

**Case Study:**  
**Web Accessibility for [www.EnvisionUs.com](http://www.EnvisionUs.com)**

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# Introduction

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As advocates for people who are blind or low vision, we at Envision value independence. Our online communications should support independence through equal access to information by any method. Web accessibility is an important facet of our mission to ensure personal independence, enrich quality of life, and provide career opportunities for people who are blind or low vision.

In designing the new Envision web site, accessibility was made a priority from the start. In fact, it was decided that meeting minimal accessibility requirements was not enough. Envision wanted to present a web site that met the highest accessibility standards. We hope in doing so we serve as an example for other organizations.

In the beginning we only understood the basics of web accessibility. After months of research and testing, we found that our goal was attainable. The new Envision web site would be built upon the following principles:

- 1) Everyone, regardless of ability, has a right to information.
- 2) Assume only that your users are capable of receiving and sending text only.
- 3) Accessible content is content presented within the precepts of proper web design.



# What Are Accessibility Requirements?

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There are two sources of requirements for online accessibility - Section 508 and WCAG.

Section 508 is an amendment to the Workforce Rehabilitation Act of 1973. Section 508 requires Federal agencies to make their electronic and information technology accessible to people with disabilities. The spirit of this law is that all people have access to information regardless of ability.

The WCAG is a set of guidelines published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C). The Consortium uses experts in various fields to develop and publish standards for many facets of the World Wide Web. The WCAG group consists of industry representatives, accessibility consultants, universities, and accessibility experts.

The first version of the WCAG was published in 1999. Version 2 was published as a recommendation in late 2008. The WCAG is not the same as Section 508 but the two are similar and often WCAG guidelines are used to check Section 508 compliance.

The WCAG includes three levels of standards – A, AA, AAA. Level A is called the “musts” as the criteria in Level A are minimums for accessibility. Level AA is referred to as the “shoulds” since it contains guidelines that boost accessibility for a wider range of users and scenarios. Level AAA, known as the “mays,” includes criteria that either require skilled content creators and/or impose limits on the look, feel, or function of web pages. It is the ultimate in web accessibility, but due to the skills required to achieve success, and the restrictions imposed by the criteria, some refer to Level AAA as “a pipe dream” or “a journey, not a destination.” The WAI even recognizes that Level AAA should not be a requirement since it is not possible to meet all the criteria for all types of content.



## How We Designed For Accessibility

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As many organizations find, making an established web site accessible is difficult and time consuming. Our devotion to blind and low vision advocacy, public education, and outreach led us to the decision to design a new web site that would set an example in online accessibility. Envision developed internal design standards that guide the development of the site, content creation, and how we communicate online.

The design standards include an approval chain which ensures that all content is reviewed and tested for accessibility.

Our design standards ensure we meet or exceed accessibility guidelines. Below are the specific guidelines and how Envision maintains compliance.



# WCAG 2.0 Level A

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1.1 / (a) Provide a text equivalent for every non-text element (e.g., via "alt", "longdesc", or in element content).

All images include the alt attribute. Decorative, non-informational images include an empty alt attribute.

1.2 / (e) Provide redundant text links for each active region of a server-side image map.

Image maps are not used.

1.3 Until user agents can automatically read aloud the text equivalent of a visual track, provide an auditory description of the important information of the visual track of a multimedia presentation.

When video is presented, auditory descriptions are included when appropriate (when no dialog).

1.4 / (b) For any time-based multimedia presentation (e.g., a movie or animation), synchronize equivalent alternatives (e.g., captions or auditory descriptions of the visual track) with the presentation.

No APPLETs or EMBEDs are used. When OBJECT is used to present video, the video includes captions. Auditory descriptions are included when appropriate (when no dialog).

2.1 / (c) Ensure that all information conveyed with color is also available without color, for example from context or markup.

Color is not used to convey information.

4.1 Clearly identify changes in the natural language of a document's text and any text equivalents (e.g., captions).

Our default language is English (en-US). Translation is provided by a third party.

5.1 / (g) For data tables, identify row and column headers.

We only use TABLEs for tabular, multi-dimensional lists and our TABLEs will always include summary, CAPTION, THEAD, and TBODY.

5.2 / (h) For data tables that have two or more logical levels of row or column headers, use markup to associate data cells and header cells.

We only use one level of headers.

6.1 / (d) Organize documents so they may be read without style sheets.

Our pages are readable without styles applied.

6.2 Ensure that equivalents for dynamic content are updated when the dynamic content changes.



We do not use SCRIPTing or DHTML to change any informational content.

6.3 / (l),(m) Ensure that pages are usable when scripts, applets, or other programmatic objects are turned off or not supported. If this is not possible, provide equivalent information on an alternative accessible page.

No APPLETS or EMBEDs are used. When SCRIPTs are used, pages function without them. When OBJECT is used to present video, the video includes captions.

7.1 / (j) Until user agents allow users to control flickering, avoid causing the screen to flicker.

Animation, BLINK, MARQUEE are not used.

9.1 / (f) Provide client-side image maps instead of server-side image maps except where the regions cannot be defined with an available geometric shape.

Image maps are not used.

12.1 / (i) Title each frame to facilitate frame identification and navigation.

FRAMEs are not used.

14.1 Use the clearest and simplest language appropriate for a site's content.

Content is written to target the audience's reading level.



# WCAG 2.0 Level AA

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2.2 Ensure that foreground and background color combinations provide sufficient contrast when viewed by someone having color deficits or when viewed on a black and white screen.

Our color choices for textual content exceed requirements in brightness difference, color difference, and contrast.

3.1 When an appropriate markup language exists, use markup rather than images to convey information.

Images are used for decoration, and to represent people, events, and places.

3.2 Create documents that validate to published formal grammars.

Our HTML validates without errors.

3.3 Use style sheets to control layout and presentation.

Style sheets are used for layout and presentation.

3.4 Use relative rather than absolute units in markup language attribute values and style sheet property values.

Our textual content uses scalable font sizes that can be changed using browser settings.

3.5 Use header elements to convey document structure and use them according to specification.

Header (H) tags are used to create an outline of page content.

3.6 Mark up lists and list items properly.

List HTML validates without error.

3.7 Mark up quotations. Do not use quotation markup for formatting effects such as indentation.

Quotation tags are not used for formatting.

5.3 Do not use tables for layout unless the table makes sense when linearized. Otherwise, if the table does not make sense, provide an alternative equivalent (which may be a linearized version).

Tables are not used for layout.

5.4 If a table is used for layout, do not use any structural markup for the purpose of visual formatting.

Tables are not used for layout.

6.4 For scripts and applets, ensure that event handlers are input device-independent.



No APPLETs or EMBEDs are used. When SCRIPTs are used, output is not input dependent. When OBJECT is used to present video, the video supports both pointer and keyboard controls.

6.5 Ensure that dynamic content is accessible or provide an alternative presentation or page.

We do not use SCRIPTing or DHTML to change any informational content.

7.2 Until user agents allow users to control blinking, avoid causing content to blink (i.e., change presentation at a regular rate, such as turning on and off).

Animation, BLINK, MARQUEE are not used.

7.3 Until user agents allow users to freeze moving content, avoid movement in pages.

Animation, BLINK, MARQUEE are not used.

7.4 Until user agents provide the ability to stop the refresh, do not create periodically auto-refreshing pages.

We do not use auto-refreshing pages.

7.5 Until user agents provide the ability to stop auto-redirect, do not use markup to redirect pages automatically. Instead, configure the server to perform redirects.

Redirects, if used, are performed at the server.

8.1 Make programmatic elements such as scripts and applets directly accessible or compatible with assistive technologies.

No APPLETs or EMBEDs are used. When SCRIPTs are used output is not input dependent. When OBJECT is used to present video, the video supports both pointer and keyboard controls.

9.2 Ensure that any element that has its own interface can be operated in a device-independent manner.

We use the standard HTML elements.

9.3 For scripts, specify logical event handlers rather than device-dependent event handlers.

When SCRIPTs are used output is not input dependent.

10.1 Until user agents allow users to turn off spawned windows, do not cause pop-ups or other windows to appear and do not change the current window without informing the user.

We do not use pop-up windows.

10.2 Until user agents support explicit associations between labels and form controls, for all form controls with implicitly associated labels, ensure that the label is properly positioned.

LABELs are used and properly positioned.



11.1 Use W3C technologies when they are available and appropriate for a task and use the latest versions when supported.

We do not use depreciated HTML tags. Our HTML validates without errors.

11.2 Avoid deprecated features of W3C technologies.

We do not use depreciated HTML tags. Our HTML validates without errors.

12.2 Describe the purpose of frames and how frames relate to each other if it is not obvious by frame titles alone.

FRAMEs are not used.

12.3 Divide large blocks of information into more manageable groups where natural and appropriate.

All content is of a manageable length.

12.4 Associate labels explicitly with their controls.

LABELs are properly positioned.

13.1 Clearly identify the target of each link.

We do not use ambiguous or vague link text.

13.2 Provide metadata to add semantic information to pages and sites.

All pages have a title and all pages use the language META tag.

13.3 Provide information about the general layout of a site (e.g., a site map or table of contents).

We provide a site map.

13.4 Use navigation mechanisms in a consistent manner.

Menus and navigation are used consistently.



# WCAG 2.0 Level AAA

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1.5 Until user agents render text equivalents for client-side image map links, provide redundant text links for each active region of a client-side image map.

Image maps are not used.

4.2 Specify the expansion of each abbreviation or acronym in a document where it first occurs.

Abbreviations and acronyms use proper markup.

4.3 Identify the primary natural language of a document.

Language is properly identified.

5.5 Provide summaries for tables.

We only use TABLEs for tabular, multi-dimensional lists and our TABLEs will always include summary, CAPTION, THEAD, and TBODY.

5.6 Provide abbreviations for header labels.

Abbreviations are provided where applicable.

9.4 Create a logical tab order through links, form controls, and objects.

Tab order is maintained in read order and tabindex is not used.

9.5 Provide keyboard shortcuts to important links (including those in client-side image maps), form controls, and groups of form controls.

Tab order is maintained in read order and accesskey is not used.

10.3 Until user agents (including assistive technologies) render side-by-side text correctly, provide a linear text alternative (on the current page or some other) for all tables that lay out text in parallel, word-wrapped columns.

We only use TABLEs for tabular, multi-dimensional lists and our TABLEs will always include summary, CAPTION, THEAD, and TBODY.

10.4 Until user agents handle empty controls correctly, include default, place-holding characters in edit boxes and text areas.

Place holders are used.

10.5 Until user agents (including assistive technologies) render adjacent links distinctly, include non-link, printable characters (surrounded by spaces) between adjacent links.

No adjacent links are used.

11.3 Provide information so that users may receive documents according to their preferences (e.g., language, content type, etc.)



Content type and language are properly identified. Translation is provided.

13.10 Provide a means to skip over multi-line ASCII art.

ASCII art is not used.

13.5 Provide navigation bars to highlight and give access to the navigation mechanism.

Navigation bars are used.

13.6 Group related links, identify the group (for user agents), and, until user agents do so, provide a way to bypass the group.

Related links are grouped and "skip" links are provided.

13.7 If search functions are provided, enable different types of searches for different skill levels and preferences.

Simple text search is provided.

13.8 Place distinguishing information at the beginning of headings, paragraphs, lists, etc.

Our HTML validates without errors.

13.9 Provide information about document collections (i.e., documents comprising multiple pages.).

No pages comprise multiple pages.

14.2 Supplement text with graphic or auditory presentations where they will facilitate comprehension of the page.

Text is supplemented with graphics where appropriate.

14.3 Create a style of presentation that is consistent across pages.

Consistent styling is used on all pages.



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