





WCAG 2.0 (Web Content Accessibility Guidelines) focuses more heavily on the 4 main guiding principles of accessibility.

Perceivable - available through sight, hearing or touch

Operable - compatible with keyboard or mouse

Understandable - User-friendly, easy to comprehend

Robust - Works across browsers, devices, assistive technologies

The idea is to create a **POUR** website



20%

of the population has some kind of disability

8.5%

of the population have a disability that affects computer use

59 Million +

Americans with disabilities, not including age-related issues

Visual

(low vision, blindness, color deficiency)

21.7 Million

adult Americans (nearly 9.1%) report having trouble seeing, are blind or nearly blind. 7.3 Million* aged 16-75 with visual disabilities. 8% of males are color blind

25 Million +

Americans with with vision loss, increasing exponentially as Baby Boomers age



Hearing

(deaf, hearing loss)

1 in 8

Americans 12 and older have hearing loss in both ears

48 million

about 20% of Americans report some degree of hearing loss

https://www.nidcd.nih.gov/health/statistics/quick-statistics-hearing http://www.hearingloss.org/content/basic-facts-about-hearing-loss

Cognitive

(memory, autism, tbi, learning disabilities)

18%

(est) Americans have some form of cognitive disability

In-depth explanation of cognitive disabilities: http://webaim.org/articles/cognitive/

Motor

(traumatic injuries, limb damage/loss, diseases/congenital disorders)

74.6 Million (est)

adult Americans have some type of physical disability



The "Silver Tsunami"

78 MILLION!

Baby Boomers born in the US between 1946 and 1964 - fastest growing demographic today

As they age, Boomers will require more healthcare services *than any other generation of Americans*

They tend to be educated and are tech savvy

Boomers dominate the market in terms of *money spent* on tech and they demand more from our healthcare system

*Note: Overall, 19.1% of the Sunshine State's population is 65 and older, the highest percentage in the nation.

http://www.pewresearch.org/fact-tank/2015/07/09/where-do-the-oldest-americans-live/



The "Silver Tsunami"

78 MILLION!

By 2020, an estimated 118 million Americans, (almost 40 percent) will be > 50

By 2030, projected hospital admissions among Boomers will increase to total *half of all admissions*

Currently, Boomers account for:

- 33% of all health care spending
- 33% of all prescription drug use
- 40% of doctor visits projected to be more than 1 BILLION by 2020
- 35% of hospital admissions (projected to be 49M by 2030 56% age >65 and 44% <65)
 </p>
- 60% of adults age 50 to 64 suffer from at least 1 chronic health condition

Website Accessibility What are the challenges?

Visual



Blind and low vision visitors use assistive technology (AT) such as screen readers or magnifiers. AT usually = keyboard.

Users may set their own font and background colors and adjust contrast.

Text in graphics does not enlarge without special software, and will pixelate when enlarged.

Color blind visitors see colors differently, so color alone should not be used to convey content.

Cognitive



Includes Autism, Down Syndrome, traumatic brain injury, dyslexia, learning disabilities and more.

Users must be able to understand *all navigation and interactions.*

Any time you have to think about something, magnify it by 100 for those with cognitive disabilities.

Motor

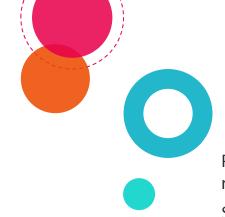


Not everyone can use a mouse, click on small links, or operate dynamic elements effectively.

Paraplegics generally have no difficulty accessing the Internet.

Quadriplegics may have significant difficulty, but are able to use their computers using assistive technologies.

Most assistive technologies for people with motor disabilities either work through the keyboard or emulate the functionality of the keyboard.



Visual



Screen readers navigate using the following:

- links
- headings
- landmarks
- lists
- o forms & form controls
- buttons

A typical SR user can pull up a list of each of the above elements, so they do not have to navigate down a page line by line.

It is important to use proper headings and heading structure, the correct HTML elements for lists, buttons, and forms, and links must have relevant link text.

Provide a text alternative for non-text elements



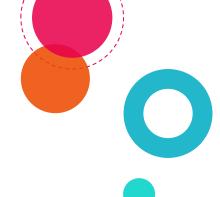


Links:

- Make sure link text is relevant avoid 'click here', 'read more', 'learn more' - in a list of links read by a SR, the user will hear 'click here' repeatedly with no context as to what the link refers to.
- Avoid single word link text, phrases are better. Think CONTEXT.
- Do not use the *title* attribute
- Leave the underline standard recognized convention
- Leave the focus indicator browsers display a box around links when they have focus

Headings:

- **Use true <hx> headings to organize content**, avoid styled text text here as a 'heading'
- Use proper heading hierarchy h1, then h2, h3, etc. and do not leave empty headings



Forms

Every form field MUST have a label

- placeholder attribute alone may not be read by AT and is not a substitute for a label
- If you do not want a label to show on the screen, then you can use aria-label on the input field

Modal Windows:

Maintain focus management

- Focus should stay within the modal until it's closed
- Use esc to dismiss a modal, or provide another way to close it
- Focus should *return* to the place on the page where the modal was triggered

Tables:

- Table headers should have correct scope attribute /
- Use <caption> rather than table summary



Images and non-text elements

Per WCAG 2.0, Guideline 1.1, Text Alternatives: Provide text alternatives for any non-text content (Level A)

To meet the Success Criteria:

- All images, form image buttons, and image map hot spots have appropriate, equivalent alternative text.
- 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.
- Equivalent alternatives to complex images are provided in context or on a separate (linked and/or referenced via longdesc) page.
- ☐ Embedded multimedia is identified via accessible text.
- □ iFrames are appropriately titled.

Alternative text for images and non-text elements

The Heart Center in North Richland Hills

Cardiology Services

North Hills Hospital is committed to providing expert cardiovascular services to the Northeast Tarrant County area. As one of the area's leading provider of cardiovascular services, we are



extremely proud to be the first hospital in the United States to be named a Cycle 4 Chest Pain Center with PCI by the Society of Cardiovascular Patient Care. This distinction ensures North Hills Hospital is in direct contact with local Emergency Management Services (EMS), and care begins in the field before the patient ever reaches our Emergency Room. This collaboration with EMS is the factor that

<img class="pull-right image-margin-right service-image"
alt="" src="/util/images/services/heart-center.jpg">

Alt text should describe the information, not the image

Is the image decorative?

Yes - the alt should be null alt=""

Would adding alt text add anything to the context of the content? No. alt="smiling happy couple" would not add anything.

Does it contain content that is not in the surrounding text?

- No - then the alt should be null

Do not use things like 'photo of', 'image of' 'banner image' etc. as it adds nothing.

It's really more about CONTEXT



https://www.w3.org/WAI/tutorials/images/decision-tree/ https://www.abilitynet.org.uk/news-blogs/five-golden-rules-compliant-alt-text

Alternative text for images and non-text elements

Mission: Lifeline

The American Heart Association recognizes this hospital for achieving 85% or higher composite adhearance to all Mission: Lifeline® STEMI Receiving Center Performance Achievement indicators for consecutive 12-month intervals, 75% or higher compliance on all Mission: Lifeline® STEMI Receiving Center quality measures, and First-Door-to-Device time of 120 minutes or less for transfers, to improve the quality of care for STEMI patients.



Is the image decorative?

Does it contain content that is not in the surrounding text of the page?

Would adding alt text add anything to the context of the content for the SR user?

Think CONTEXT

<img alt="" src="/services/images/mission-lifeline-logo.jpg"
class="pull-right image-margin-right">



Alternative text for images and non-text elements

Mission: Lifeline

The American Heart Association recognizes this hospital for achieving 85% or higher composite adhearance to all Mission: Lifeline® STEMI Receiving Center Performance Achievement indicators for consecutive 12-month intervals, 75% or higher compliance on all Mission: Lifeline® STEMI Receiving Center quality measures, and First-Door-to-Device time of 120 minutes or less for transfers, to improve the quality of care for STEMI patients.



<img alt="American Heart Association 2015 Mission: Lifeline Silver Plus Award"

src="/services/images/mission-lifeline-logo.jpg" class="pull-right image-margin-right">

Is the image decorative?

- Not necessarily

Does it contain content that is not in the surrounding text?

 Yes, the text in the badge is not repeated in the surrounding content

Would adding alt text add anything to the context of the content?

 Yes, it would let the SR user know about the actual award it denotes

Think CONTEXT



Alternative text for images and non-text elements



We know you've heard this tune before — that heart disease is the leading cause of death in the U.S. But it's worth repeating, because while symptoms vary widely for men and women, most heart attack sufferers had no previous symptoms. So it's crucial to know your personal risk factors and take steps to decrease them.

Take the Heart Risk Assessment

This image is also a link.

If an image is the ONLY thing inside a link, then the alt text must also convey the destination or purpose of the link.

<img
alt="We Treat the Hearts of Texas"
src="/util/images/treat-the-hearts-mobile-test.png">

Is the image decorative?

Does it contain content that is not in the surrounding text?

Would adding alt text add anything to the context of the content?

But wait! The image is also a LINK.

Does the alt text in the code convey the destination or purpose of the link?

Alternative text for images and non-text elements



We know you've heard this tune before — that heart disease is the leading cause of death in the U.S. But it's worth repeating, because while symptoms vary widely for men and women, most heart attack sufferers had no previous symptoms. So it's crucial to know your personal risk factors and take steps to decrease them.

Take the Heart Risk Assessment

This image is also a link.

If an image is the ONLY thing inside a link, then the alt text must also convey the destination or purpose of the link.

<img
falt="We Treat the Hearts of Texas"
src="/util/images/treat-the-hearts-mobile-test.png">

Is the image decorative?

- Not entirely

Does it contain content that is not in the surrounding text?

- Yes

Would adding alt text add anything to the context of the content?

Yes, 'we treat the hearts of Texas' is a campaign theme

But wait! The image is also a LINK.

Does the alt text in the code convey the destination or purpose of the link? - Not quite since the destination is actually the Heart Risk Assessment.

Complex images and infographics

 $\textbf{Complete the evaluation below.} \ \ \text{Answer each question honestly and refer to the key below to rate your score.}$

Risk Factor	High Risk	Caution	Low Risk
Blood Pressure	>140/90 or I don't know	120-139/80-89	<120/80
Cholesterol	>240 or I don't know	200-239	<200
LDL	>160	100-159	<100
HDL	<40	40-60	>60
Triglycerides	>200	150-199	<150
Diabetes	Yes	Borderline	No
Smoking	Yes	I'm trying to quit	No
Atrial Fibrillation	I have an irregular heartbeat	I don't know	My heartbeat is regular
Diet	I am overweight	l am slightly overweight	My weight is healthy
Exercise	I am a couch potato	I exercise sometimes	l exercise regularly
l have stroke in my family	Yes	Not sure	No
Score: (each box = 1)			-

If your red score is 3 or more, speak to your doctor about stroke prevention right away. If your wellow score is 4-5, you're off to a good start.

If your green score is 6-8, you're controlling your risk for stroke!

What NOT to do

<h3>Stroke Risk Factors Chart/h3>
<img alt="Stroke Risk Factors Chart"
src="/services/images/stroke-risk-factors-chart.jpg">

What is wrong with this? A LOT



- It is an image and the info is nowhere on the page, so this information is completely inaccessible.
- The alt text in the code does not and cannot convey the content here. It also repeats the h3 above it.
- The chart and the instructions below it rely on color for meaning - not helpful for those with color deficiencies.
- If zoomed in or magnified, the image will degrade and become unreadable.



Complex images and infographics

Complete the evaluation below. Answer each question honestly and refer to the key below to rate your score.

Risk Factor	High Risk	Caution	Low Risk
Blood Pressure	>140/90 or I don't know	120-139/80-89	<120/80
Cholesterol	>240 or I don't know	200-239	<200
LDL	>160	100-159	<100
HDL	<40	40-60	>60
Triglycerides	>200	150-199	<150
Diabetes	Yes	Borderline	No
Smoking	Yes	I'm trying to quit	No
Atrial Fibrillation	I have an irregular heartbeat	I don't know	My heartbeat is regular
Diet	I am overweight	l am slightly overweight	My weight is healthy
Exercise	I am a couch potato	I exercise sometimes	l exercise regularly
l have stroke in my family	Yes	Not sure	No
Score: (each box = 1)			

If your red score is 3 or more, speak to your doctor about stroke prevention right away. If your yellow score is 4-5, you're off to a good start.

If your green score is 6-8, you're controlling your risk for stroke!

How do we fix it?

Convert it to a table (it *is* tabular data) and lose the image.

Make sure the table is properly coded with and . It may take a little more effort, but it will be accessible to everyone!

Replace the color-only instructions below it. Instead of "If your red score is..." make it "If your high risk score is..." etc. so that it coincides with the different columns.



Complex images and infographics



Is it Heartburn or Something More Serious?

http://stonespringshospital.com/campaigns/gerd

Campaign page

- Banner it is not just decorative, it contains text you want to be read.
- The alt text reflects the text in the image
- But the word "Header" in the alt text is unnecessary.

Complex images and infographics

I Endoscopy, GERD affects 30 million adults in the US n goes unrecognized and its symptoms wever the risk for developing GERD increases after en the stomach and the esophagus called the Lower d to escape and flow up into the esophagus.

reflux Is it decorative?

Does it contain content that is not in the surrounding text?

Does the alt text add anything to the context of the content?

The alt text on this one should be null. "Illustration of Stomach" is not helpful if you can't see it, and adds nothing additional to the content on the page, it is only there for visual appeal.



Complex images and infographics

IS YOUR HEARTBURN **ACTUALLY GERD?**

30 million adults in the US have GERD.



What causes GERD?

A weak muscle between the stomach and esophagus allows stomach acid to escape and flow up into the esophagus



Heartburn is a key GERD symptom, especially if:

- Your heartburn occurs twice or more each week

- Other GERD symptoms
- Difficulty swallowing

Have these symptoms? Call Consult-a-Nurse team at 855-226-7344 to find a specialist. Sponsored By:







Is Your Heartburn Actually GERD?

30 million adults in the US have GERD, or gastroesophageal reflux disease.

What Causes GERD?

A weak muscle between the stomach and esophagus allows stomach acid to escape and flow up into the esophagus.

Heartburn is a key GERD symptom, especially if:

- · Your heartburn occurs twice or more each week
- · It affects your sleep
- . It persists, becomes more severe
- · You've had heartburn regularly for

Other GERD symptoms:

- · Difficulty swallowing
- · Shortness of breath, wheezing and chest
- . Chronic, non-productive dry cough

<img alt="Is your Heartburn Actually GERD?</pre> Infographic content in text below" src="/util/images/gerd-infographic sshc.png">

With infographics, you have choices:

- 1 Put the information that's in the graphic elsewhere on the same page as it is here.
- 2 Make the graphic a link to a separate page where the information is available.
- 3 You could display the info in a modal window. IF you choose this option, you must manage focus within the modal.

Issues of note:

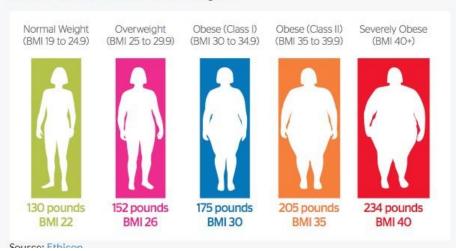
- The alt text here, as this is done, is extraneous and should be null
- Adding the 'content text below' is not really helpful, better to use aria-describedby
- Graphic text is too small and pale gray on gray is terrible contrast,



Complex images and infographics

What Obesity Looks Like

With such a large percentage of the population overweight or obese, many people don't realize that they are in the overweight or obese categories. The illustrations below show what an average 5'4"" woman would look like at various BMI categories



In the text it says "The illustrations below show what an average 5'4"" woman would look like at various BMI categories"

A SR will read the heading, then the paragraph, and when it comes to the graphic it will say "blank"

The information is inaccessible.

How would you fix this??

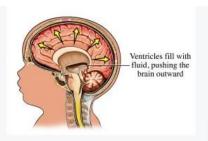




Alternative text for images and non-text elements

Hydrocephalus: The Basics

Hydrocephalus is an excess accumulation of cerebral spinal fluid (CSF) caused by the widening of spaces in the brain (ventricles). Excess CSF can lead to harmful pressure on the brain tissue, and fetal hydrocephalus is especially important to address to ensure the health of both mother and baby.



<img class="pull-right image-margin-right"
alt="Hydrocephalus Treatment Denver"
src="/util/images/maternal-fetal-health/Hydrocephalus-sm.j
pg">

Alt text is **not** to be used for keyword stuffing as an seo tactic.

The alt text for the image here does **not** describe the information in the image, it adds nothing to the content, and makes no logical sense to someone using a SR.

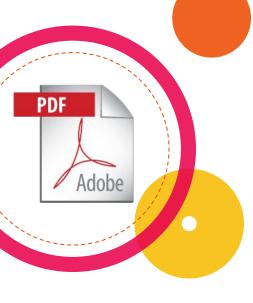
Other non-text elements

Videos

- Videos should be captioned for the deaf or hard of hearing
- YouTube's default captioning is inadequate
- Provide a text transcript file of the video content, or put the transcript in the video description - ex: https://www.youtube.com/watch?v=bEM9Fn9aOG8
- Bonus transcripts are very helpful for SEO!

iFramed content

- If you are using an iFrame, add the *title* attribute so that it is clear what is being pulled into the page
 - <iframe title="some description" src="url" >



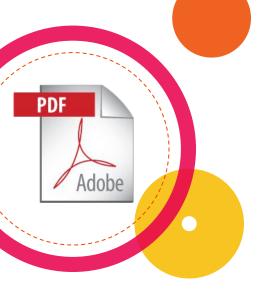
PDF Documents

PDF accessibility is a fairly complex process, but there are some things we can do that are easy to do.

 Make sure that the document summary title and subject fields are not blank. This also helps in search results as bots can read these fields.

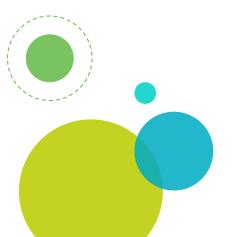


In Acrobat, hit CTRL+D to reach this summary



PDF Documents

- Avoid images as the only content of a PDF
- Acrobat can do some OCR to generate real text, but the image has to be of good quality.
- Acrobat does have built-in accessibility tools we can use



Resources:

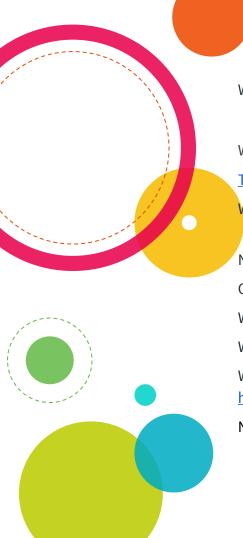
https://www.w3.org/TR/2014/NOTE-WCAG20-TECHS-20140408/pdf.html#pdf_notes

http://webaim.org/techniques/acrobat/converting

http://www.adobe.com/accessibility/products/acrobat/training.html

https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html





Resources & Tools

WebAIM.org WAVE extension - Chrome (no longer being developed for Firefox)

- tests against WCAG criteria, also online site test tool - http://wave.webaim.org/

Web aXe extension - Chrome & Firefox - http://www.deque.com/products/axe/#aXeExtensions

<u>Tenon.io</u> - WCAG 2.0, Section 508 testing tool (API available)

Web Developer Extension - Firefox & Chrome, by Chris Pederick

- adds a configurable menu & toolbar with various tools

NoCoffee - Chrome extension - color blindness & vision impairments simulator

Contrast Ratio Calculator - http://leaverou.github.io/contrast-ratio/

WebAIM Contrast Checker - http://webaim.org/resources/contrastchecker/

WCAG 2.0 checklist - http://webaim.org/standards/wcag/checklist

Website Accessibility Principles - Quick Reference -

http://webaim.org/resources/quickref/quickref.pdf

NVDA - screen reader (free) - http://nvaccess.org





Instructions for use

Open this document in Google Slides (if you are at slidescarnival.com use the button below this presentation)

You have to be signed in to your Google account

EDIT IN GOOGLE SLIDES

Go to the *File* menu and select *Make* a copy.

You will get a copy of this document on your Google Drive and will be able to edit, add or delete slides.

EDIT IN POWERPOINT®

Go to the *File* menu and select *Download as Microsoft PowerPoint*. You will get a .pptx file that you can edit in PowerPoint.

Remember to download and install the fonts used in this presentation (you'll find the links to the font files needed in the <u>Presentation design</u> slide)

More info on how to use this template at www.slidescarnival.com/help-use-presentation-template

This template is free to use under <u>Creative Commons Attribution license</u>. You can keep the Credits slide or mention SlidesCarnival and other resources used in a slide footer.

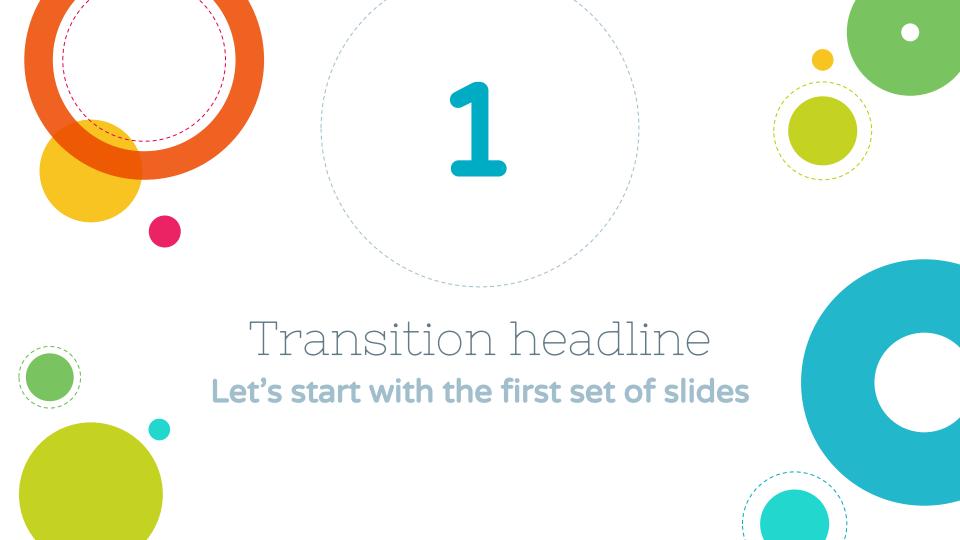


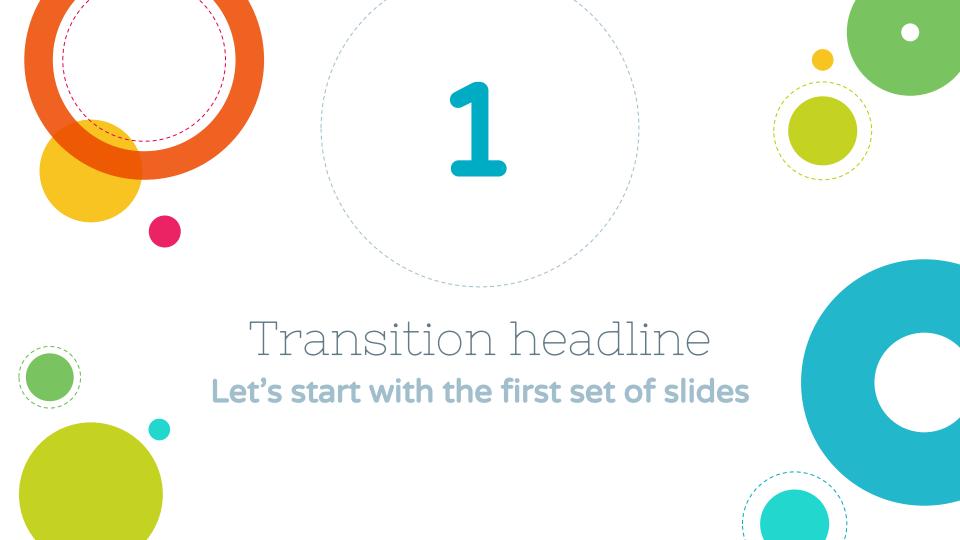


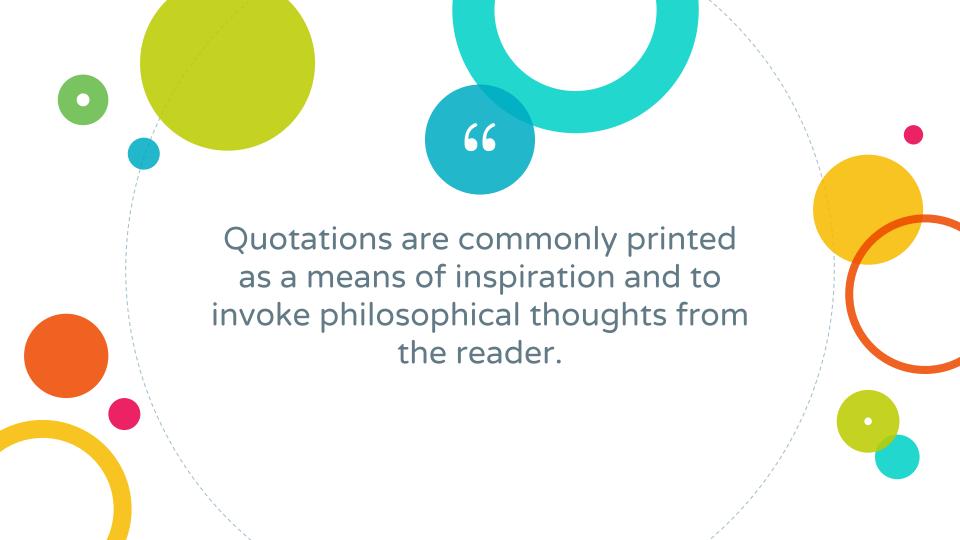
I am Jayden Smith

I am here because I love to give presentations.

You can find me at @username









This is a slide title

- Here you have a list of items
- And some text
- But remember not to overload your slides with content

You audience will listen to you or read the content, but won't do both.







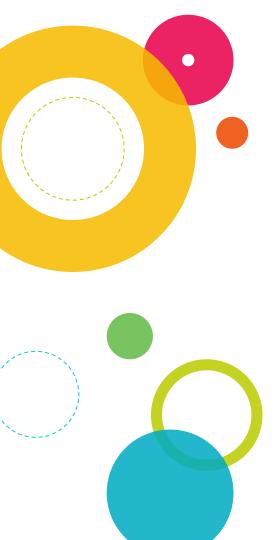
You can also split your content

White

Is the color of milk and fresh snow, the color produced by the combination of all the colors of the visible spectrum.

Black

Is the color of coal, ebony, and of outer space. It is the darkest color, the result of the absence of or complete absorption of light.



In two or three columns

Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.

Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.

Red

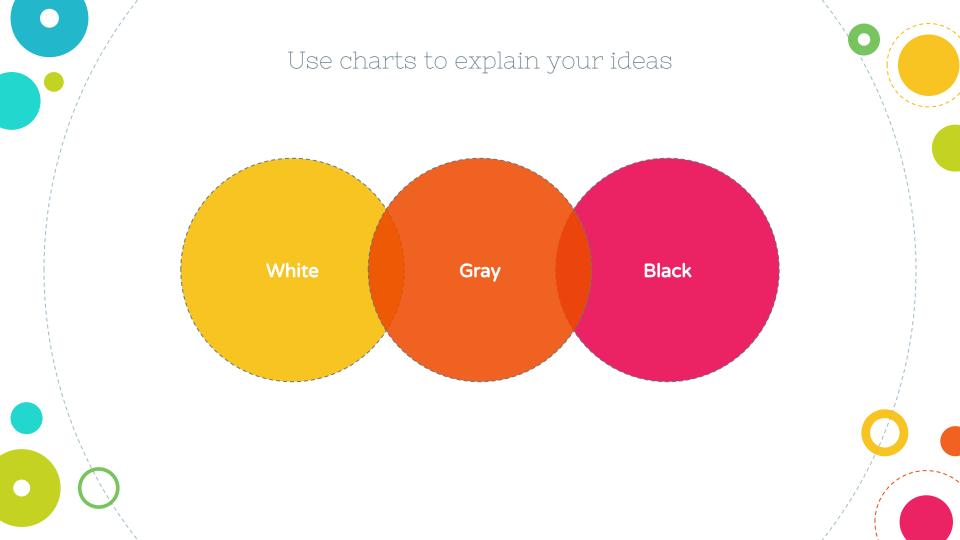
Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.

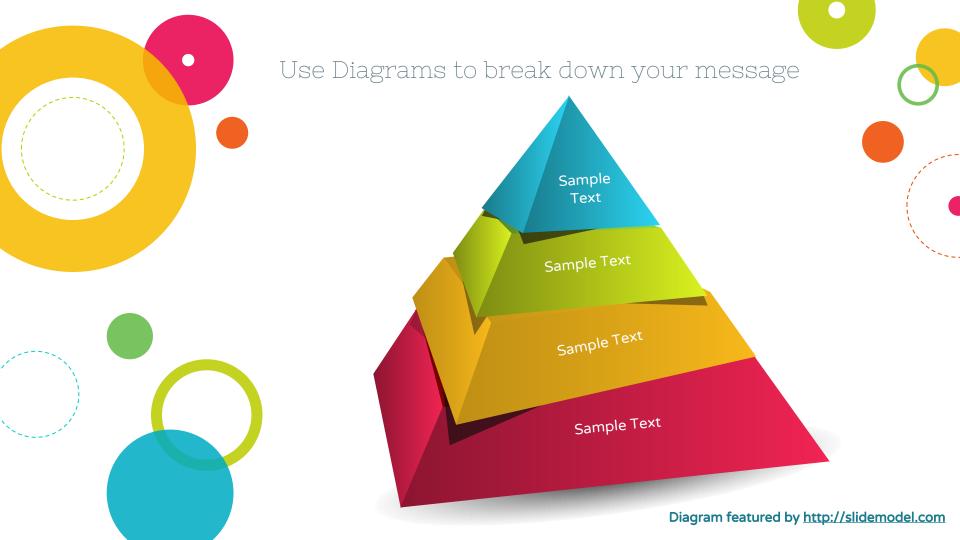


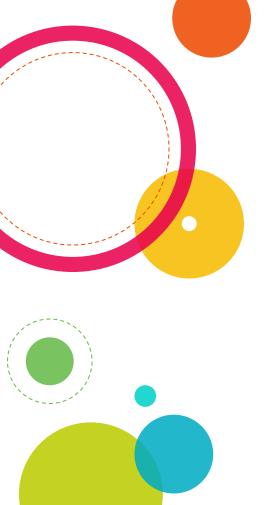
A picture is worth a thousand words

A complex idea can be conveyed with just a single still image, namely making it possible to absorb large amounts of data quickly.



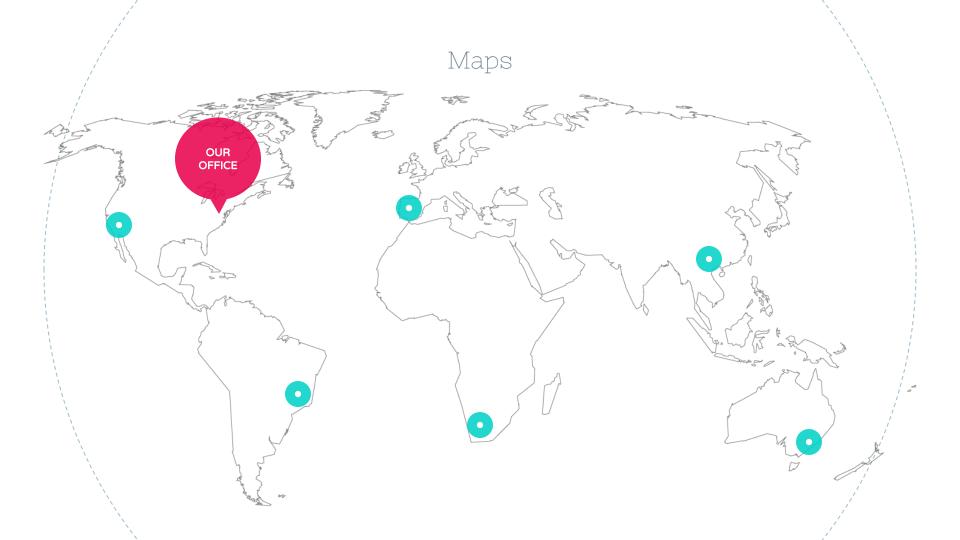






And tables to compare data

	Α	В	С
Yellow	10	20	7
Blue	30	15	10
Orange	5	24	16



89,526,124

Whoa! That's a big number, aren't you proud?

89,526,124\$ That's a lot of money

185,244 users

And a lot of users

100%

Total success!





Let's review some concepts

Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.

Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.

Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.

Blue

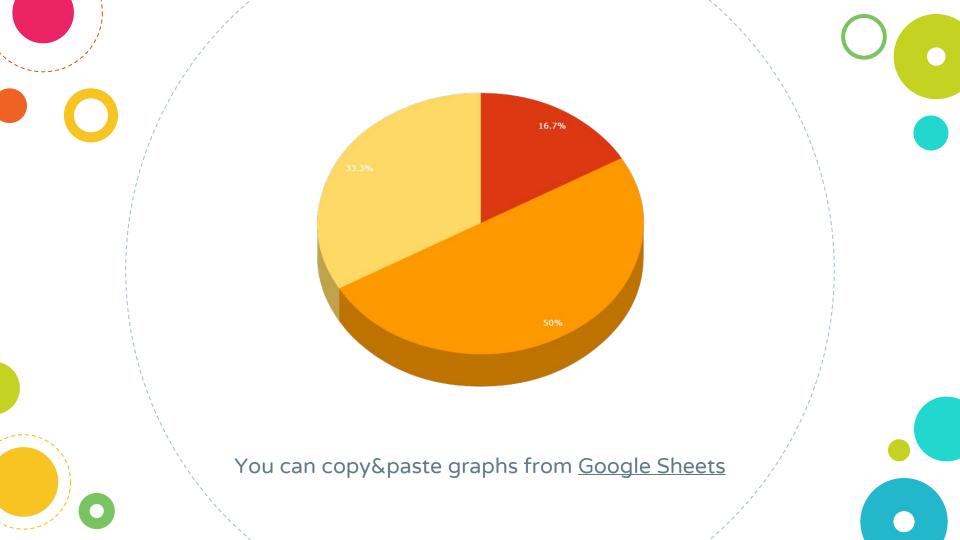
Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.

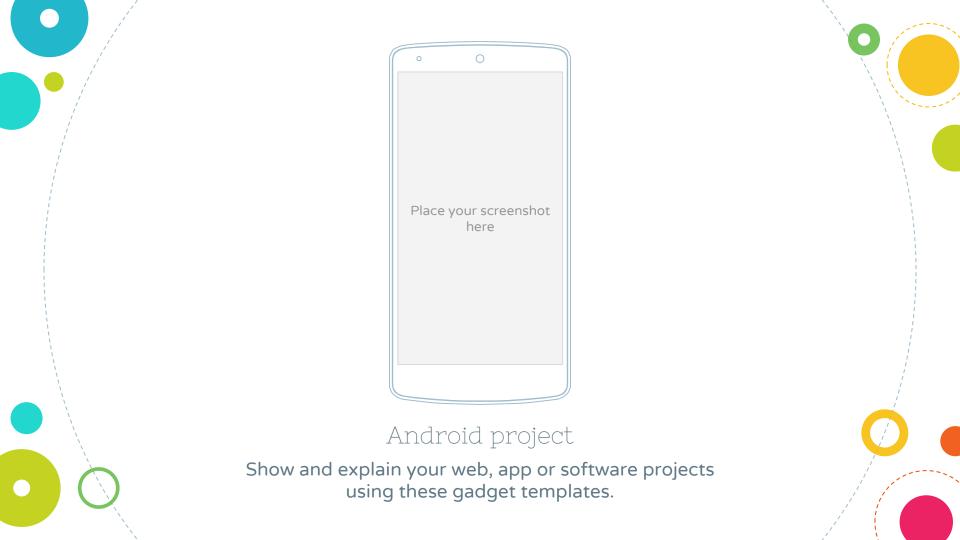
Red

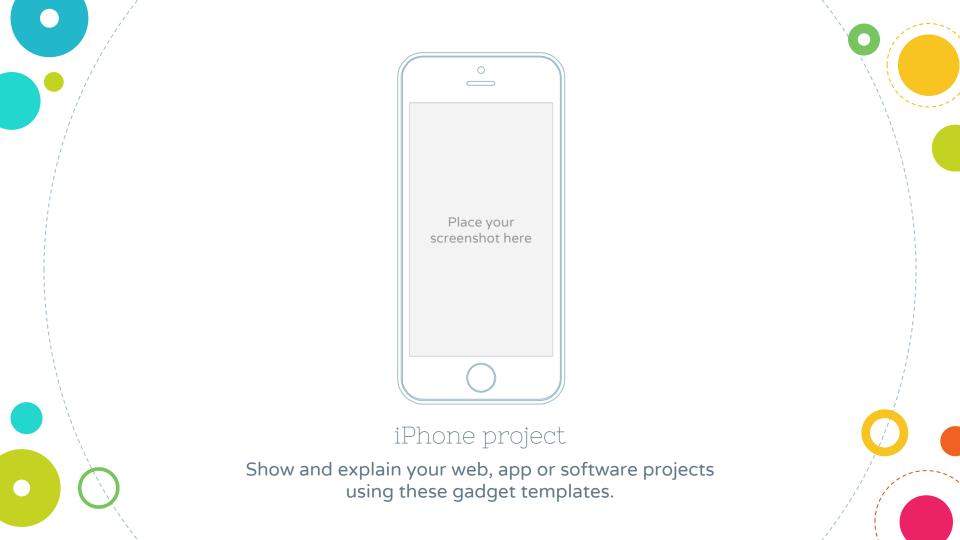
Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.

Red

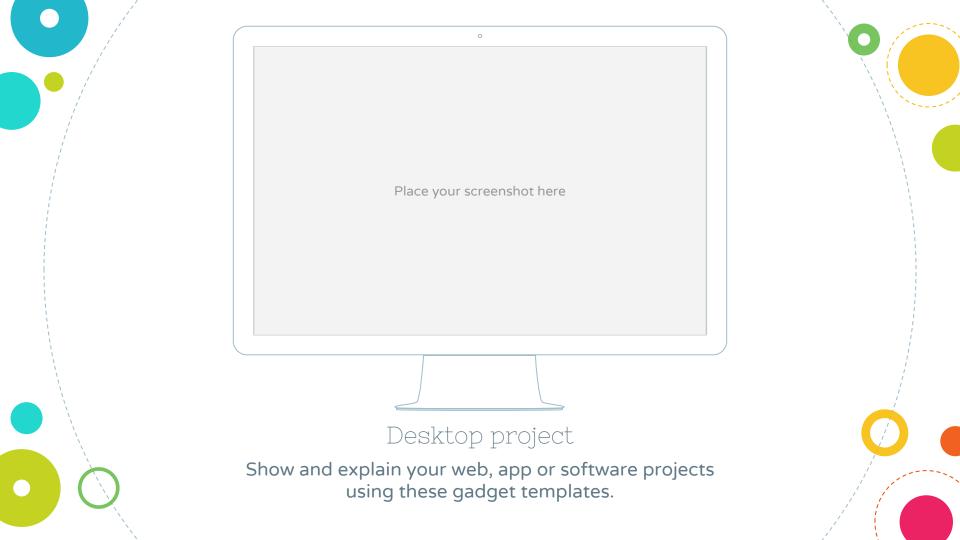
Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.









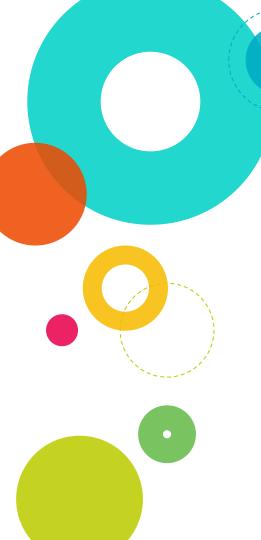


Thanks!



Any questions?

You can find me at @username & user@mail.me





This presentation uses the following typographies and colors:

Titles: Nixie One

Body copy: Varela Round

You can download the fonts on this page:

 $\underline{http://www.google.com/fonts/\#UsePlace:use/Collection:Nixie+One[Varela+Round]}$

Click on the "arrow button" that appears on the top right

Yellow #f8bb00 Orange #ed4a00 Fucsia #e8004c
Blue #00acc3 Aqua #00d1c6 Lime #bbcd00

Green #65bb48 Gray #617a86 Light Gray #a1becc

You don't need to keep this slide in your presentation. It's only here to serve you as a design guide if you need to create new slides or download the fonts to edit the presentation in PowerPoint®





SlidesCarnival icons are editable shapes.

This means that you can:

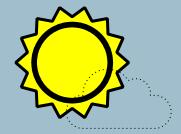
- Resize them without losing quality
- Change fill color and opacity
- Change line color, width and style.

sn't that nice?:)

Examples:









Now you can use any emoji as an icon!

And of course it resizes without losing quality and you can change the color.

How? Follow Google instructions https://twitter.com/googledocs/status/730087240156643328





































































and many more...