• **Understand**
  - Accessibility best practices
  - Where to get more information

• **Be able to**
  - Conduct a four-point accessibility evaluation

• **Communicate**
  - Provide equal access to information and communications
Accessibility is not about disability; it’s actually about **ability**. It’s about making it easy for everyone.
Understanding Accessibility...

**VISION**
- Low vision, blind, color blind, etc.
- Screen readers
- Braille display
- High contrast settings
- Magnifiers

**HEARING**
- Deaf, hard of hearing, noisy environment
- Sign language
- Captions/Subtitles
- Transcripts

**MOBILITY**
- Muscular dystrophy, arthritis, injury, etc.
- Keyboard only
- Speech to text

**COGNITIVE**
- Learning disability, dyslexia, ADHD, etc.
- Digital content layout
- Information organization
Accessibility (A11y)

Digital accessibility content may be read by:

- Screen Readers
- Magnification Software
- Speech Recognition
- Other assistive technology
What are screen readers?

A form of Assistive Technology (AT) hardware, software, stand alone devices that increase, maintain or improve the functional capabilities of people with disabilities.
Types of screen readers

**JAWS**
Job Access With Speech

Screen reader program for Microsoft Windows that allows blind and visually impaired users to read the screen either with a text-to-speech output or by a refreshable Braille display.

**VoiceOver (Apple)**

Provides auditory descriptions of each onscreen element using gestures, a keyboard, or a braille display.

**TalkBack (Android)**

Adds spoken, audible, and vibration feedback to your device.

**ZoomText**

Screen magnifier for Microsoft Windows that allows you to see and hear everything on the computer.

Want to learn about Screen Readers? UDC and DRES offer Screen Readers training and demo.
Infographics, Flyers and Emails

**Is My Email Accessible?**

Creating accessible email content not only provides access to people with disabilities, it also improves the overall readability of the email content.

### Text
- Text should be clear and easy to read.
- Avoid difficult fonts.
- Ensure there is enough contrast between the foreground color and background color.

### Content Organization
- Use headings to organize content by category or topic.
- Use lists to organize information by ideas or processes.

### Images
- Images that convey important information require a text alternative that describes the image.

### Links
- Link text must be descriptive.
- Do NOT use link text such as “Read More,” “Click here,” etc.
- Best practice is to bold or underline links.
- Do not use color as the only method to convey important information.

---

**EMAIL Format**

To learn about accessible emails read more.

Visit the accessible emails page to learn more.
Infographics

- **What are infographics?**
  - Use pictures to represent words, freestyle design
  - An image is worth a thousand words
  - Group information by colors
  - Cluster information in a static order
  - Use extreme color contrast

- **What are the challenges with creating infographics?**
  - Text is not recognized
  - Layers may interfere with tagging of infographics
Accessible Technology/Universal Design Principles

The POUR principles support foundational considerations for accessibility.

- **Perceivable**: so that individuals with visual impairments can understand the information being conveyed
- **Operable**: navigate to information in multiple methods (not only the mouse)
- **Understandable**: understandable enough so that all different learning styles can engage
- **Robust**: IT products should be compatible with a user’s desired technologies or system preferences
When creating an infographic, designers should always consider the following accessibility best practices:

- Format
- Text display
- Images
- Links
- Color contrast
- Structure
- Mobile display
- Other considerations
  - Calendar Events in Web-One
  - Forwarding emails

Learn more about Infographics Best Practices
Infographic Format

• Image
  • Requires a transcript (text alternative)
    • Display below or next to the infographic
    • Link to the transcript (to an accessible file or web page)
    • Hidden (accessibly) in the web page or file containing the infographic
      • Web-One custom elements

• HTML and CSS
  • Follow web best practices

• PDF
  • Follow PDF best practices
Software client

Outlook
- Plain text
  - No structure but widely compatible
- Rich text
  - Follow Word best practices
  - Not compatible with every client
- HTML
  - Follow web best practices

Web/browser

- Gmail, Yahoo, etc.
- Email Marketing
  - MailChimp
  - Campaign Monitor
  - Etc.

Outlook 2013 and 2016: Creating Accessible Emails
• Clear and easy to read and understand
• Avoid using difficult-to-read fonts and small text
• Divide large blocks of text into smaller sections
• Avoid overly complex sentences
• Provide adequate whitespace
• San-serif font (Arial, Calibri, Tahoma, Verdana, etc.)
How might this image appear to a person who has a visual challenge?

Normal vision
Low vision
Color blindness
Blind or deaf-blind

Solution?
Images: Alternative Text

• Where possible, add a caption to an image. Captions are universal and accessible for everyone.

• Otherwise, add alternative text.

• Screen readers and other assistive technologies can’t convert images into words/texts.

• “Image of…”, “photo of…” is not needed.

• Be brief and descriptive text within 8 to 80 characters long.

Best practices for accessible images.
Links

• Check every link before sending.

• Use descriptive link text, not URLs.
  • *Always* in emails; *usually* in documents like infographics.

• Link text should clearly identify the target of each link.
  Good link text should not be overly general.
  • Do not use *click here* or *read more* or *continue*.
  • Do not use different *link text* to refer to the *same* resource.
  • Do not to use the same *link text* to refer to *different* resources.
Can a screen reader read color contrast?

Color Contrast

HUMANITY & TECHNOLOGY

GLOBAL BANDWIDTH PER SECOND  
100 TERABYTES (256,000,000,000 bytes per second)
200 EXABYTES (400,000,000,000,000 bytes per second)
The global bandwidth is said to exceed 1000 Tbps by 2028 and data transferred will reach zeta scale much sooner than that.

DATA TRANSFERED PER MONTH

LIBRARY OF CONGRESS TEXT, AUDIO, VIDEO

20 PETABYTES (20,400,720)
Digital data stored increased by almost 50% in five years. We can only imagine the amount of data in the world by the year 2028.

DIGITAL DATA STORED GLOBALLY

2.7 ZETTABYTES (2,700,000,000,000,000 bytes)

HUMAN SPEECH IN DATA FORM (2005)

TOTAL DATA STORABLE IN HUMANS

42 ZETTABYTES (45,397,156,608,718)
170 YOTTABYTES (186,916,977,000,000,000)
The approximate cost of a Yottabyte right now is $188 Trillion (1.88 zeta dollars) and would require data centers the size of Gatun Lake to house the information.

CONVERSION TABLE

A COMPUTER ON EVERY DESK IN EVERY HOME.
- Bill Gates

We are dealing with data at an exponential rate. We are overwhelmed with information and our capacity grows everyday. Already computer and personal lives have combined to merge places we and every day tasks which were once handled independently. By 2020, the whole world will be connected to devices.

We are slowly but surely moving towards a world-viewed, not only a world-smarted, but also a world-networked, and a world-linked world.

SCALE MODEL WITH MASS

SOURCES

artechvision, May 1st 2012
Manga Buggery, April 25th, 2012
ibiblio.upenn.edu, Nov 5, 2013
businesswire.com, Dec 1, 2011

Universal Design Center

csun.edu/udc
# Meaning Without Color

<table>
<thead>
<tr>
<th>Production</th>
<th>Wood</th>
<th>Reinforced concrete</th>
<th>Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw material</td>
<td>renewable</td>
<td>mineral</td>
<td>mineral/recycled</td>
</tr>
<tr>
<td>Primary energy, non-renewable [MJ]</td>
<td>185.0</td>
<td>118.4</td>
<td>835.4</td>
</tr>
<tr>
<td>Green house potential [kg CO₂-aqv.]</td>
<td>-52.4</td>
<td>17.2</td>
<td>60.6</td>
</tr>
<tr>
<td>End of Life</td>
<td>Entsorgung</td>
<td>mat./therm. utilisation</td>
<td>recycling / utilisation / landfilling</td>
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Universal Design Center

[csun.edu/udc]
Meaning without Color

color vs black & white

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Color

• The colors or shades used in the flyer/infographic makes the content readable.

• Color must not be the only method used to distinguish or emphasize important text or links. This will cause barriers for readers with color vision deficiencies and prevent them identifying important information.

• Good color contrast between the foreground and background content.

• Good color contrast between the text color and background color.
• Use the Colour Contrast Analyser to ensure accessible contrast
• Coblis Color Blindness Simulator
An infographic must always have a logical structure that includes titles and heading levels

- **Headings**: Heading 1, 2, 3, etc., or `<h1>`, `<h2>`, `<h3>`, etc.
- **Lists**: bullets, numbered, outline
- **Strong** `<strong>` is the new bold
- **Emphasis** `<em>` is the new italic

Organize content with descriptive title, headings, subheadings, lists, images, and footer are important for **usability** and **accessibility**.
The 7 Common Types of Infographic

**List:**

1. Supports a claim through a series of steps
   - Best used to:
     - support a specific claim or argument

2. Map
   - Showcases data trends based on location
   - Best used to:
     - compare places and cultures via stating-centric data

3. Versus
   - Compare two things in a head-to-head study
   - Best used to:
     - highlight differences between two similar things
     - highlight similarities between two unlike things
     - prove one option is superior/inferior to the other

4. Data Visualization
   - Communicate data through charts, graphs, and/or designs
   - Best used to:
     - make data-driven arguments easier to understand
     - make facts and statistics more interesting to absorb

5. Flowchart
   - Provides a specialized answer to a question via reader choices
   - Best used to:
     - provide personalized answers for readers
     - showcase how multiple situations can reach the same conclusion

6. Timeline
   - Tells a story through a chronological flow
   - Best used to:
     - show how something has changed over time
     - make a long, complicated story easier to understand
     - show how one thing leads to another
Consider Reading Order

The reading order defines how a flyer/infographic will be read by screen readers. The reading order should always match the visual order of the page. If incorrect, the flyer/infographic will not be read correctly.
Preview your email, flyer or infographic on one or more mobile devices. Avoid making large infographics as they cannot be properly displayed on mobile devices. **Best practices for infographic sizing**

- When the flyer/infographic is zoomed in, the content resizes appropriately.
- The flyer/infographic is readable using a mobile device screen reader (Voiceover for iOS and Talkback for Android)

**Credit by Visually Blog Designing Infographics for Mobile**
Flyers and Infographics in Calendar Events

1. Enter all of the event information into the Web-One post.
2. Add the flyer (image or PDF) as supporting information or decoration.
3. If the flyer is an image, add descriptive alt text.
4. How to create accessible events with infographics?
Attachments

• Files attached to an email must also be accessible.
• Use a descriptive and distinct file name.
• Videos in emails must be captioned.
Forwarding Email

SUMMIT FOR GAY LATINO MALE COLLEGIANS

SATURDAY, FEBRUARY 17, 2018
10AM TO 4PM
USC UNIVERSITY PARK CAMPUS,
FERTITTA HALL 125 LL
LOS ANGELES, CA
Creating Accessible Email

Add alt text to an image in an email

1. Right-click the image, select **Format Shape**, select **Layout & Properties**, and then select **Alt text**.

2. Add a detailed description of the image, and why the image is important to your message.
Four-point Accessibility Evaluation

**FONT**
Is the font styling easy to read?

**COLOR**
Is the font color easy to read?

**TAB**
Can a user “tab” through the functions?

**ENLARGE**
Can a user make the font bigger? (ctrl +)
Resources

• Creating Accessible Infographics
• Flyers and Infographics in Calendar Events
• Infographics Checklist
• Web Accessibility Criteria
• Creating Accessible PDF Documents
• Creating Accessible Emails: Outlook 2013 & 2016
• Best practices for infographic sizing
You **CAN** make a big difference

**Best education and resources available to EVERYONE**

providing ACCESSIBLE

Make **one** design that fits everyone

Documents

Website

Media with captioning
Reflection

- Creating accessible digital content can’t happen overnight.
- Accessibility is for everyone.

How can we help you make a big difference