



ACCESSIBILITY AND INCLUSIVE DESIGN

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ACCESSIBILITY

- “The design of products, devices, services, or environments for people with disabilities. The concept of accessible design ensures both "direct access" (i.e. unassisted) and "indirect access" meaning compatibility with a person's assistive technology.”

- Wikipedia, see

<https://en.wikipedia.org/wiki/Accessibility>

INCLUSIVE DESIGN

- “The design of mainstream products and/or services that are accessible to, and usable by, as many people as reasonably possible ... *without the need for special adaptation or specialized design.*”
- British Standards Institute (2005), see <http://www.inclusivedesigntoolkit.com/betterdesign2/whatis/whatis.html#p30>

HOW WE DEFINE DISABILITY

.....

- Low Vision or no Vision

- Auditory Limitations

- Cognitive Challenges

- Mobility Issues

- Any combination of these

- Images from “A Web for Everyone”, S. Horton and W. Quesenbery, Rosenfeld Media, 2013





EXTENDING THE DEFINITION

.....

- **Secondary/Situational Disabilities**
 - **Hearing** - in a loud environment
 - **Cognitive** - when stressed or distracted
 - **Visual** - web site not using Responsive Design on mobile screen
 - **Language** - any 2nd language
 - **Mobility** - lateral epicondylitis surgery

Designing for users with low vision



Do...

use good colour contrasts and a readable font size



publish all information on web pages



use a combination of colour, shapes and text

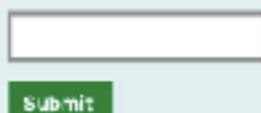


follow a linear, logical layout

200% magnification



put buttons and notifications in context



Don't...

use low colour contrasts and small font size



bury information in downloads



only use colour to convey meaning

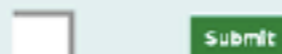


spread content all over a page

200% magnification



separate actions from their context



DESIGN INCLUSIVELY?

- Home Office Digital: <https://github.com/UKHomeOffice/posters/tree/master/accessibility>

Designing for users of screen readers



Do...

describe images and provide transcripts for video

```
<alt>
```

follow a linear, logical layout



structure content using HTML5

```
<h1>  
<nav>  
<label>
```

build for keyboard use only



write descriptive links and headings

[Contact us](#)

Don't...

only show information in an image or video



spread content all over a page



rely on text size and placement for structure

36pt, bold
Header

force mouse or screen use



write uninformative links and headings

[Click here](#)

DESIGN INCLUSIVELY?

- Home Office Digital: <https://github.com/UKHomeOffice/posters/tree/master/accessibility>

Designing for users who are D/deaf or hard of hearing



Do...

Don't...

write in plain language

Do this.

use complicated words or figures of speech



use subtitles or provide transcripts for videos



put content in audio or video only



use a linear, logical layout



make complex layouts and menus



break up content with sub-headings, images and videos



make users read long blocks of content



let users ask for their preferred communication support when booking appointments



make telephone the only means of contact for users



DESIGN INCLUSIVELY?

- Home Office Digital: <https://github.com/UKHomeOffice/posters/tree/master/accessibility>

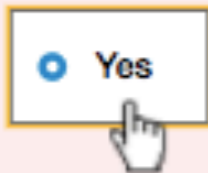


Designing for users with physical or motor disabilities



Do...

make large clickable actions



give form fields space



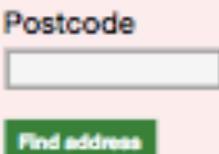
design for keyboard or speech only use



design with mobile and touchscreen in mind

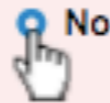


provide shortcuts



Don't...

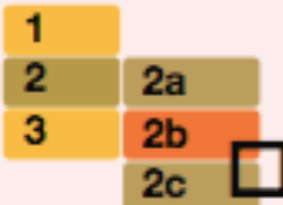
demand precision



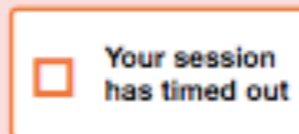
bunch interactions together



make dynamic content that requires a lot of mouse movement



have short time out windows



tire users with lots of typing and scrolling



DESIGN INCLUSIVELY?

- Home Office Digital: <https://github.com/UKHomeOffice/posters/tree/master/accessibility>

Designing for users with dyslexia



Do...

use images and diagrams to support text



align text to the left and keep a consistent layout



consider producing materials in other formats (eg. audio or video)



keep content short, clear and simple (journalistic style)



let users customise the contrast between background and text



Don't...

produce blocks of text or text heavy pages



underline words, use italics or write in capitals



force users to rely on their memory - use prompts and inline text



require users to spell correctly - use autocorrect or provide suggestions



communicate complex information on one screen



DESIGN INCLUSIVELY?

- Home Office Digital: <https://github.com/UKHomeOffice/posters/tree/master/accessibility>

Designing for users on the autistic spectrum



Do...

use simple colours



write in plain English

Do this.

use simple sentences and bullets



make buttons descriptive

Attach files

build simple and consistent layouts



Don't...

use bright contrasting colours



use figures of speech and idioms



create a wall of text



make buttons vague and unpredictable

Click here!

build complex and cluttered layouts



DESIGN INCLUSIVELY?

- Home Office Digital: <https://github.com/UKHomeOffice/posters/tree/master/accessibility>



MEETING REQUIREMENTS

- ▶ Is there a problem here?



COGNITIVE ISSUES

- Does it really?
- Multiples of each?




H U M B L E

THINKING INCLUSIVELY: BE “HUMBLE”

- Humanize
- Unlearn
- Model
- Build
- Learn
- Experiment


Home



 Announcements

Junior Bach Concerts for 2018
 Mar 22, 2018
 Junior Bach Festival Concerts, March 2018 (Click on any concert number to see a detailed...)

Auditions: January 27-28, 2018
 Jan 28, 2018
 Auditions for Junior Bach Festival. 2018 concerts will be held Saturday and Sunday, January 27-28,...


 Junior Bach Festival Concerts on YouTube

OVER 130 CONCERTS FROM 1999 TO 2017 CAN NOW BE VIEWED!

[CLICK HERE](#) for Details on Individual Performances and Concerts

[CLICK HERE](#) to view Selected Performances from Festival 2017

[CLICK HERE](#) to view the entire Junior Bach Festival YouTube Channel

 Junior Bach Auditions

[AUDITION REQUIREMENTS](#) (click)

[HOW TO APPLY](#) (click)

QUESTIONS?
 CALL: [REDACTED]

LET'S PLAY: OUR SAMPLE SITE

- <http://JuniorBach.org>
- Small site dedicated to a local music festival
- Shares announcements, background information about the festival, handles registration for the festival each year
- Responsive? Yes
- Accessible and Inclusive? Let's Find Out!

Junior Bach Festival

Junior Bach Festival Junior Bach Festival Junior Bach Festival Junior Bach Festival Junior Bach Festival

[Home](#) [About](#) [Auditions](#) [Festival](#) [Donations](#) [Links](#) [Contact](#)

Home



Announcements

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Jan 26, 2018

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[CLICK HERE](#) for Details on...

LIVE DEMO: WEBAIM WAVE

- Web based application at <http://wave.webaim.org>
- Also a PlugIn for Chrome and Firefox

Junior Bach Festival



Festival



Network Performance Memory Application Security Audits AdBlock a)

Elements must have sufficient color contrast

[Inspect Node](#) [Highlight](#)

Issue description

Ensures the contrast between foreground and background colors meets WCAG 2 AA contrast ratio thresholds

Element location

`#copyright-text > p`

Impact: **serious**

[Learn more](#)

To solve this vi

Fix the following Element has insul #999999, backgrc normal). Expecte

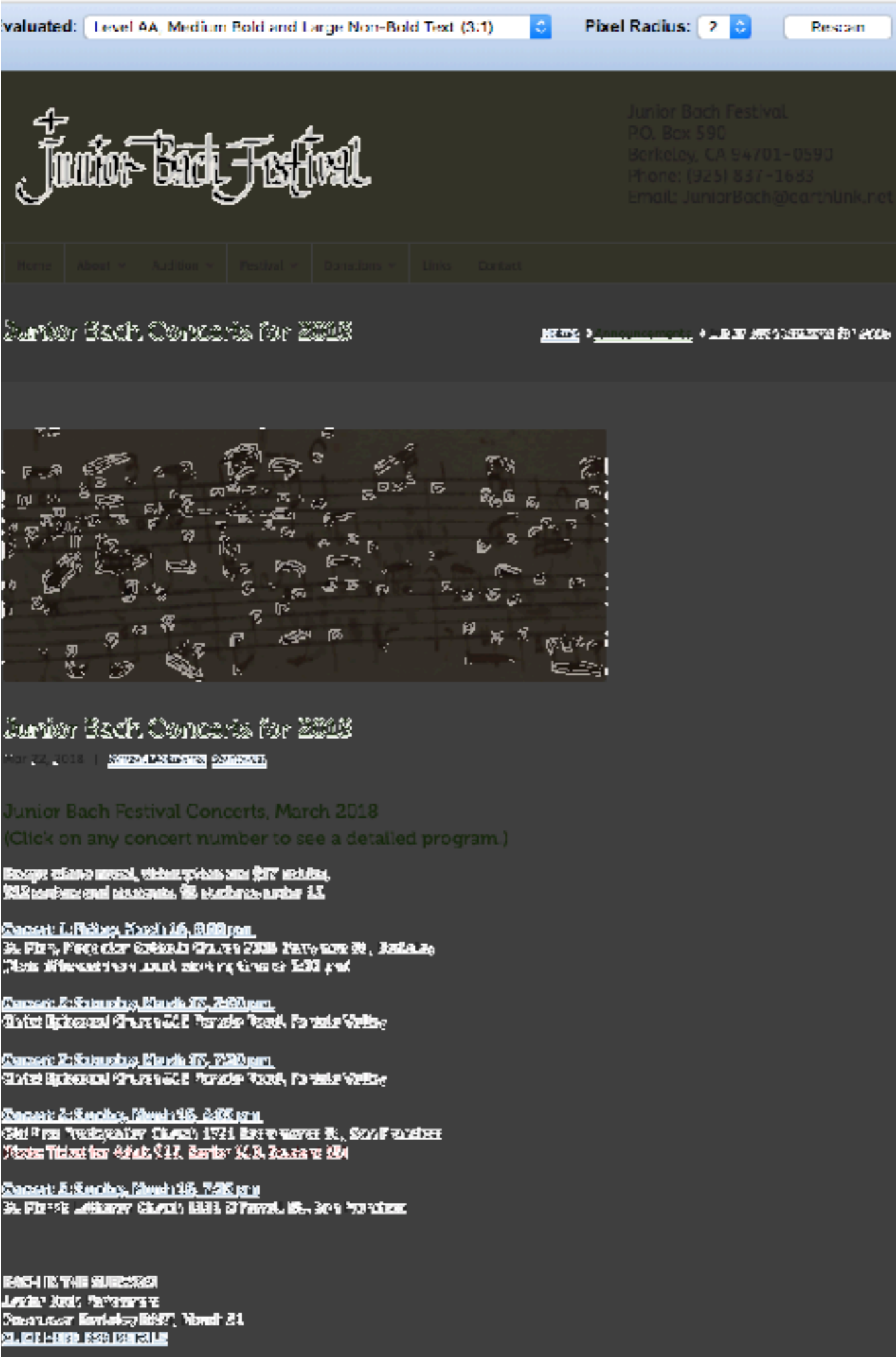
Related node:

[Inspect](#)

Issue tags: category: color wcag2aa wcag143

LIVE DEMO: AXE

- Extension for Chrome and Firefox
- Resides with the Developer tools



LIVE DEMO: COLOR CONTRAST ANALYZER

- Plug-In for Chrome
- Quick view to determine what falls into range for color contrast.

Hem

Readab

Grade

OK. Aim

Reading ti

Letters: 22

Characters

Words: 40

Sentences

Paragraph

Show Less

4 adver

13 uses to 6 or fe

3 phras alternativ

1 of 28 read.

9 of 28 hard to n

App makes your writing bold and clear.

is 18 years as of February 1, 2018, except for s, harpsichordists, organists, and accompanists d as 20 years on that date. Young unchanged ne.

identified by Schmieder index number, as listed in -Werke-Verzeichnis (BWV) catalog of works nged by J. S. Bach. Urtext (authentic) editions are nded. Recommended editions of Bach's works are er, and Peters. Transcriptions (but not r modern instruments may be entered. Suites and ublished by selected movements or as complete ail juniorbach@earthlink.net if there are questions ity of entries.

ON is required for solo performance on all t the exception of organ and harpsichord. mbles, defined as 2 or more players, may use des concertos with keyboard accompaniment, ization by the solo instrument is still encouraged.

in minutes must be stated accurately. Suites and ublished by selected movements or complete. e option to select only certain movements for nce. Complete works rarely exceed 20 minutes. nsist of more than a single short piece (but not patible pieces) on the same instrument, providing e does not exceed 10 minutes. Repeats should not ornamented differently. Da capo repeats are ctor that into duration calculations.

LIVE DEMO: HEMINGWAY

- Analyzes writing
- Offers suggestions to clean it up.
- Shows target range of readership
- 9th Grade Reading Level is the sweet spot

Welcome to Citylights

Citylights is the new portal for visitors and residents. Find out what's on, book tickets, and get the latest news.

- Heat wave linked to temperatures
- Man Gets Nine Months in Violin Case
- Lack of brains hinders research



After three years of effort city scientists now agree that the primary cause of the 2003 heatwave was hot air from our MORE >>

Mayor: These kinds of crimes need more creative, effective punishments. For example, we could require compulsory MORE >>

Brain donations: huge drop off in brain donations due to the great 'success' of 'Slow Traffic, Safe Streets' policy MORE >>

Elsewhere on the Web

Please see the following websites for important information. Citylights take no responsibility for their content. For artichoke advice, call the number below.

- Killer bees. Click here.
- Onions. Click here.

Artichoke advice telephone hotline: (1) 200 (-H-O-H-E)

Free Peng



'Free peng' slogan at concert causes confusion among rockers. Adverb? Read More

More City



More parks green through city at the park already rare parking space will this affect Read More

LET'S PLAY: BEFORE AND AFTER

- <https://www.w3.org/WAI/demos/bad/>
- Comparison between an Inaccessible site and an Accessible site.
- Surface differences are minimal.
- See code for differences.

TOOLS CANNOT MAKE JUDGMENT CALLS

- Tools can identify issues and assert known states
- Tools can confirm presence of tags
- Tools cannot confirm a comparable experience
- Tools cannot determine appropriateness

STILL NOT CONVINCED?

- Think of yourself in the future, with the possibility that a significant disability (or disabilities) may be part of your everyday experience.
- Remember that not everyone is the same as you.
- Practice empathy.
- Include these design factors into the process from the beginning.
- Think about the future – you may end up benefiting from your own design.

FURTHER READING

- **Wikipedia, “Accessibility”**,
<https://en.wikipedia.org/wiki/Accessibility>
- **British Standards Institute, 2005, “What is Inclusive Design?”**,
<http://www.inclusivedesigntoolkit.com/betterdesign2/whatis/whatis.html#p30>
- **S. Horton and W. Quesenbery, 2013, “A Web for Everyone”**,
Rosenfeld Media, <https://rosenfeldmedia.com/books/a-web-for-everyone/>
<https://rosenfeldmedia.com/books/a-web-for-everyone/>
- **Gareev, Albert and Larsen, Michael, 2015, “Black Box Accessibility Testing: A Heuristic Approach”**,
<http://www.associationforsoftwaretesting.org/wp-content/uploads/Black-Box-Accessibility-Testing-A-Heuristic-Approach-.pdf>
- **Do’s and Don’ts for Designing or Accessibility**,
<https://accessibility.blog.gov.uk/2016/09/02/dos-and-donts-on-designing-for-accessibility/>

FURTHER READING

- **WAVE, Web Accessibility Evaluation Tool,**
<http://wave.webaim.org/>
- **aXe: the Accessibility Engine,**
<https://www.deque.com/axe/>
- **Color Contrast Analyzer,**
<http://accessibility.oit.ncsu.edu>
- **Hemingway Editor,**
<http://www.hemingwayapp.com/>
- **Web Content Accessibility Guidelines (WCAG) Overview, W3C, Web Accessibility Initiative,**
<https://www.w3.org/WAI/intro/wcag>
- **Before and After Demonstration, W3C, Web Accessibility Initiative,**
<https://www.w3.org/WAI/demos/bad/>

PARTING THOUGHTS



- If you are not clear about what you are looking at or for, your intended users won't be clear on it, either.