

10 things you can do to make your web content more accessible



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WebAIM.org | USU IDRPP

Slides & resources online at:

webaim.org/presentations/2022/pio

10 things you can do

1. Understand your responsibilities
2. Use headings (and learn to love headings in Word)
3. Give images alternative text
4. Format your tables
5. Choose text colors with good contrast
6. Don't rely on color
7. Make links descriptive
8. Use lists correctly
9. Use captioned videos
10. Convert (don't Print) to PDF

1. Understand your responsibilities

WCAG 2

- Web Content Accessibility Guidelines
- Versions 1.0 (1999), 2.0 (2008), and 2.1 (2018)
- Principles based
 - Perceivable
 - Operable
 - Understandable
 - Robust

Principle 1: Perceivable

Web content is made available to the senses - sight, hearing, and/or touch

Guideline 1.1 Text Alternatives

Provide text alternatives for any non-text content

Success Criteria	Recommendations
1.1.1 Non-text Content (Level A)	<ul style="list-style-type: none"> <input type="checkbox"/> All images, form image buttons, and image map hot spots have appropriate, equivalent alternative text. <input type="checkbox"/> Images that do not convey content, are decorative, or contain content that is already conveyed in text are given null alt text (alt="") or implemented as CSS backgrounds. All linked images have descriptive alternative text. <input type="checkbox"/> Equivalent alternatives to complex images are provided in context or on a separate linked page. <input type="checkbox"/> Form buttons have a descriptive value. <input type="checkbox"/> Form inputs have associated text labels. <input type="checkbox"/> Embedded multimedia is identified via accessible text. <input type="checkbox"/> Frames and iframes are appropriately titled.

Guideline 1.2 Time-based Media

Provide alternatives for time-based media

NOTE: If the audio or video is designated as an alternative to web content (e.g., an audio or sign language version of a web page, for example), then the web content itself serves as the alternative.

Success Criteria	Recommendations
1.2.1 Prerecorded Audio-only and Video-only (Level A)	<ul style="list-style-type: none"> <input type="checkbox"/> A descriptive text transcript that includes relevant auditory content is provided for non-live audio-only (audio podcasts, MP3 files, etc.). <input type="checkbox"/> A descriptive text transcript or audio description is provided for non-live video-only (e.g., video that has no audio track), unless the video is decorative.
1.2.2 Captions (Prerecorded)	<ul style="list-style-type: none"> <input type="checkbox"/> Synchronized captions are provided for non-live video (YouTube videos, etc.).

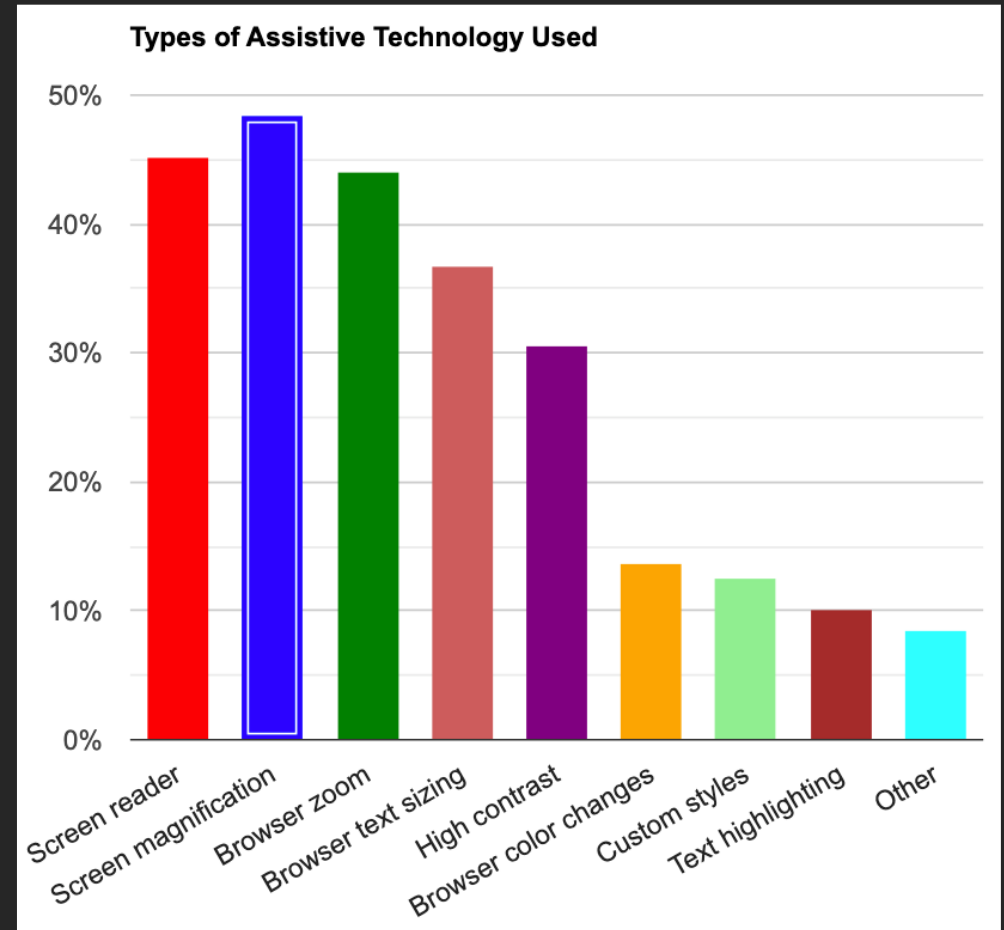
Legal requirements

- Section 508
 - US federal agencies
 - WCAG 2.0
- Americans with Disabilities Act
 - 3 Important sections – employment, state/local government, public & commercial facilities
 - No technical accessibility standard, but...
 - Complaints reference WCAG 2.0 or 2.1
- Other laws reference (or do not exceed) WCAG 2

Accessibility > Compliance

Screen Reader Users

- Not always blind users
- Many/Most have low vision
- Some have a reading or cognitive disability
- Focus on structure and semantics





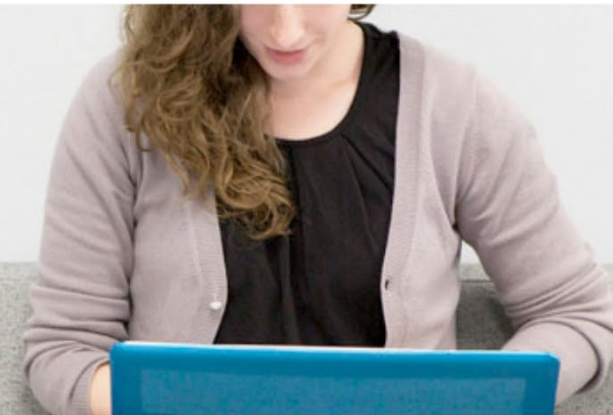
Search:



[Introduction to Web Accessibility](#)



[WebAIM Training](#)



We have web accessibility in mind

Expanding the potential of the web for people with disabilities by empowering individuals and organizations to create accessible content.

[Accessibility Training](#)



Whether here in Utah or on-site at your organization, WebAIM can provide web and document training to fit your needs.

[Accessible Site Certification](#)



As a respected third party accessibility expert, WebAIM can evaluate and certify your site to established web accessibility guidelines.

[StrategicA11y](#)



The Strategic Web Accessibility Workshop helps participants optimize their organization's accessibility.

[Evaluation and Reporting](#)



We can provide reports to help you know how accessible your site is and how to make it better.

Community

[WebAIM Blog](#)

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Navigation

Search

Header

Search:

[Introduction to Web Accessibility](#)

[WebAIM Training](#)

h1 We have web accessibility in mind

Expanding the potential of the web for people with disabilities by empowering individuals and organizations to create accessible content.

h2 [Accessibility Training](#)

Whether here in Utah or on-site at your organization, WebAIM can provide web and document training to fit your needs.

h2 [Accessible Site Certification](#)

As a respected third party accessibility expert, WebAIM can evaluate and certify your site to established web accessibility guidelines.

h2 [Technical Assistance](#)

Need assistance implementing accessibility? WebAIM's expert staff can provide the assistance you need.

h2 [Evaluation and Reporting](#)

We can provide reports to help you know how accessible your site is and how to make it better.

h2 [Community](#)

- [WebAIM Blog](#)
- [Newsletter](#)
- [E-mail Discussion List](#)
- [Twitter](#)

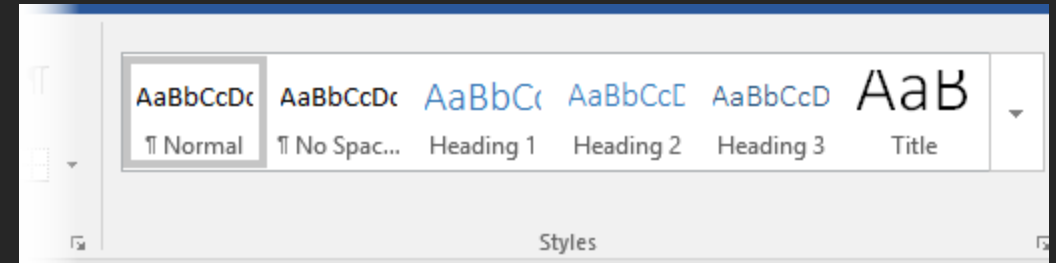
Main

Structure & Semantics

2. Use headings (and learn to love them)

Headings in Word

- Proper heading structure
 - Usually one Heading 1
 - Don't skip heading levels
- Use “Styles” gallery
- Ctrl + Alt + 1, 2, or 3
 - command + option on Mac



Demo – Headings in Word

3. Give images alternative text

The unexpected star of NASA's Webb images — the alt text descriptions

A team in Baltimore was responsible for the words that made the stunning photos accessible to everyone



Perspective by [Theresa Vargas](#)

Metro columnist

July 20, 2022 at 5:09 p.m. EDT



This image released by NASA on July 12 was captured by the James Webb Space Telescope. (AP)

 Comment

 Gift Article

 Share

In the days since NASA publicly shared stunning images captured by the James Webb Space Telescope, people have oohed and aahed. They have

Alternative Text

Should...

- Be equivalent.
- Be succinct.
- NOT be redundant.
- NOT use the phrases "image of ..." or "graphic of ..." to describe the image.

What is **equivalent** alternative text?

CONTENT and **FUNCTION**

VERY RARELY Description

Alternative Text in Office 365/2019

Alt Text ▼ ×

How would you describe this object and its context to someone who is blind?
(1-2 sentences recommended)

ALTERNATIVE TEXT HERE

~~Generate a description for me~~

Mark as decorative ⓘ

1. Right-click the image and choose **Edit Alt Text**
2. Enter appropriate alt text in the field.
–Or check **Mark as decorative**

DO NOT choose
“Generate a description for me”

Demo – Adding Alternative Text



The unexpected star of NASA's Webb images — the alt text descriptions

A team in Baltimore was responsible for the words that made the stunning photos accessible to everyone



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alt=""

FILTER IMAGES

Category ▼

Type ▼

Collection ▼

Enter Keyword

SUBMIT

◀◀ First ◀ Previous 1 2 3 4 5 Next ▶ Last ▶▶



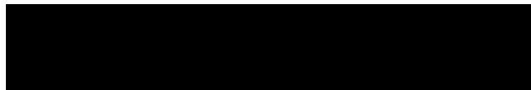
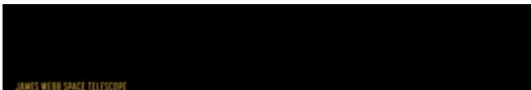
Webb's Science Themes



"Cosmic Cliffs" in the Carina Nebula
(NIRCam Image)



"Cosmic Cliffs" in the Carina Nebula
(NIRCam and MIRI Composite Image)





Webb's Science Themes



"Cosmic Cliffs" in the Carina Nebula
(NIRCam Image)



"Cosmic Cliffs" in the Carina Nebula
(NIRCam and MIRI Composite Image)

alt="Image of bright eight-pointed stars scattered across a dense orange-brown undulating cloudscape below a deep blue starscape."

"Cosmic Cliffs" in the Carina Nebula (NIRCam Image)

[< VIEW ALL IMAGES](#)



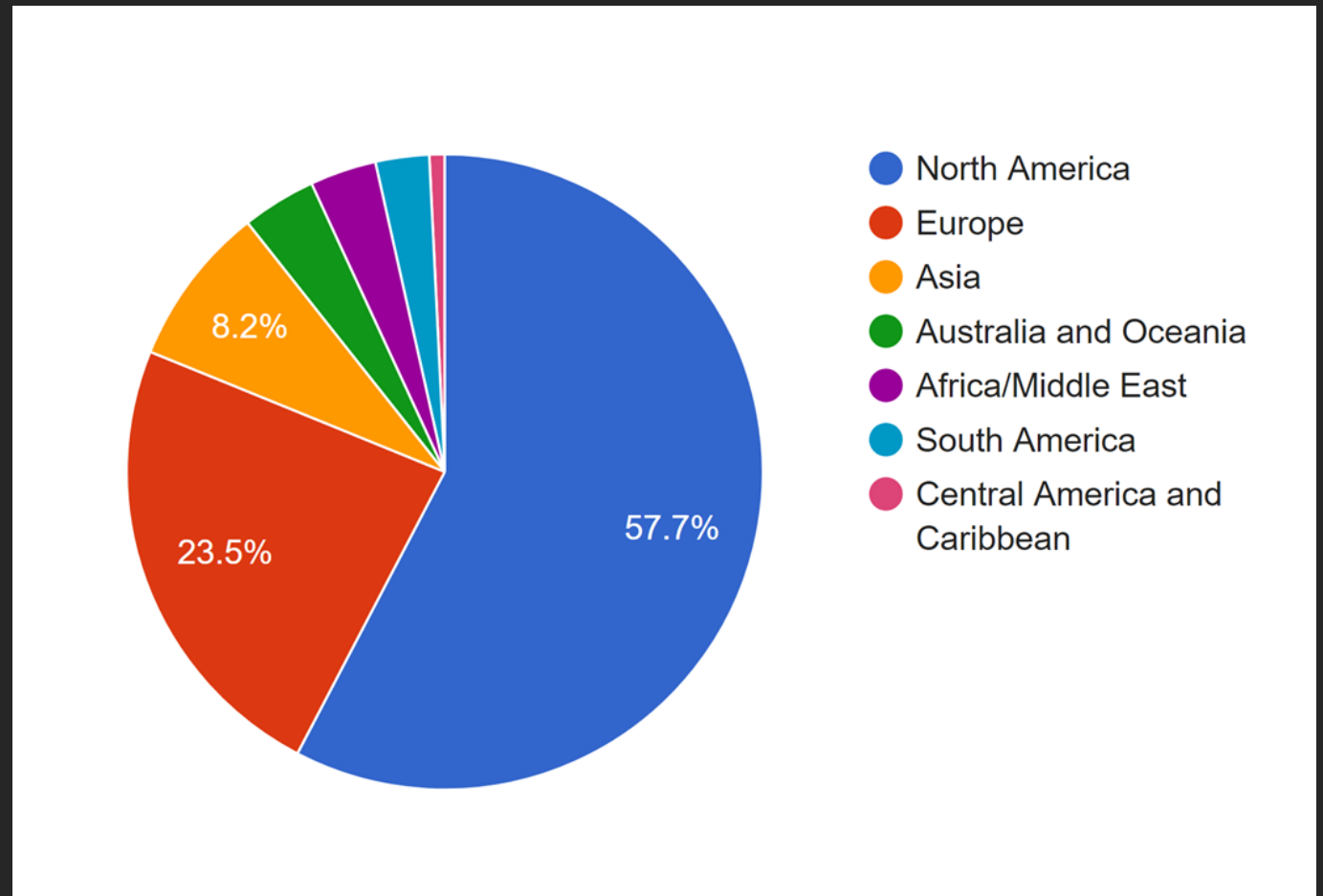
"Cosmic Cliffs" in the Carina Nebula (NIRCam Image)

[< VIEW ALL IMAGES](#)

alt="The image is divided horizontally by an undulating line between a cloudscape forming a nebula along the bottom portion and a comparatively clear upper portion. Speckled across both portions is a starfield, showing innumerable stars of many sizes. The smallest of these are small, distant, and faint points of light. The largest of these appear larger, closer, brighter, and more fully resolved with 8-point diffraction spikes. The upper portion of the image is blueish, and has wispy translucent cloud-like streaks rising from the nebula below. The orangish cloudy formation in the bottom half varies in density and ranges from translucent to opaque. The stars vary in color, the majority of which, have a blue or orange hue. The cloud-like structure of the nebula contains ridges, peaks, and valleys – an appearance very similar to a mountain range. Three long diffraction spikes from the top right edge of the image suggest the presence of a large star just out of view. For more details, download the Text Description."

Charts and data

- Give the image succinct alternative text
- Provide the description in context **OR**
- Provide a link to a page that contains the longer description

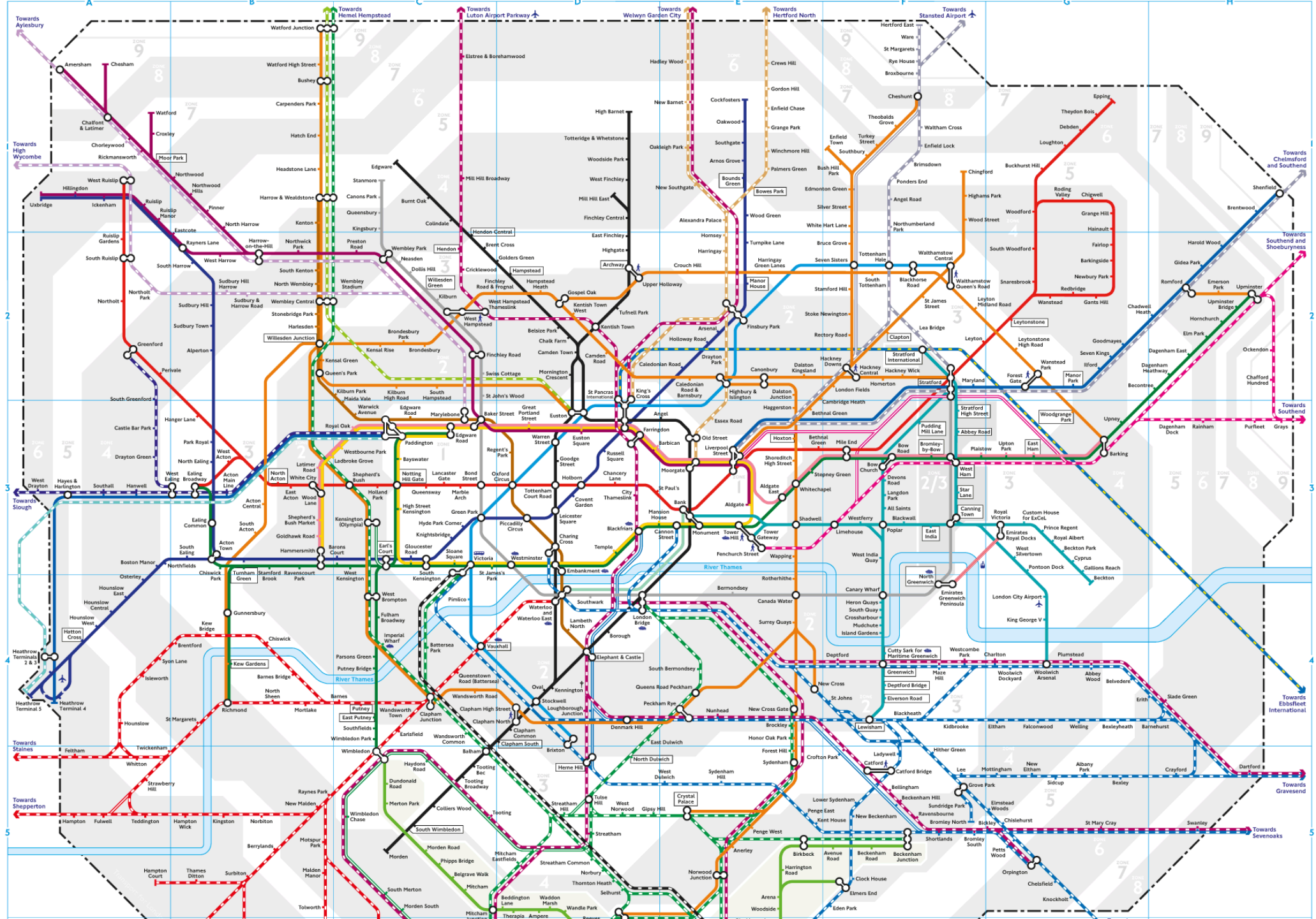


London's Rail & Tube services

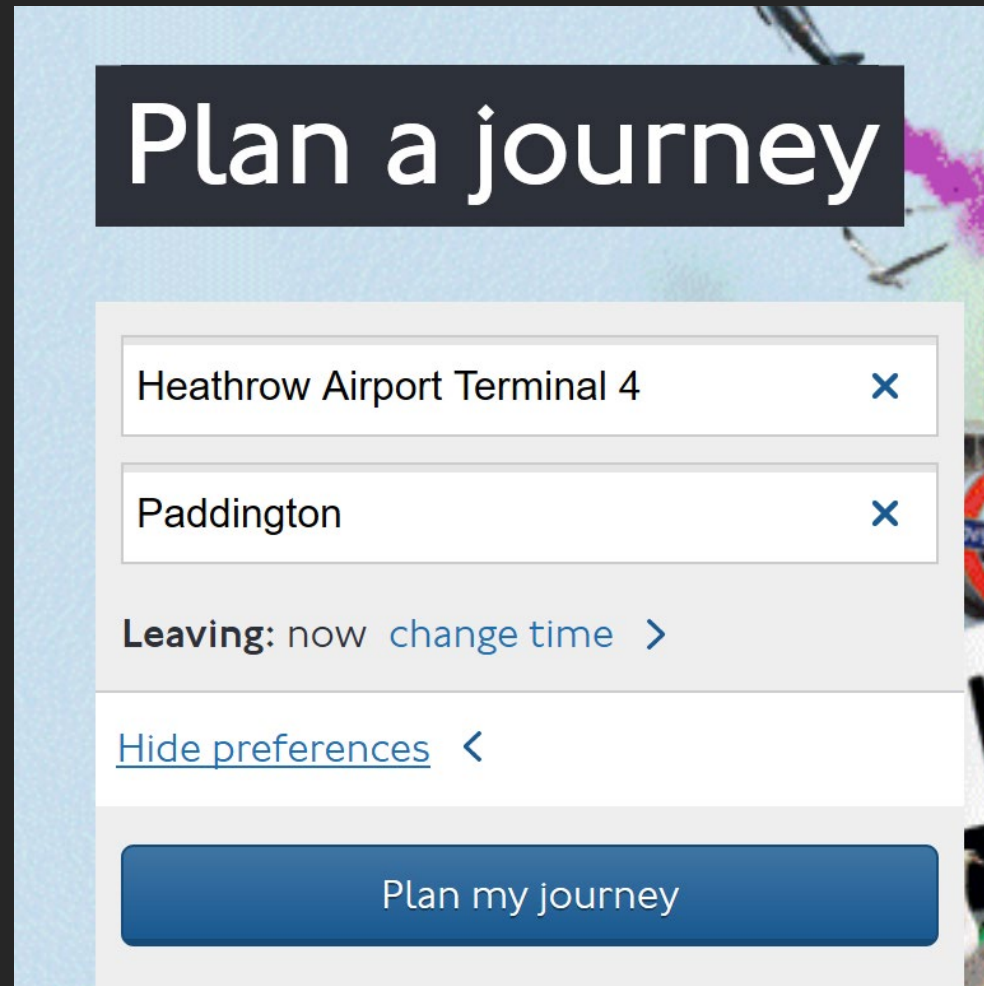
Key to lines and symbols

- Bakerloo
 - Central
 - Circle
 - District
 - Hammersmith & City
 - Jubilee
 - Metropolitan
 - Northern
 - Piccadilly
 - Victoria
 - Waterloo & City
 - DLR
 - London Overground
 - London Trams
 - TFL Rail
 - Emirates Air Line cable car
-
- Chiltern Railways limited service
 - Gatwick Express
 - Great Northern
 - Great Western Railway
 - Greater Anglia peak hours only
 - Heathrow Express peak hours or limited service
 - Southern peak hours only
 - Southeastern peak hours only
 - Southeastern high speed peak hours only
 - South Western Railway peak hours only
 - Thameslink peak hours only
 - West Midlands Trains

- London Trams fare zone
- Station in both fare zones
- Interchange stations
- Street level transfer between stations
- Airport
- Riverboat services
- Victoria Coach Station



“Equivalent” experience



Plan a journey

Heathrow Airport Terminal 4 ×

Paddington ×

Leaving: now [change time](#) >

[Hide preferences](#) <

[Plan my journey](#)

4. Format your tables

Data tables

Class Schedule

Class Name	Course Number	Location
Advanced Website Development	BIS 5650	B105
Database Management	BIS 3330	B220

Keys to accessible tables

1. Caption (if needed)
 - (or heading if a caption isn't supported)
2. Table headers
3. Table header scope (if supported)
 - Column or row

Assign table headers

Heading (in Word)  Class Schedule

Class Name	Course Number	Location
Advanced Website Development	BIS 5650	B105
Database Management	BIS 3330	B220

Demo – Table headers and styles

Class Schedule

Class Name	Course Number	Location
Advanced Website Development	BIS 5650	B105
Database Management	BIS 3330	B220

5. Choose text colors with good contrast

[WebAIM contrast article](#)

Provide Sufficient Contrast

WCAG Contrast Formula

$$(L1 + 0.05) / (L2 + 0.05)$$

where

$$L = 0.2126 * R + 0.7152 * G + 0.0722 * B$$

where

R, G, and B =

$$R_{sRGB} \leq 0.03928 \text{ then } R = R_{sRGB} / 12.92$$

$$\text{else } R = ((R_{sRGB} + 0.055) / 1.055) ^ 2.4$$

where

$$R_{sRGB} \leq R_{8bit} / 255$$

21:1

21:1

Level AA Contrast Examples

4.5:1

Gray (118,118,118) on White

Purple (204,33,204) on White

Red (227,0,0) on Yellow (255, 255, 0)

3:1 – “Large” text

≥18pt

BOLD: ≥14pt

“Images of text”

50 most played
songs by genre



Exceptions

“Pure decoration”



“Logotypes”

50 most played
songs by genre

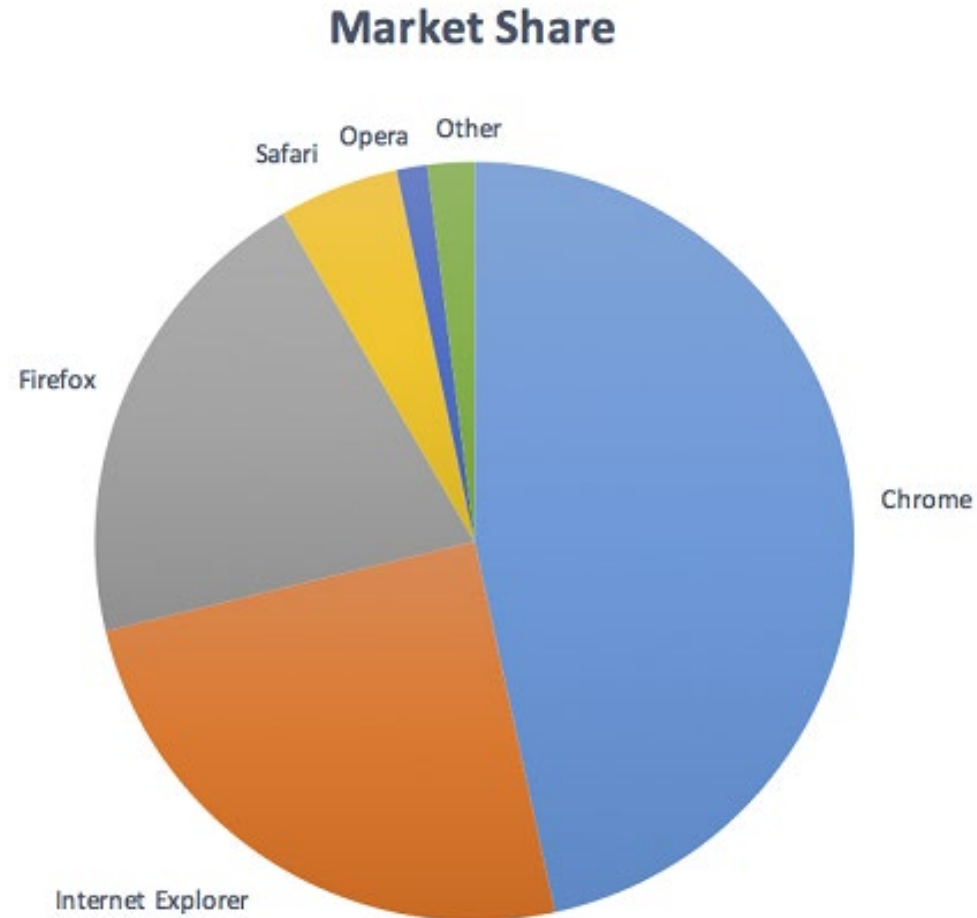


Screenshots

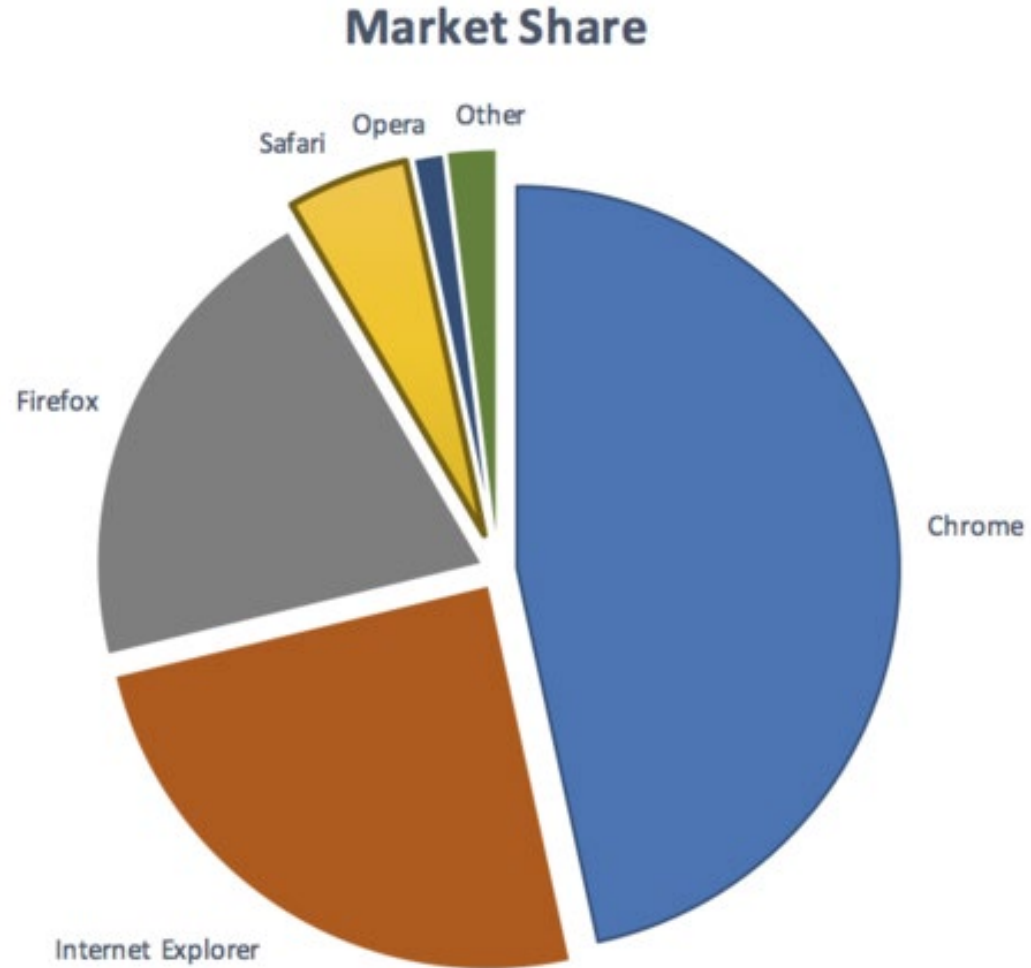
The screenshot displays a collection of user interface elements, likely from a spreadsheet application, organized into several sections:

- Good, Bad and Neutral:** A row of three colored buttons: "Bad" (pink), "Good" (light green), and "Neutral" (yellow).
- Data and Model:** A row of six buttons: "Calculation" (orange), "Check Cell" (grey), "Explanatory ..." (light blue), "Input" (orange), "Linked Cell" (orange with a red underline), and "Note" (yellow).
- Output:** A button labeled "Warning Text" in red.
- Titles and Headings:** A row of six buttons: "Heading 1" (blue with a red underline), "Heading 2" (blue with a red underline), "Heading 3" (blue with a red underline), "Heading 4" (blue with a red underline), "Title" (blue with a red underline), and "Total" (blue with a red underline).
- Themed Cell Styles:** A 4x6 grid of colored buttons. The first row shows "20% - Accent1" through "20% - Accent6". The second row shows "40% - Accent1" through "40% - Accent6". The third row shows "60% - Accent1" through "60% - Accent6". The fourth row shows "Accent1" through "Accent6".
- Number Format:** A row of five buttons: "Comma", "Comma [0]", "Currency", "Currency [0]", and "Percent".

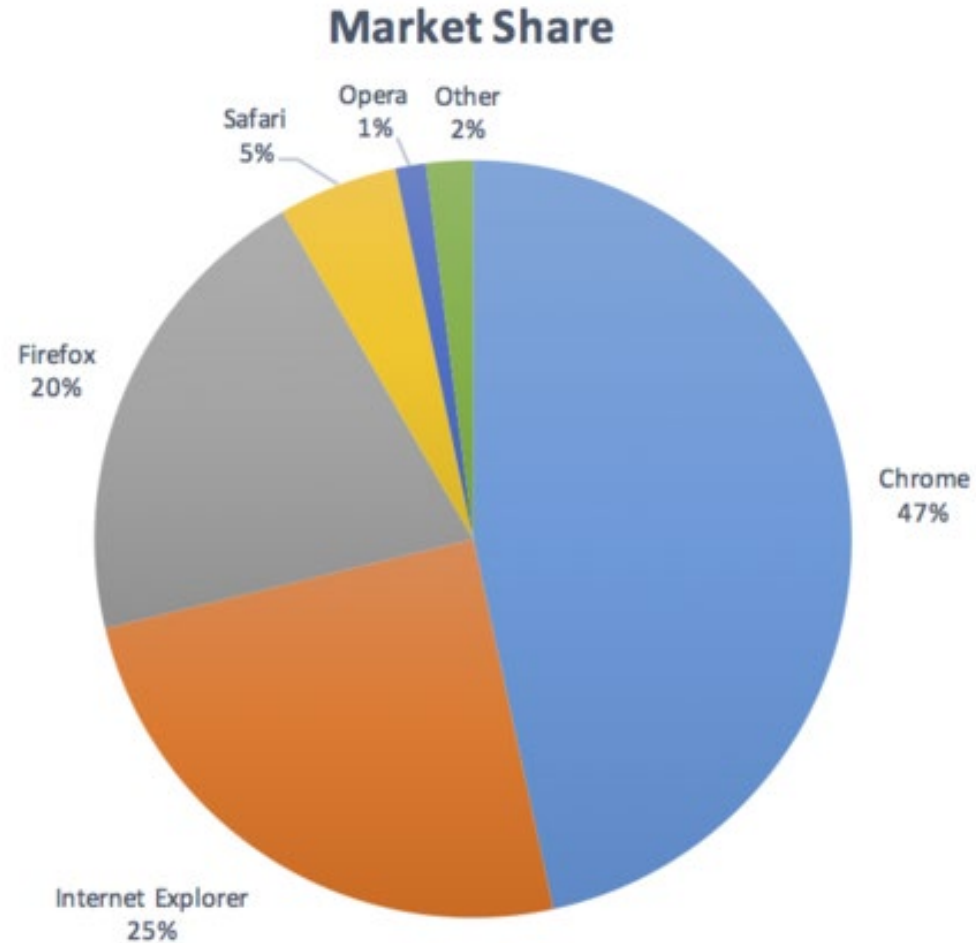
WCAG 2.1 – 3:1 Contrast of “Graphical Objects”



“Against Adjacent color(s)”



“...required to understand”



“...required to understand”



Color Blindness





6. Don't rely on color

Don't rely on color

- Amanita
- Chanterelle
- Porcini
- Shiitake
- Tylopilus

Icons (with alternative text)

- Amanita 
- Chanterelle
- Porcini
- Shiitake
- Tylopilus 

Separate lists

Edible

- Chanterelle
- Porcini
- Shiitake

Poisonous

- Amanita
- Tylopilus

Bold or Italicized text?

- *Amanita*
- Chanterelle
- Porcini
- Shiitake
- *Tylopilus*

Two separate requirements

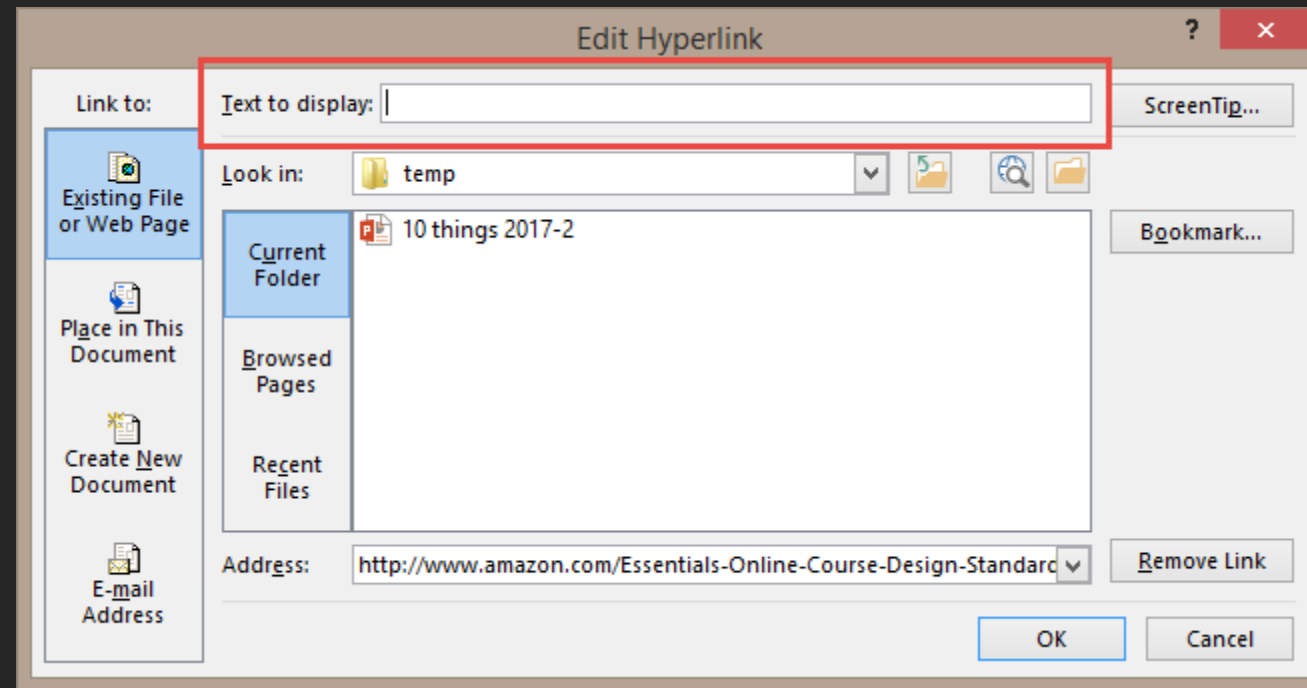
1. Ensure enough contrast
2. Do not rely on color alone
 - Don't remove underline from links

7. Make links descriptive

Descriptive link text

- [Click here](#)
- [Click here for our campus map](#)
- [Click here for our campus map](#)
- [Campus map](#)

Editing Link Text



Right-click > Edit Link > Text to display

Demo – Link text

For more information on this topic, read
Essentials of Online Course Design: A
Standards-Based Guide-

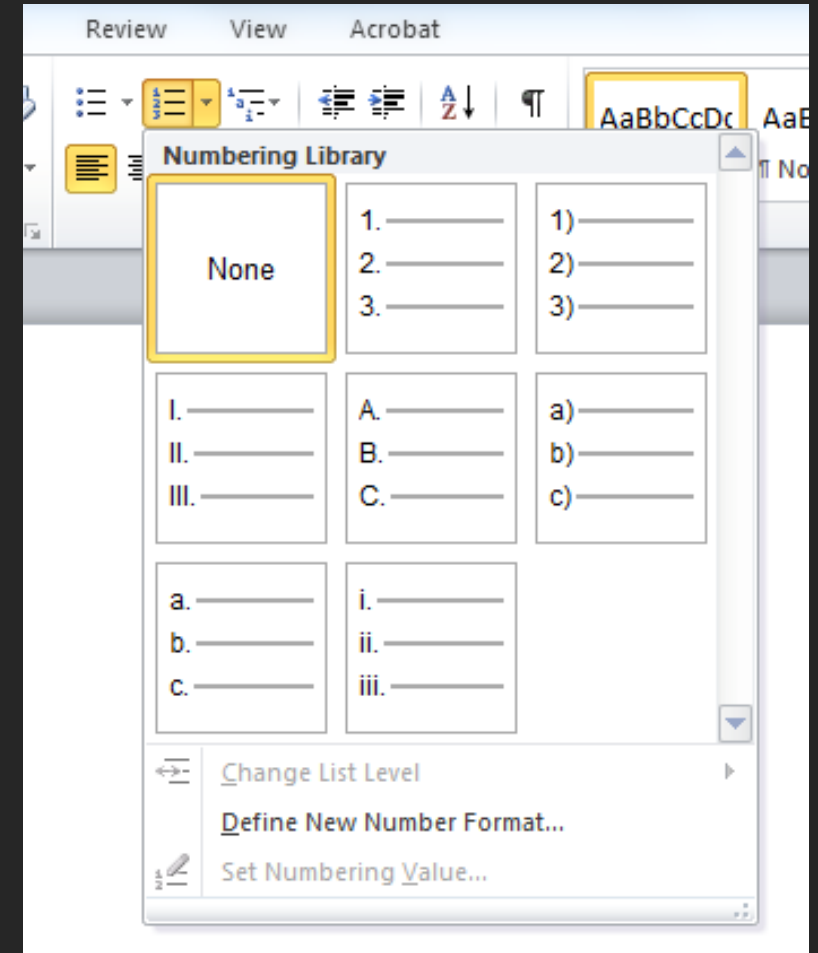
<https://www.amazon.com/Essentials-Online-Course-Design-Standards-Based/dp/0415873002>



8. Use lists correctly

Lists

- Numbers: Order or hierarchy
- Bullets: Equal importance
 - Can you reorder the items?



EASY SHORTBREAD



Ingredients

- 1 cup butter, softened
- 1/2 cup sugar
- 2 1/2 cups flour

Directions

1. Preheat the oven to 300 F.
2. Cream butter and sugar.
3. Gradually stir flour into the creamed mixture until blended.
4. Pat the dough in the bottom of an ungreased 9x13 baking pan.
5. Bake at 300 F for 30 to 40 minutes, until just lightly browned.
6. Remove from oven and pierce all over with a fork.

Demo - 4 Steps to Create Lists in Office:

- Decide what type of list you should use—bulleted or numbered
- Highlight text
- Choose the correct list type
- Spend the 5 minutes fixing auto-numbering 😊

9. Use captioned videos

Auditory Disabilities



PULL THE LEVER, KRONK.

Captions and transcripts

- Captions required for multimedia
 - Be careful with automatic captions
- Descriptive transcripts for audio-only
- Audio descriptions for important visual-only content
- Descriptive transcripts for all media (recommended)

Captioning Methods

- Type, then sync
- Stenographer or “Shadow Speaker”
- AI voice recognition



Audio Description

Typically a narrator that describes visual content.
Sometimes called “Descriptive Video Service” (DVS).

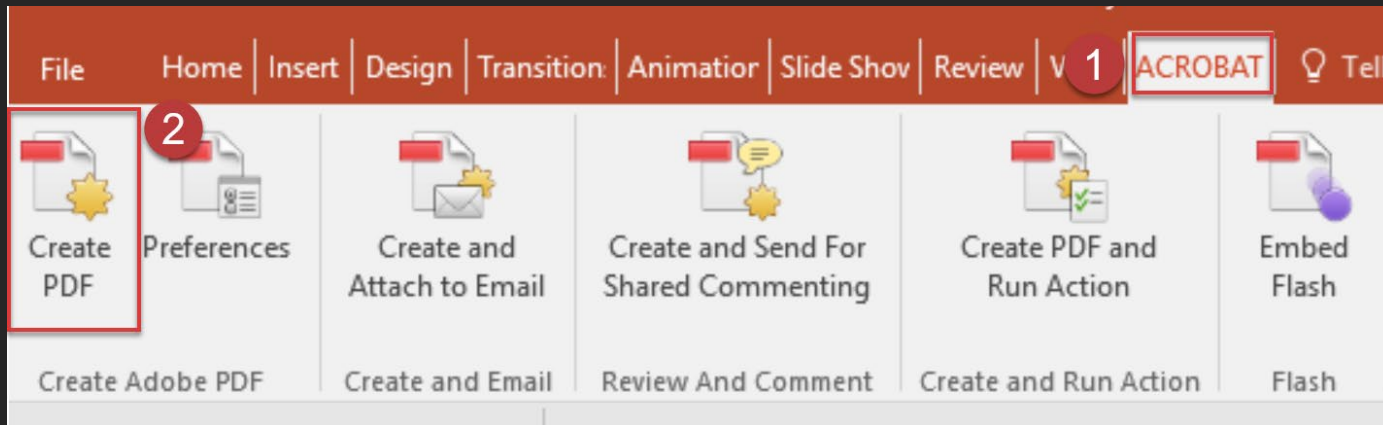
Avoid expensive audio descriptions by ensuring
important visual content is presented audibly.



What are additional benefits of captions and transcripts?

10. Convert (don't Print) to PDF

Convert to PDF



- **Acrobat tab > Create PDF**
 - If not available, use “Save As”
- **Do NOT print**

Word/PPT to PDF

- Headings
- Alternative text for images
- Hide decorative images
- Links
- Lists
- Tables
- Columns
- Text size
- Contrast
- Color reliance
- Language
- Document title *

*May require some cleanup in Acrobat

Thank You!

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