## What is 508 Compliance?

[Section 508](https://www.section508.gov/), an amendment to the United States Workforce Rehabilitation Act of 1973, is a federal law mandating that all electronic and information technology developed, maintained, or used by the federal government be accessible to people with disabilities. 508 Compliance, therefore, involves developing a website that can be used by people with limited vision or blindness, deafness, disabilities.

### **Closed Captioning & Subtitles**

Closed captioning is text included for hearing impaired to audio or video files with audio components. This has been commonly used for TV, movies, and video for years, providing a transcript of the spoken words on the screen.

Enable Closed Caption automatically or manually to ensure equal accessibility for hearing impaired viewers.

### **Screen Reader Capability**

Websites should be built with the ability to be accessed with a screen reader. Many visually impaired people, as well as those with cognitive and/or learning disabilities, use screen readers to read aloud the text found on webpages.

### **Accessibility with Keyboard**

Users who have motor disabilities or use screen readers can be dependent on keyboard-only visual indicators, which need to be programmatically indicated as well

Tab navigation allows keyboard-only users to navigate easily and quickly through page content.

### **Skip Navigation Links**

Skip Navigation Links allow keyboard-only users to skip repetitive content like the mega navigation and move directly to the main content on a desired section of the page.

Skip navigation allows users to jump to key areas of content on a page.

### **Alternative Image Text**

All images need to have descriptive text attached to them for the visually impaired. Alternative image text gives context to the images on the page that they cannot see by providing screen reader

### **Alternative iFrame/ Video Text**

Like alternative text for images, alternative text for videos is required to allow screen reader software to describe an embedded video.

### **Color Allocation and Contrast**

### Color contrast **impacts the readability of your content on the web and in print**. It is especially important for users who are low vision or for users who are colorblind. Good color contrast means all users can see your content no matter the device they're using or the lighting of their surroundings

### **Color Schemes and Page Layout for Seizure Avoidance**

Certain color schemes and screen flickers can cause seizures in people with certain disorders. Webpages must be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

### **Avoid Block Zoom**

It is vital that zoom functionality is not disabled for mobile devices when creating a responsive design. Zoom is a feature used by a large percentage of the population with astigmatism and other visual impairments. Avoid blocking zoom on mobile devices to allow users the freedom to zoom as needed, and remember to check the layout for up to 200% zoom on desktop.

### **Timeouts**

When a timed response is required, the user must be given sufficient time to indicate more time is required. This timeout feature is commonly found in forms where personal information is entered. Your design team can ensure ample time is provided and a warning can be added to delay a time out.

**What is landmark in screen reader?**

ARIA landmarks are **attributes you add to elements to create semantically defined sections of a page that allow users of assistive technologies to navigate the page more easily**.

1. **What is the difference between AA and AAA**  
   As per WCAG, there are 3 levels of accessibility - A, AA, and AAA. A is the simplest one. AA is most widely adapted whereas AAA would be the best but AAA is very strict. Many AA rules get stricter at AAA. Eg: color-contrast becomes stricter. Hence, the color contrast which was getting a pass at AA will now fail at AAA.
2. **You are building an eCommerce website. The homepage has a full-size banner image - 'Models wearing the branded clothes'. As per you what should be the alt tag?**  
   Answer: This is a decorative image holding information about the website's mood. I would like to add a descriptive alt tag for the screen readers such as - "A female model wearing the red top with blue jeans holding shopping bags. Click on the button to see the offers."
3. **How you audit accessibility?**  
   Answer: I start the accessibility audit by using tools such as Lighthouse and Axe tool. Once I fix all the issues reported by these tools, I move to the manual testing of the web application especially by not using my keyboard, use screen readers such as voiceover to see how the application is working in the real world.
4. **How you will decide when to use button or a tag?**  
   Answer: button is when we want to take an action such as submit the form, open a popup, etc. Whereas, a tag is when we want to redirect the user. On a website shopping cart should be a tag rather than button tag.

### **What is accessibility?**

Accessibility refers to the ability of everyone, regardless of their physical or mental abilities, to access and use a space or service.

### **What are the four principles of accessibility?**

When it comes to accessibility, there are four key principles to keep in mind: perceivable, operable, understandable, and robust.

1. First and foremost, information and user interface elements must be perceivable - that is, they must be visible or audible.
2. Next, they must be operable - that is, users must be able to interact with them using their preferred input method.
3. In addition, the information and user interface elements must be understandable - that is, they must be clear and easy to use.
4. Finally, the information and user interface elements must be robust - that is, they must be compatible with assistive technologies and future-proofed against changes in technology.

### **What is the WCAG?**

The Web Content Accessibility Guidelines (WCAG) are a set of standards for making web content accessible to people with disabilities. The WCAG is developed by the World Wide Web Consortium (W3C), an international standards body.

### **How can you test a website for color blindness?**

There are a few different ways that you can test a website for color blindness.

One way is to use the Color Contrast Checker tool, which is available for free online. This tool lets you enter the URL of the website you want to test, and it will then generate a report that shows how well the site meets the contrast requirements for people with different types of color vision deficiency.

### **What is the difference between alt text and longdesc?**

Alt text and longdesc are two ways of adding descriptions to images on the web.

* Alt text is a brief description that is displayed in place of an image if the image cannot be loaded.
* Longdesc is a longer description that can be accessed by clicking on a link or icon.

### **What is the difference between a screen reader and a text-to-speech program?**

A screen-reader is a software program that assists blind or visually-impaired users by reading aloud the text that is displayed on the computer screen.

A text-to-speech program, on the other hand, is a software application that converts written text into spoken words.

### **In how many ways can we position an HTML element? Or what are the permissible values of the position attribute?**

There are mainly 7 values of position attribute that can be used to position an HTML element:

1. **static**: Default value. Here the element is positioned according to the normal flow of the document.
2. **absolute**: Here the element is positioned relative to its parent element. The final position is determined by the values of left, right, top, bottom.
3. **fixed**: This is similar to absolute except here the elements are positioned relative to the <html> element.
4. **relative**: Here the element is positioned according to the normal flow of the document and positioned relative to its original/ normal position.
5. **initial**: This resets the property to its default value.
6. **inherit**: Here the element inherits or takes the property of its parent.

### **Difference between SVG and Canvas HTML5 element?**

| **SVG** | **Canvas** |
| --- | --- |
| SVG is a vector based i.e., composed of shapes. | It is Raster based i.e., composed of pixels. |
| SVG works better with a larger surface. | Canvas works better with a smaller surface. |
| SVG can be modified using CSS and scripts. | Canvas can only be modified using scripts. |
| SVG is highly scalable. So we can print at high quality with high resolution. | It is less scalable. |

### **Explain the concept of web storage in HTML5.**

This web storage helps in storing some of the static data in the local storage of the browser so that we do not need to fetch it from the server every time we need it. There is a size limit based on different browsers. This helps in decreasing the load time and a smooth user experience. There are two types of web storage that are used to store data locally in HTML5:

* **Local Storage** - This helps in storing data that will be retained even though the user reopens the browser. It is stored for each webapp on different browsers.
* **Session Storage** - This is used for one session only. After the user closes the browser this gets deleted.

### **What is Microdata in HTML5?**

It is used to help extract data for site crawlers and search engines. It is basically a group of name-value pairs. The groups are called items, and each name-value pair is a property. Most of the search engines like Google, Microsoft, Yandex, etc follow schema.org vocabulary to extract this microdata.

### **Which tag is used for representing the result of a calculation? Explain its attributes.**

The <output> tag is used for representing the result of a calculation. It has the following attributes:

* **for** - It defines the relationship between the elements used in calculation and result.
* **form**- This is used to define the form the output element belongs to.
* **name** - The name of the output element.

### 49. **Explain HTML5 Graphics.**

HTML5 supports two kinds of graphics:

* **Canvas** - It is like drawing on a whitepaper or a blank webpage. We can add different graphic designs on web pages with available methods for drawing various geometrical shapes.

<!DOCTYPE **HTML**>

<**html**>

<**head**>

</**head**>

<**body**>

<**canvas** width="300" height="100" style="border:2px solid;"></**canvas**>

</**body**>

</**html**>

* **SVG** - Scalable Vector Graphics are used mostly for diagrams or icons. It follows the XML format.

<!DOCTYPE **html**>

<**html**>

<**body**>

<**svg** width="400" height="110">

<**rect** width="300" height="100" style="fill:#FFF;stroke-width:2;stroke:#000" />

</**svg**>

</**body**>

</**html**>

Both of the above examples produce this output and represent two different approaches provided by HTML5 to implement graphical aspects in the webpage.

### **What are the New tags in Media Elements in HTML5?**

* **<audio>** - Used for sounds, audio streams, or music, embed audio content without any additional plug-in.
* **<video>** - Used for video streams, embed video content etc.
* **<source>** - Used for multiple media resources in media elements, such as audio, video, etc.
* **<embed>** - Used for an external application or embedded content.
* **<track>** - Used for subtitles in the media elements such as video or audio.

### **What are the server-sent events in HTML5?**

The events pushed from the webserver to the browsers are called server-sent events. DOM elements can be continuously updated using these events.

### **What are Web Workers?**

These are added to bring parallelism and async capability. It runs in the background to do the computationally expensive tasks without yielding to make the page responsive. It is achieved by starting a separate thread for such tasks. These are not meant to perform UI operations. There are three types of web workers:

* **Dedicated Workers**- These are workers that are utilized by a single script.
* **Shared Workers** -These are workers that are utilized by multiple scripts running in different windows, IFrames, etc.
* **Service Workers** - These act as proxy servers between web applications, the browser, and the network. Mostly used for push notifications and sync APIs.

### What are raster images and vector images?

**Raster Images** - The raster image is defined by the arrangement of pixels in a grid with exactly what color the pixel should be. Few raster file formats include PNG(.png), JPEG(.jpg), etc.  
**Vector Images** - The vector image is defined using algorithms with shape and path definitions that can be used to render the image on-screen written in a similar markup fashion. The file extension is .svg

### **What is a manifest file in HTML5?**

The manifest file is used to list down resources that can be cached. Browsers use this information to make the web page load faster than the first time. There are 3 sections in the manifest file

* **CACHE Manifest** - Files needs to be cached
* **Network** - File never to be cached, always need a network connection.
* **Fallback** - Fallback files in case a page is inaccessible

### **What is the Geolocation API in HTML5?**

Geolocation API is used to share the physical location of the client with websites. This helps in serving locale-based content and a unique experience to the user, based on their location. This works with a new property of the global navigator object and most of the modern browsers support this. **var** geolocation = navigator.geolocation;

### **Explain Web Components and it’s usage.**

These are used to create reusable custom elements which are very difficult in traditional HTML. It consists of three technologies:

* **Custom elements** - These are JavaScript APIs that help in defining custom elements and their behavior.
* **Shadow DOM** - These are JavaScript APIs that attach an encapsulated shadow DOM tree to an element to keep the element’s features private and unaffected by other parts.

### **What is HTML?**

HTML stands for Hyper Text Markup Language. It is a language of World Wide Web. It is a standard text formatting language which is used to create and display pages on the Web. It makes the text more interactive and dynamic. It can turn text into images, tables, links

Following are different HTML5 elements which are used to define the different parts of a webpage.

* <header>: It is used to define a header for a document or a section.
* <nav>: It is used to define a container for navigation links
* <section>: It is used to define a section in a document
* <article>: It is used to define an independent, self-contained article
* <aside>: It is used to define content aside from the content (like a sidebar)
* <footer>: It is used to define a footer for a document or a section

### **What is CSS?**

CSS stands for Cascading Style Sheet. It is a popular styling language which is used with HTML to design websites. It can also be used with any XML documents including plain XML, SVG, and XUL

### **What is RWD?**

RWD stands for Responsive Web Design. This technique is used to display the designed page perfectly on every screen size and device, for example, mobile, tablet, desktop and laptop. You don't need to create a different page for each device.

### **What are the benefits of CSS sprites?**

If a web page has a large number of images that take a longer time to load because each image separately sends out an HTTP request. The concept of CSS sprites is used to reduce the loading time for a web page because it combines the various small images into one image. It reduces the number of HTTP requests and hence the loading time.

### **What is the CSS Box model and what are its elements?**

The CSS box model is used to define the design and layout of elements of CSS.

* Margin - It removes the area around the border. It is transparent.
* Border - It represents the area around the padding
* Padding - It removes the area around the content. It is transparent.
* Content - It represents the content like text, images, etc.

### **What is tweening?**

It is the process of generating intermediate frames between two images.

It gives the impression that the first image has smoothly evolved into the second one.

It is an important method used in all types of animations.

In CSS3, Transforms (matrix, translate, rotate, scale) module can be used to achieve tweening.

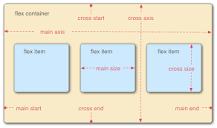
### **What is the difference between CSS2 and CSS3?**

The main difference between CSS2 and CSS3 is that CSS3 is divided into different sections which are also known as modules. Unlike CSS2, CSS3 modules are supported by many browsers.

**What is the difference between Flex and grids interview questions?**

**Flex-box for example is one-dimensional and suitable for content based rules, whereas the grid is two-dimensional and is suitable for layout based rules**.

**What is flexbox and how does it work?**



Flexbox is **a one-dimensional layout method for arranging items in rows or columns**. Items flex (expand) to fill additional space or shrink to fit into smaller spaces.

### **Creating a component using the Angular CLI**

To create a component using the Angular CLI:

1. From a terminal window, navigate to the directory containing your application.
2. Run the ng generate component <component-name> command, where <component-name> is the name of your new component.

By default, this command creates the following:

* A directory named after the component
* A component file, <component-name>.component.ts
* A template file, <component-name>.component.html
* A CSS file, <component-name>.component.css
* A testing specification file, <component-name>.component.spec.ts

**Transform**

The transform property applies a 2D or 3D transformation to an element. This property allows you to rotate, scale, move, skew, etc., elements.

## CSS Transitions

CSS transitions allows you to change property values smoothly, over a given duration.

**What is meant by canvas in HTML?**

**Definition and Usage**  
The <canvas> tag is **used to draw graphics, on the fly, via scripting (usually JavaScript)**. The <canvas> tag is transparent, and is only a container for graphics, you must use a script to actually draw the graphics.

**SVG**

SVG stands for **Scalable Vector Graphics**. SVG is used to define graphics for the Web. SVG is a W3C recommendation.