checkpoint L – Scripts
- 2 reported issue with Checkpoint N – Forms
- 4 reported issue with Checkpoint O – Skip links
- 1 reported issue with disabling JavaScript and CSS

- 4 reported issue with Semantic Validation

Of the total forty-four (44) issues reported, campus webmasters were asked if fixing the issue did or did not fix other pages:

- 25 did fix
- 19 did not fix

Campus webmasters reported the time spent resolving issues ranged from “less than 15 minutes” to “over 4 hours.”

- 2 less than 15 minutes
- 1 15 – 29 minutes
- 1 30 – 59 minutes
- 8 1 – 2 hours
- 15 2 – 4 hours
- 14 over four hours

→ *Average time = 2.8 hours*

Campus webmasters reported the effort / difficulty resolving issues ranged from 1 (least difficult) to 5 (most difficult).

- 2 1 (least difficult)
- 10 2
- 9 3
- 14 4
- 6 5 (most difficult)

→ *Average difficulty = 3.3*

5. Estimate for Campus Cross Section

Campus webmasters estimated the time required to remediate an entire web site for accessibility:

- 2 1 – 2 weeks
- 4 2 – 3 weeks
- 3 4 – 5 weeks
- 7 More than 5 weeks

→ *Average time = 3.8 weeks*

Campus webmasters estimated the difficulty required to remediate an entire web site for accessibility:

- 0 1 (least difficult)
- 0 2
- 5 3
- 4 4
- 7 5 (most difficult)

→ *Average difficulty – 4.125*

At the project's initiation in Fall 2006, SJSU ATI Web Team Chairs, Mary Jo Gorney-Moreno and Marty Schulter, estimated that they would need at the minimum, 2.5 Instructional Technology Consultants (career level, possibly one expert) to complete the deliverables for 2008 and continue to provide assistance and training to the campus community (webmasters, faculty and staff). SJSU has determined that we also need the assistance of the CSU ATI Team to solve some system-wide issues, such as the accessibility of PeopleSoft, WebCT, Blackboard and other LMS sites. At this time, SJSU is not prepared to accurately and completely estimate all of the costs to remediate the campus cross-section (top 53).

6. Campus-wide Trends

The ATI Web Team has identified JavaScript, tables, styles and skip navigation as campus-wide trends:

- JavaScript is a scripting language that enables web behavior to change in a dynamic manner (e.g., mouse-over, drop-down menus). Older versions of screen readers have difficulty reading web pages with JavaScript. Currently, there is no accessibility solution for keyboard navigation when using JavaScript.
- Tables are used for web page layout, and also used to display data in an easy-to-read format. Many campus webmasters do not properly tag their data tables to associate table cells with appropriate headers and summaries. If tables are properly tagged, screen readers will associate data in a cell with its summary.
- Styles (via CSS) are used for formatting (e.g., headers, footers, body text). If styles are not properly used, screen readers cannot properly linearize and present the content to the user in a meaningful way. In-line formatting, non-validating CSS, and not properly outlining web pages explain why many web pages are non-compliant. This issue also pertains to documents (e.g., PDF, MS Word) posted on-line.
- Skip navigation is the first hyperlink on a web page that allows users to bypass the headers and navigation elements and jump to the main content of the page. This feature is a key element for easy navigation of a web page and becomes critical when using a screen reader. Most web sites within sjsu.edu do not currently use skip navigation, resulting in many non-compliant web pages.

7. Organizational and Infrastructure Problems

The ATI Web Team has identified the following organizational and infrastructure problems:

- **The web infrastructure inside sjsu.edu is decentralized.**
  With the variety of technical infrastructure (e.g., content management systems and software packages), our ability to communicate the importance of Section

508 compliance was challenged and added unanticipated levels of complexity to our work. SJSU should consider mandating a university-wide content management system with a set of accessible templates, rather than having to evaluate and repair the current highly decentralized web presence, which will ultimately cost more in time, training and resources.

- **Communication and division-level buy-in are critical tools for compliance.**

  Our response to this challenge was the implementation of an outreach campaign, which included making presentations at executive-level, department-level and managerial staff meetings; creating a mailing list to directly communicate with campus webmasters; and expansion of the SJSU Web Accessibility web site (http://www.sjsu.edu/accessibility). This outreach campaign served its purpose for reaching the campus webmasters of the top 53 web pages and early adopters, but a more scalable long-term solution is needed.

- **Varying levels of staff skills and resources exist among campus webmasters.**

  The ATI Web Team developed a workshop and manual in order to train campus webmasters responsible for the top 53 web pages. This training program needs to be expanded to train the remaining campus webmasters. In order to do this and in turn, achieve Section 508 compliance, we require additional funding, staffing and time. This will require major organizational changes in terms of job descriptions for all campus webmasters. These job descriptions must include an accepted level of skills for Section 508 compliance. Incumbents will need to be trained to ensure their skills meet the new requirements. The current ATI Web Technical Team does not have the skills or resources to perform this training, and is currently performing this training above-and-beyond their regular full-time jobs. SJSU ATI Web Committee Chairs, Mary Jo Gorney-Moreno and Marty

Schulter, estimated that they need at the minimum, 2.5 Instructional Technology Consultants (career level, possibly one expert) to complete the deliverables for 2008 and continue to provide assistance and training to the campus community (webmasters, faculty and staff).

These three issues – decentralization, buy-in and resources – are so intertwined that they become a singular issue. In addition, a clear, well-defined set of requirements from the Chancellor's office is critical to the continuing progress and success of this important initiative.