



Accessible IT: Ensuring Inclusion for Everyone

Contributors

Randall Borst - Director, Accessibility Resources

Frances Fiscus - Workforce Data Analyst, EDI

Shaun Hoppel - Auxiliary Aids and Services
Coordinator, Accessibility Resources

Sharon Nolan-Weiss - Director, EDI

University Wide EIT Accessibility

- EIT (Electronic Information Technology)
- Why is Accessible EIT Needed?
- Legal Requirements
- Who needs Accessible EIT?
- When is Accessible EIT Needed?
- What makes EIT Accessible?
- Issues, Challenges and Best Practices
- UB Accessible IT Working Group

QUESTION

Think about how often you use electronic communication.

- Email
- Online banking
- Forms
- Videos
- Online trainings
- Surveys

What if these were not accessible to you?

Electronic Information Technology EIT

In many ways, the "wired universe" has acted as a liberating catalyst for individuals with disabilities.

Yet, the rapid advances in this sector can also pose serious technical barriers for individuals with disabilities.

The Major Categories of Disabilities Types

- Visual
 - blindness, low vision, color-blindness
- Hearing
 - deafness and hard-of-hearing
- Motor
 - inability to use a mouse, slow response time, limited fine motor control
- Cognitive
 - learning disabilities, distractibility, inability to remember or focus on large amounts of information

Why is Accessible EIT Needed?

Individuals who have visual, cognitive, hearing or motor impairments may have a difficult time accessing EIT thus preventing individuals with certain disabilities from performing required tasks:

- Reading Educational and Training Material
- Accessing Important Software
- Completing Class Work or Training
- Submitting online Employment Applications
- Reading email

Who Needs Accessible EIT?

As of 2014 - (Source: World Health Organization)

- Estimated 285 million people worldwide are visually impaired
- 246 million of those have low vision
- 39 million are blind
- Over a billion people have some form of disability
 - Upper & Lower mobility impairments
 - Deafness or hearing impairments
 - Speech or cognitive impairments

When is Accessible EIT Needed?

Yesterday & Today & Tomorrow & Future

Individuals with disabilities should have equal access to electronic information technology.

Accessible products help to ensure individuals are competing on an equal playing field with their peers.

Accessible products are necessary for an individual employee or student with a disability to perform the essential functions of his/her job or classwork.

Legal Requirements

- Section 504 of the Rehabilitation Act
- Section 508 of the Rehabilitation Act
- Americans with Disabilities Act
- Office for Civil Rights/Department of Justice Enforcement

Section 504 of the Rehabilitation Act

No otherwise qualified individual with a disability in the United States, shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

Section 508 of the Rehabilitation Act

Agencies must provide employees and members of the public who have disabilities access to electronic and information technology (EIT) that is comparable to the access available to employees and members of the public who are not individuals with disabilities.

The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology.

Section 508 of the Rehabilitation Act

- Eliminate barriers in information technology
- Make available new opportunities for individuals with disabilities
- Encourage development of technologies that will help achieve these goals

Dear Colleague Letter

Department of Education & Department of Justice
(June 29, 2010)

“Requiring use of an emerging technology in a classroom environment when the technology is inaccessible to an entire population of individuals with disabilities... is discrimination... unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner.”

“It is unacceptable for universities to use emerging technology without insisting that this technology be accessible to all students.”

Dear Colleague Letter

Department of Education & Department of Justice
(June 29, 2010)

“Emerging technologies are an educational resource that enhances learning for everyone, and perhaps especially for students with disabilities.”

“Ensuring equal access to emerging technology in university and college classrooms is a means to the goal of full integration and equal educational opportunity for this nation's students with disabilities.”

Legal Actions

Penn State accused of discriminating against blind students - November 2010 (Settled)

Disabled University of Montana students file complaint over inaccessible online courses - 2012 (Settled)

Harvard and MIT Face Lawsuit for Lack of Online Captioning - February 2015

Compliance Options

Universal Accessibility and Design - is seamless, inclusive, inexpensive and benefits a wide audience. Requires thought and planning at the beginning stages.

Individual Accommodation - uses alternative means to provide comparable access. This may take time to implement, requires ongoing communication and interaction, may be viewed as inequitable, may be costly, and benefits only the person requesting the accommodation.

Auxiliary Aids and Services

“Auxiliary aids” is defined by 3 CFR 102.103 as services or devices that enable persons with impaired sensory, manual, or speaking skills to have an equal opportunity to participate in, and enjoy the benefits of, programs or activities conducted by the agency.

(Source: <http://definitions.uslegal.com/a/auxiliary-aids/>)

For example, auxiliary aids for students may include

- Brailled instructional materials
- Audio recordings created via digital recorder
- Assistive Listening Devices
- Note taking aids, such as Livescribe Smartpens or Audio Note Taker software
- Human Readers or Peer Note Takers
- Alternative Format Text

Alternative Format Text Program

Inaccessible textbooks, articles and website materials must be provided to students with print-based disabilities in accessible formats, often for use with screen reading technologies.

Accessible formats may include Searchable PDF, Microsoft Word documents, or coding in LaTeX or MathML, which are scripts that describe Mathematical content.

These conversions are often complex and have long turnaround times, which may effect a student's timely progress through a course.

AREAS OF CONCERN

Procurement

- Much of the software and online products offered by the University is purchased by external vendors.
- The law does not require these vendors to offer accessible products.
- Purchasers may not be aware of the inaccessibility of the software or that this is even an issue.
- Vendors have claimed that their products are screen-reader compatible...when they are actually not!

Procurement: Best Practices

Ask vendors whether their products are 508 compliant.

Verify. Ask the vendor for a link or other means of testing for compliance. Contact Accessibility Resources for assistance in product testing.

Online resource: 508 Vendor Accessibility Resource Center

Email Communications

- Under UB policy, emails sent as mass communications should be sent as plain text.
- Many emails to listservs contain images, with or without text as part of the image.
- These will be invisible to individuals with sight impairments unless there is alt text describing the pictures.

What is Alt Text?



Alternative text, or alt text, provides semantic meaning and description to images.

It should be brief and appropriate to the context.

Alt text: "Planet Earth"

Multimedia

For individuals who are deaf or hard of hearing, videos must be captioned for accessibility.

Like most tools for universal accessibility, captioning also benefits other audiences: for example, English language learners, people who don't have or can't use their speakers.

Be certain that captioning is accurate!

Multimedia: Captioning Fail

<https://www.youtube.com/watch?v=wY0F31G-i9Y>

Multimedia

To promote access to individuals with sight impairments, videos can be audio-described:

<https://www.youtube.com/watch?v=peDy2st2XpQ&feature=youtu.be>

Blindness

Challenges	Solutions
Images, photos, graphics are unusable	Provide text descriptions, in the alt attribute and, if necessary, longer explanations.
Users generally do not use a mouse	Don't write scripts that require mouse usage. Supply keyboard alternatives.
Colors are unusable	Do not rely on color alone to convey meaning.
Individuals cannot see the events in videos	Provide audio descriptions of events in videos that cannot be interpreted by audio alone.

Cognitive Disabilities

Challenges	Solutions
Users may become confused at complex layouts or inconsistent navigational schemes.	<ul style="list-style-type: none">• Simplify the layout as much as possible.• Keep the navigational schemes as consistent as possible.
Users may have difficulty focusing on or comprehending lengthy sections of text.	<ul style="list-style-type: none">• Where appropriate, group textual information under logical headings.• Organize information in manageable “chunks.”

Deafness

Challenges	Solutions
Audio is unusable	<ul style="list-style-type: none">• Provide transcripts for audio clips.• Provide synchronous captions for video clips.

Motor Disabilities

Challenges	Solutions
Users may not be able to use the mouse	Make sure that all functions are available from the keyboard (try tabbing from link to link).

UB Accessible Electronic Information Technology Group

Roles & Responsibility

To ensure and coordinate accessibility for existing and emerging technologies utilized by the university, in order to meet the university's obligation to provide equal access to all technology-based services, activities and information.

A committee of professionals who are positioned to create an awareness of the university's responsibility to make choices and develop policies which will promote universal accessibility for all students and employees.

Areas to Explore

How do we level the playing field at UB to enable individuals with disabilities - the ability to engage in EIT so to perform their jobs/school-work and compete on an equal footing with their peers?

Compliance

Policies

Best Practices

Accessible Purchasing

Long Term Accessibility

Accessibility Needs

Assistive Technologies

Benchmarking

EIT Accessibility Audits

Vendor Product Accessibility Template

Testing

University Communication

Exception Requests

Checklists

Roles & Responsibilities

What Makes EIT Accessible

UB Accessible Electronic Information Technology Group

Phase 1: Identify Key Stakeholders

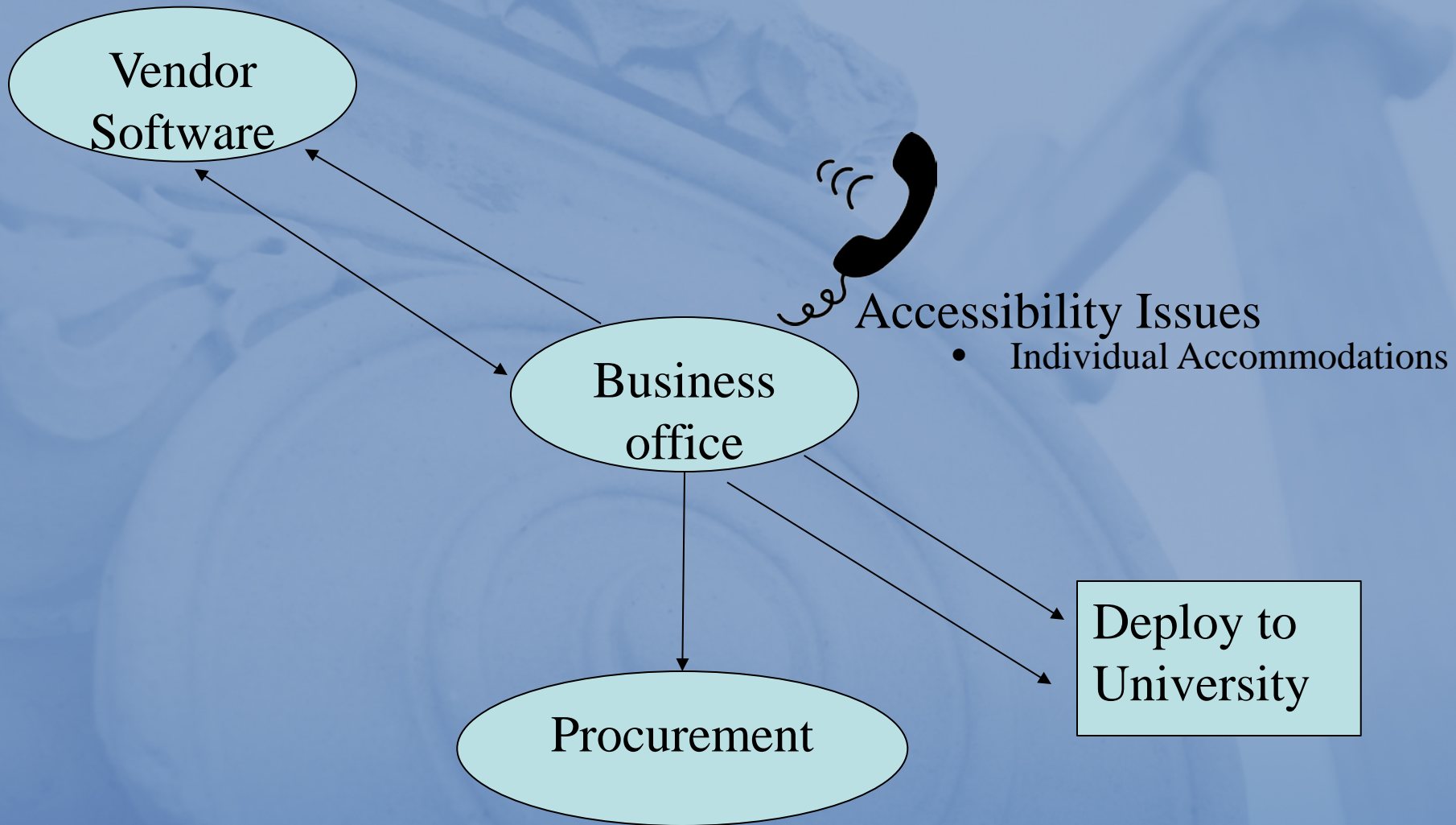
Individuals and departments on campus who:

- Support this initiative
- Have direct influence on the outcomes
- Possess expertise and knowledge:
 - Information Technology
 - Disability Services & Accessibility
 - Policy Makers
 - Procurement
 - Compliance
 - Communication
 - Academic programs

UB Accessible Electronic Information Technology Group

Phase 2: Needs Assessment

- What technologies are currently being used on campus?
- Are these technologies accessible to all?
- What areas / technologies are in need of improvement?
- Is accessibility being considered when entering into a contract with a vendor for purchasing software / hardware?
- Are web pages and online learning environments being designed with accessibility in mind?
- What makes EIT accessible?
- What are the policies?
- What are the measurements?



Potential Accessible Computing Model

