

**THE UNIVERSITY OF TEXAS AT AUSTIN  
INFORMATION TECHNOLOGY ADVISORY COMMITTEE**

**SCHOOL/COLLEGE/ADMINISTRATIVE UNIT VISION PLAN TEMPLATE**

**SUMMARY OF REQUESTS**

The Accessibility Institute requests a total of \$110,070.00 to do the following:

1. Continue offering accessibility support from our newly established Student Web Accessibility Team to assist in creating online instructional resources that achieve accessibility for students with disabilities through the application of cutting-edge technologies to meet the latest international standards for accessibility
2. Upgrade the capacity of our Usability Lab which includes students with and without disabilities in rigorous user testing of online instructional resources
3. Develop online tutorials for the use of JAWS, the most commonly used screen reader on campus, for use by students with visual impairments and by developers of instructional materials.

**OVERVIEW OF CURRENT IT PROGRAMS AND INFRASTRUCTURE**

**Vision/Mission/Goals of Unit**

The Accessibility Institute integrates technology, accessibility, and learning for everyone through research, education, advocacy, consulting, training, and service. The Accessibility Institute promotes all aspects of Web accessibility by providing free training and consulting to the UT community, by conducting cutting edge research, and by proactively incorporating accessibility into all educational research and development activities.

***Goal:***

To ensure that UT Austin is the world leader in providing online instructional resources that are accessible to all students, including students with disabilities.

***Methods:***

- Perform regular assessments of online instructional resources against national and international standards for Web accessibility
- Provide accessibility training to faculty, students, and staff developing online instructional materials
- Carry out user testing to measure impact of accessibility barriers on students with and without disabilities
- Assist developers in integrating accessibility into project planning and design
- Develop online resources to support creation of accessible course materials
- Raise awareness through annual events such as the AIR University competition (2000-present)

**IT Programs** (*programs requiring recurring funds for salaries, operations, etc.*)

- Usability lab (user testing that includes participants with and without disabilities)
- Compliance checking (evaluation of online resources against national and international standards for Web accessibility)
- Accessibility training (face to face and online)
- Student Web Accessibility Team (conducts accessibility evaluations of instructional Web sites and participates in training Web developers)

**Infrastructure**

Usability lab:

- Desktop PC (Windows XP)
- PC laptop
- Mac laptop
- Video cameras
- Scan converter
- Mixer board
- Session monitoring
- Video recorder
- Morae remote usability testing software
- JAWS and Window-Eyes screen readers (for use by people who are blind)
- ZoomText screen magnifier (for low vision)

**Current and proposed funding sources for IT programs and infrastructure**

*Current:* annual allocation from Provost's office, ITAC funding, funding from the Department of Education via contract with Center for Disability Studies, plus one small grant from Humanities Texas to develop online training about making humanities materials accessible

*Proposed:* Actively seeking grants from private foundations and government agencies

**Best Practices**

We are developing and testing methods for the evaluation of accessibility issues in instructional sites. One of the best practices that we developed has been to have more than one person evaluate the same site in order to develop a shared understanding of evaluation criteria and to give better reports to clients. Student Web Accessibility Team members are being trained to help content providers exceed minimum requirements by drawing upon additional national and international accessibility standards and guidelines such as the Web Content Accessibility Guidelines and the National Center for Accessible Media's Guidelines for Making Educational Software and Web Sites Accessible. The team is also being trained to go beyond technical compliance to enhance the experience of users of assistive technology.

## USE OF PREVIOUS ACADEMIC YEAR ALLOCATIONS

### Programs

The purpose of the program funds was to establish a Student Web Accessibility Team to assist in creating online instructional resources that achieve accessibility for all students including those with disabilities. This team has been established. Although we originally proposed appointing two graduate research assistants and 2 undergraduate students, the final allocation limited us to hiring one graduate research assistant and three undergraduate students. Hiring two undergraduate students who are eligible for work study has allowed us to stretch the allocation.

We have appointed students with and without disabilities. They continue to be trained on accessibility issues as they work with creators of instructional Web content on campus. The first semester focused on recruiting, appointing, and training of students. We have also worked to develop a list of clients for our Student Web Accessibility Team services.

In the first semester our team has reviewed approximately 80 instructional sites designed for and by students. Some of the accessibility problems encountered included:

- Flash content that JAWS could not access
- audio content that a JAWS user could not start or stop, making it impossible for the student to hear text content on the page
- links to class materials on sites that were not accessible

As our Student Web Accessibility Team gives accessibility feedback about these sites, they help to raise awareness of accessibility challenges and common problems that students with disabilities face on campus.

In this first stage, we now have a number of clients who are interested in further collaboration on accessibility as they create instructional resources. At the time of this writing our clients include:

- Liberal Arts Instructional Technology Services
- Digital Library Services (UTopia projects)
- Computer Writing and Research Lab
- Services for Students with Disabilities

As our client list grows, the sites will present new opportunities for training students and developers about accessibility challenges.

### Infrastructure

The purpose of infrastructure funds was to upgrade and expand the capacity of the lab. Our plans include purchasing additional screen reading technology to allow more of our student team and developers on campus to assess their instructional content and interaction with assistive technology. We also are in the process of purchasing two new computers to offer more testing environments and to upgrade equipment in the accessibility lab. Any deviations in the purchasing plan were made to adjust for the differences between the awarded budget and the proposed budget. Specifically, our first priority was to establish the Student Web

Accessibility Team. In order to do this, it was necessary to (a) defer ongoing technical support and (b) reduce hardware and software purchases from 40% of the proposed budget to approximately 20% of the actual allocation.

**One-time Projects** (*describe stated purpose of funds allocated in previous Vision Plan and how they were actually used; explain deviations*)

N/A

## NEEDS AND PROPOSED USE OF FUNDS

### Programs

#### *Continued Services of Student Web Accessibility Team*

The Student Web Accessibility Team will continue to assist in development of online instructional resources that are accessible to all students, including students with disabilities. Members of the Student Web Accessibility Team will:

- Evaluate new and existing instructional resources for compliance with national and international Web accessibility standards (Section 508, Web Content Accessibility Guidelines)
- Work with faculty and instructional designers to develop solutions for challenging academic content such as mathematics, mapping, foreign languages, and interactive demonstrations; solutions that are most effective for students with and without disabilities will often involve cutting edge technologies such as Mathematics Markup Language (MathML), Scalable Vector Graphics (SVG), Synchronized Multimedia Integration Language (SMIL), Resource Description Framework (RDF), etc., as well as more conventional technologies such as XHTML, CSS, and client- and server-side scripting.
- Publish working examples and techniques in the How-Tos and Demos section of the Accessibility Institute site.

#### *The need*

Federal law, including the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, requires that University programs and activities be accessible to qualified students with disabilities. The US Department of Education's Office of Civil Rights has consistently held that this requirement applies to instructional materials that are provided online as well as those in print or other media such as video. In addition, Texas law requires state agencies, including institutions of higher education, to make online resources that are available to members of the public accessible to individuals with disabilities. An accessibility policy for the University of Texas at Austin is currently in effect.

As a working definition, online resources may be considered accessible when people with disabilities can use them as effectively as people without disabilities. From the technical standpoint, accessibility is defined by two related sets of standards:

- Section 508 (federal standards established by the US Access Board). These standards apply directly to federal government resources, and have been adopted by many other



- 1 scan converter
- 2 Macromedia Studio MX
- 1 license for JAWS screen reader
- 1 license for Window-Eyes screen reader
- 1 license for ZoomText screen magnifier

The equipment and software will support the Student Web Accessibility Team with evaluation and user testing of sites. It will update the equipment in the accessibility lab and allow us to continue to demonstrate the impact of accessibility on the use of instructional sites by allowing recording of users interacting with sites. These examples can then be used to demonstrate to instructional developers the experience of interacting with their site and impact of accessibility barriers on the user experience.

The licenses for assistive technology (screen readers and screen magnifier) increase our effectiveness by allowing members of the Student Web Accessibility Team to demonstrate assistive technology and perform accessibility evaluations at remote sites while other activities that require these tools are conducted at the Accessibility Institute offices. We also are requesting technology support to assist in the set-up and maintenance of equipment.

### ***Requested resources***

1 PC	\$2550
1 Power Mac	\$2999
1 digital video mixer	\$3449
1 scan converter	\$198
2 Macromedia Studio 8 (\$144 ea.)	\$288
1 license for JAWS screen reader w/SMA	\$1295
1 license for Window-Eyes screen reader	\$550
1 license for ZoomText screen magnifier	\$555
Total for Equipment & software: \$11,884	
Tech support (6 hrs/wk)	\$15,000
<b>TOTAL</b>	<b>\$26,844</b>

### **One-time Projects**

#### ***JAWS Tutorials***

The Accessibility Institute proposes to design and implement online tutorials that teach how to use the JAWS screen reader to access and use Web-based instructional content.

Providing an instructional experience that is accessible to students with disabilities requires going beyond the technical coding aspects of a site and examining the interaction between a site and the assistive technology that students use. For an optimal experience, students benefit from knowing how to use their technology to best access online instructional content

and any accessibility features it may offer. Instructors, designers, and developers of instructional Web sites need to understand and test the interaction between the sites they are creating and the assistive technology that students use in order to create instructional materials that are truly accessible.

Our experience and anecdotal evidence indicate that JAWS is virtually the only screen reader used by UT Austin students and faculty who are blind; it is also the leading screen reader on the world market.

The JAWS tutorials will address the needs of two audiences simultaneously:

1. UT Austin students and faculty who are blind; and
2. UT Austin instructors, designers, and developers who test instructional content to ensure compatibility with JAWS.

JAWS is a large and extremely complex application. Its main purposes are to:

- Convert all accessible content, including user interface controls, to synthetic speech; and
- To provide keyboard access to all Web content and functionality, as well as to the content and functionality of other applications (e.g., MS Office, Windows itself).

Part of this complexity is that JAWS often provides multiple ways to access a given type of content. For example, there are three ways to identify and activate links; three ways to identify and navigate through section headings; and three ways to navigate through and complete Web-based forms. Each of these methods has advantages in particular situations. However, user research conducted by the Accessibility Institute since 2001 strongly indicates that most JAWS users use only one technique, even when it may not be the most effective one for the particular page they are attempting to use. Only the most experienced and skilled users show the flexibility to vary their JAWS techniques to suit the particular content or optimize the use of accessibility features within a site.

The primary goal of these tutorials, then, is to offer UT Austin students who are blind the opportunity to develop the skills employed by the most experienced JAWS users, so that they can gain maximum benefit from Web-based instructional materials. The tutorials will provide the same information for Web developers and designers trying to make content accessible—developers and designers we've worked with over the years have repeatedly asked where they can find such information.

The tutorials will highlight techniques for using JAWS to access instructional content. For example, syllabi and calendars are often presented in a data table format. Online tests and login screens use form controls. The tutorials will focus on helping students learn multiple techniques for working with the types of content that frequently appear on instructional Web sites, such as links, section headings, data tables and form controls, which are often critical to successful completion of required coursework.

***Requested resources***

1 Graduate Research Assistant, 20 hours/week

<b>Grad. Res. Assist.</b>	Sept. '06 - Aug. '07	Salaries	\$18,342
	\$36,685/12 mos. Base	Fringe	\$4,769

2 Student Technical Assistants, 10 hours/week each

<b>Undergrad. Assist.</b>	Sept. '06 - Aug. '07	Salaries	\$9,270
	\$18,540/12 mos. Base	Fringe	\$2,410

Total salaries and fringe: \$34,791

Tuition

<b>GRA Tuition (2 sem/1 sum)</b>	\$6502
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User Testing

<b>Compensation to user testing participants with and without disabilities</b> (20 people/\$30 each)	\$600
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<b>TOTAL:</b>	<b>\$41,893</b>
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