Accessibility: What it Looks, Feels and Sounds Like

Session presented by:
Valorie Sundby
John Rempel

AMAC Accessibility
College of Design
Georgia Institute of Technology

Presentation Objectives

AMAC ACCESSIBILITY

Introduction to AMAC and AccessGA

Introduction to Web Accessibility

Assistive Technology and Web-based Environments

Basic Principles of Accessible Web Content

Available Information & Resources

Session Presenter: John Rempel

John Rempel

QA Accessibility Analyst

AMAC Accessibility at Georgia Tech

Usability/Accessibility Specialist and Project Manager of AccessGA

Presenter: Valorie Sundby

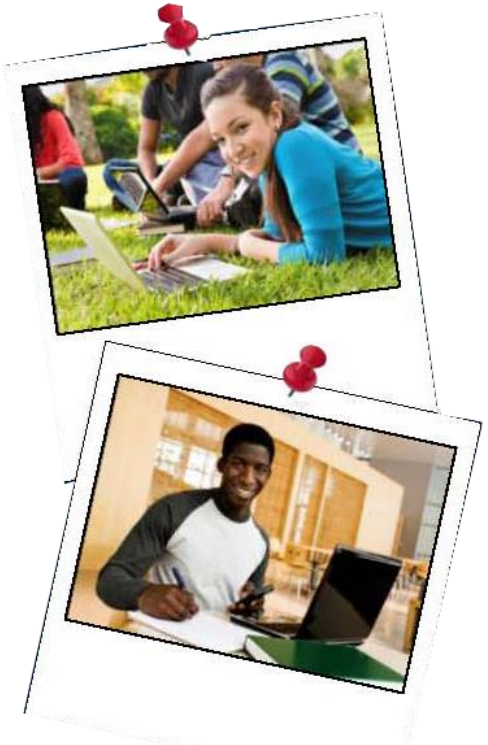
Valorie Sundby, CPACC, PCWA
Web Accessibility Compliance Specialist

Valorie is a Web Accessibility Compliance Specialist with AMAC Accessibility at the Georgia Institute of Technology and is a member of the IAAP Certification Committee.

“Accessibility is not a destination, it is a journey.”

AMAC Accessibility Solutions

AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private and non-profit organization working with individuals with disabilities. Services include e-text, braille, captioning, assistive technology, office management software and consulting.



AMAC Services

AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.

- **Accessibility Consulting** focuses on organizational accessibility needs with evaluation, technical assistance, customer support, and website accessibility solutions.
- **Braille Services** produces customized projects from both print materials and electronic text including partial books and chapters, or graphics only, using cutting-edge technology.
- **Captioning Services** makes classrooms, meetings, labs, and other audio environments fully accessible for the deaf or hard-of-hearing.

Additional AMAC Services

AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.

- **Audio Description Services** makes visual information present in multimedia accessible to persons who are blind or low vision.
- **Professional E-Text Producers** provide high-quality e-text in many formats such as PDF, DOC, DAISY, and HTML.
- **AMAC's Certified Assistive Technology team** provides on-site and remote assessments, demonstrations, training, and technical assistance for education, work, and daily living environments.

AccessGA

AccessGA represents a joint initiative of the Georgia ADA Coordinator's Office, AMAC, and GTA. The objective is to support Georgia's state agencies with ICT accessibility, and promote equal and timely access for employees and customers with a wide range of disabilities.

AccessGA Offerings

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Webinar Offerings

Technical Assistance and Hands-On Training

Monthly Newsletters

Up-to-Date Wiki of ICT Accessibility Resources and Information

Web Accessibility Audits

Procurement and VPATs

AccessGA
Georgia's Accessible ICT Initiative

Web Accessibility Group (WAG) for Higher Education

AMAC ACCESSIBILITY

Began 2011

Purpose

- **Bring together individuals seeking to comply with web accessibility laws and implement accessibility guidelines and best practices**

Benefits

- **Listserv**
- **Monthly (Online) Meetings**
- ***Special Events***
- **Spotlight**
- **Website**

What is IAAP?

IAAP provides a place for professionals & organizations to:

- come together to access resources and experts
- share best practices and solutions
- help an individual/organization navigate the complex landscape of accessibility

IAAP is a place to learn, grow and mentor others

- Provides a place for those new to accessibility and already experts in the field
- Influence change in how accessibility is applied and perceived

IAAP's Mission

The mission of the International Association of Accessibility Professionals (IAAP) is to define, promote and improve the accessibility profession globally through networking, education and certification in order to enable the creation of accessible products, content and services.

Website: www.accessibilityassociation.org

Introduction to Web Accessibility

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Definition

Web and Digital Accessibility

Accessibility ensures that **all** people are able to access digital information and perform tasks without encountering barriers.

- **“People with disabilities can use the web.**
- **They can perceive, understand, navigate and interact with the Web,**
- **and contribute to the Web without barriers”.**

W3C WAI

Digital Accessibility

Accessibility is **not compliance**

Accessibility is **user experience**: A page is accessible when a person with a disability can use it as effectively as people without disabilities

Accessibility is **distributed** across documents, Website and Web Applications, Assistive Technology, Operating Systems, Devices, and people

➢Accessibility applies to all types of content: Images, forms, tables, navigation, components etc.

WCAG 2.0

Web Content Accessibility Guidelines (WCAG 2.0) are a series of guidelines for making web content accessible for all users, especially those with disabilities.

The full current version of WCAG 2.0 lives here: w3.org/TR/WCAG/

WCAG 2.0 Level A, AA, & AAA

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Level A	**We must satisfy these requirements,** otherwise it will be impossible for one or more groups to access the web content.
Level AA	**We should satisfy these requirements**, otherwise some groups will find it difficult to access the web content.
Level AAA	**We may satisfy these requirements**, in order to make it easier for some groups to access the web content.

Mobile Everywhere, Anywhere

- Noisy Spaces
- Using One Hand
- Outdoor use in bright light
- Small-sized touchscreens
- Multitasking- Driving or Walking
- All Ages Using Mobile

How People with Disabilities Use the Web

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Auditory

Cognitive and Neurological

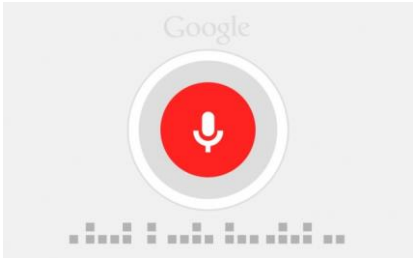
Physical

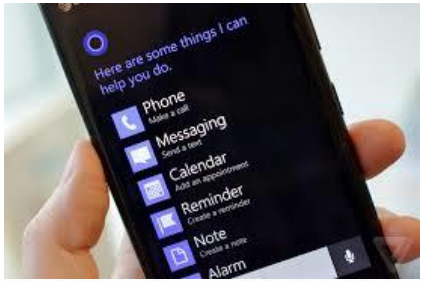
Speech

Visual

Speech-to-Text

- Siri (Apple)
- Google Now (Google)
- Cortana (Microsoft)





TTS and STT Combination

Text-to-Speech

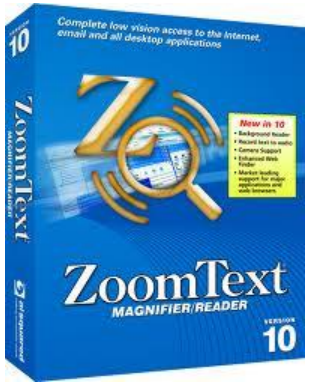
- JAWS
- NVDA
- VoiceOver (Mac)
- VoiceOver (iOS)
- TalkBack for Android
- Window-Eyes

Refreshable Braille Displays

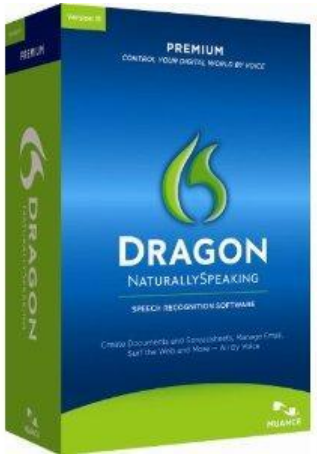
- **Refreshable Braille Displays**

Screen Magnification Programs

- MAGic
- ZoomText
- Windows Magnifier
- Mac Zoom
- Zoom and Magnifier (iOS & Android)



Speech Recognition Software



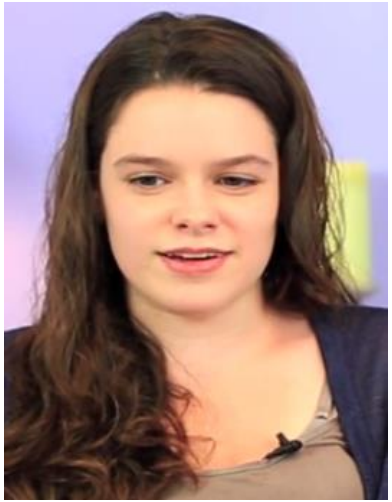
Turn spoken words into text

Connect with the timing of your thoughts

Dictation speed 70 to 100 words per minute

Video of Student Using Speech-to-Text Technology (3)

Video of Student integrating speech-to-text solutions into her personal life and educational pursuits.



ClaroRead

- Text-to-Speech
- Visual Highlighting
- Read back any on-screen text and program commands
- High Quality Screen Reader
- Keyboard Echo
- Save to Audio

Premier Literacy Suite

- Text-to-Speech software
- Post writing to “cloud applications”
- Scan and read documents
- Integrated Dictionary
- Create study notes

Perspective Videos: W3C-WAI

Perspectives Videos


Keyboard Compatibility


Colors with Good Contrast


Clear Layout and Design


Text to Speech


Large Links, Buttons, and Controls


Video Captions


Customizable Text


Voice Recognition


Understandable Content


Notifications and Feedback

Screen Reader Demonstration

- Title Page
- Links
- Headings
- Graphics
- Multimedia
- Tables
- Keyboard Access
- Low Vision

Georgia Technology Authority

- Recipient of the 2017 National Association of State Chief Information Officers (NASCIO) Award
- YouTube Link: https://www.youtube.com/watch?v=neoDnGXx-Uc&feature=youtu.be

GTA Content Specialist Certification

Class 1: Personas

Class 2: Citizen Journey Mapping

Class 3: Content Strategy

Class 4: Web Accessibility

Class 5: Writing for the Web

Class 6: Content Makeover

Link: https://portal.georgia.gov/interactive/blog/2017-06-05/open-sourcing-our-training-and-code

Basic Principles of Accessible Web Content

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1) Accessibility Statement

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Purpose:

- Set visitor expectations

Includes:

- Technology Standards
- Known Issues
- Accessible Alternatives
- Contact Information

Reviewed by Legal Department

2) Alt Text

Provide a text equivalent for every non-text element

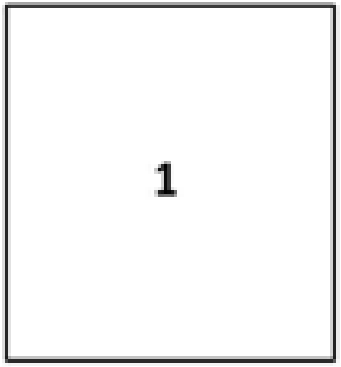
Alt text:

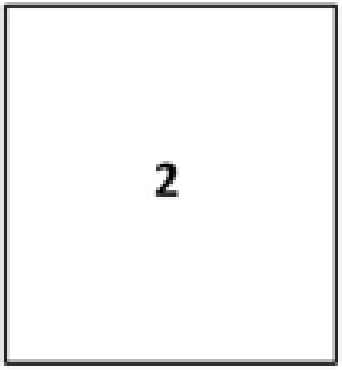
- Clear, concise description
- Approx. 120 *characters* or less
- Conveys function, purpose, or meaning

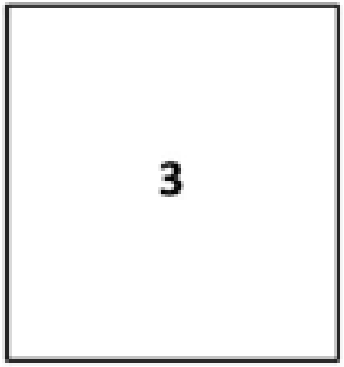
Long Description (in addition to alt text):

- When alt text alone isn't enough
- Surrounding text or link to a separate, accessible document

Can you imagine these images?







Consider Context

- **1) Website Content**
  alt = “Yellow tulips blooming in the Spring”
- **2) Horticulture Class**
  alt=“Tulipa gesneriana”
- **3) Image is a Link**
  alt=“Tulip Society of America”
- **4) Image is Decoration**
  alt=“”

3) Color and Contrast

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Pages are coded in such a way that the user can select custom foreground and background colors

Text and images of text provide enhanced color contrast

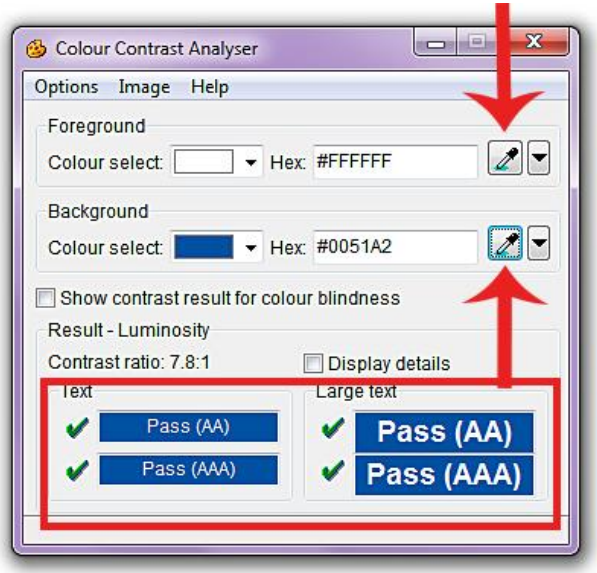
High contrast color scheme

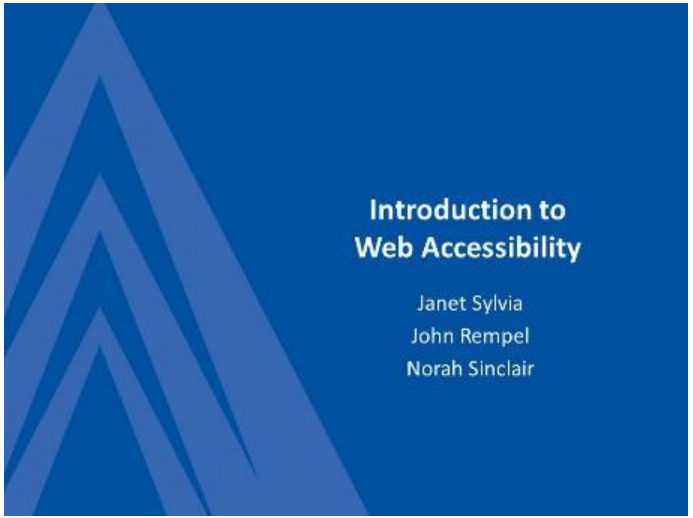
Background does not overpower text

Color schemes used consistently

Avoid color coding

Colour Contrast Analyser





Color-coded Course Content

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Technical Standards (Subpart B)

The standards provide criteria specific to various types of technologies, including:

- software applications and operating systems
- web-based information or applications
- telecommunication products
- video and multimedia products
- [redacted] (e.g., information kiosks, calculators, and fax machines)
- desktop and portable computers

This section provides technical specifications and performance-based requirements, which focus on the functional capabilities of covered technologies. This dual approach recognizes the dynamic and continually evolving nature of the technology involved as well as the need for clear and specific standards to facilitate compliance. Certain provisions are designed to ensure compatibility with adaptive equipment people with disabilities commonly use for information and communication access, such as screen readers, Braille displays, and TTYs.

Software Applications and Operating Systems (1194.21)

Most of the specifications for software pertain to usability for people with vision impairments. For example, one provision requires alternative keyboard navigation, which is essential for people with vision impairments who cannot rely on pointing devices, such as a mouse. Other provisions address animated displays, color and contrast settings, flash rate, and electronic forms, among others.

Web-based Intranet and Internet Information and Applications (1194.22)

The criteria for web-based technology and information are based on access guidelines developed by the Web Accessibility Initiative of the World Wide Web Consortium. Many of these provisions ensure access for people with vision impairments who rely on various assistive products to access computer-based information, such as screen readers, which translate what's on a computer screen into automated audible output, and refreshable Braille displays. Certain conventions, such as verbal tags or identification of graphics and format devices, like frames, are necessary so that these devices can "read" them for the user in a sensible way. The standards do not prohibit the use of web site graphics or animation. Instead, the standards aim to ensure that such information is also available in an accessible format. Generally, this means use of text labels or descriptors for graphics and certain format elements. (HTML code already provides an "Alt Text" tag for graphics which can serve as a verbal descriptor for graphics). This section also addresses the usability of multimedia presentations, image maps, style sheets, scripting languages, applets and plug-ins, and electronic forms. The standards apply to Federal web sites but not to private sector web sites (unless a site is provided under contract to a Federal agency, in which case only that

4) Hyperlinks

Link text should:

- make sense out of context
- describe the destination
- unique for each unique destination

Avoid

- Click here
- Email me
- URL text http://www.gtllo-b59-go2376c.html

Aggregated Links - Vague

Logo

Image

WAI

WAI

WAI

Link

Link

Link

Aggregated Links - Descriptive

Vague	Descriptive
Logo	W3C
Image	Web Accessibility Initiative
WAI	WAI Develops…
WAI	WAI Welcomes…
WAI	WAI Home
Link	Guidelines and Techniques
Link	Planning and Implementation
Link	Evaluation

5) Accessible Multimedia

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Audio-only

- **Text Transcript**

Video-only

- **Video Description**

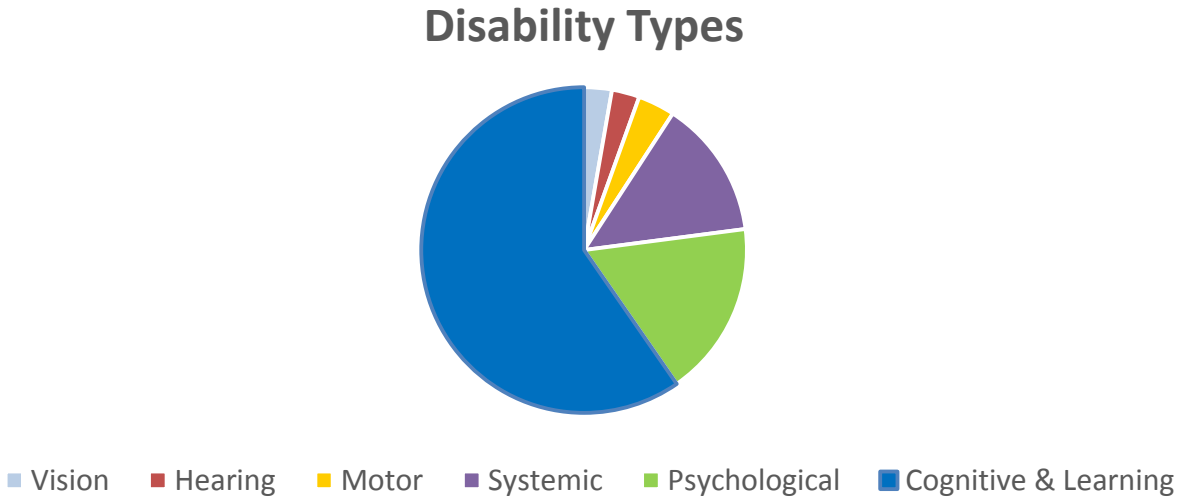
Audio+Video

- **Closed Captions**
- **Text Transcript + Video Description**

Accessible Media Player

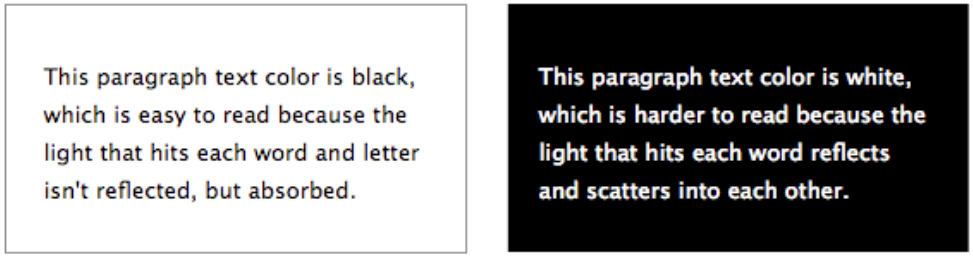
6) Readability

Ease with which website content can be understood



7) Text Resize

Text should be resizable up to 200% for users with mild visual impairments[1].



1. Large text is defined as ≥18px if not bold and ≥14px if bold, for which a 4.5:1 WCAG Level AA - desktop or 7:1 WCAG Level AAA contrast ratio is recommended for mobile.

“Common Sense” Approach

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Simple

Uncluttered

Logical

Intuitive

Readability Analogy

Website

Book

Basic Concepts of Readability

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Language

Page Titles

Skip to Main Content

Navigation

- Consistent

Structure

- Headings
- Lists (chunk information)

Font

- Consistent
- Left-justified
- Magnified 200%
- Simple
- Standard
- True Text

Images

Whitespace

Reading Order

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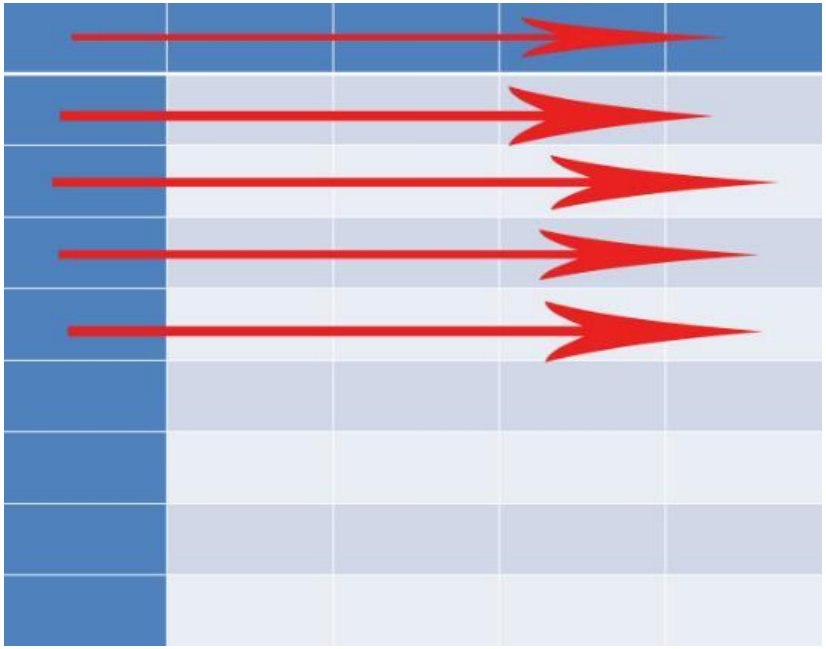
Makes sense when read from top to bottom and left to right



Contact Information

- **John Rempel**

  QA Accessibility Analyst

  - **Email: jrempel3@gatech.edu**
- **Valorie Sundby**

  Web Accessibility Compliance Specialist

  - Email: valorie.sundby@gatech.edu