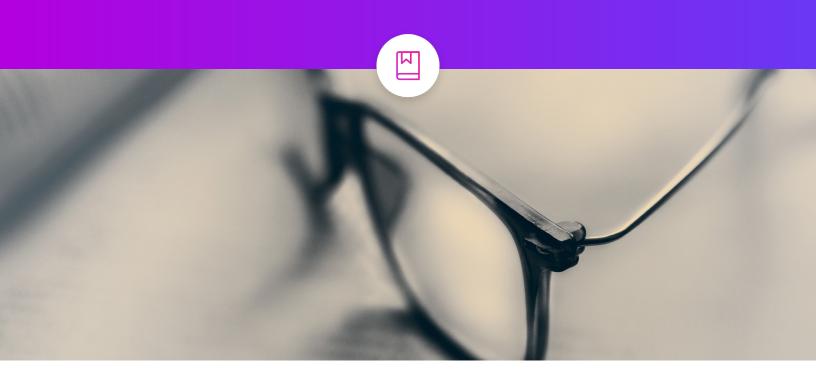


Website Compliance in 2019: Delivering Accessible Digital Experiences with dotCMS

Whether your organization is legally or ethically obliged to comply with accessibility legislation such as HIPAA, ADA, and Section 508, dotCMS can help.



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Web accessibility guidelines

are nothing new, but with giant brands like Facebook¹ and Target² facing accessibility-related lawsuits in recent years, the topic of compliance has never been more pressing.

To help simplify the process of determining which legislations apply to your organization, and to pave the way towards making the necessary changes to become compliant, we've delved into which legislations and guidelines your brand needs to consider when delivering accessible digital experiences — and how dotCMS can help you on the road to compliance in 2018 and beyond.



An Introduction to Website Compliance

In 1994, the World Wide Web Consortium (W3C) developed the Web Accessibility Initiative (WAI)³, which created a code of conduct for making web content accessible to those with disabilities or impairments. Shortly thereafter, a set of guidelines known as the Web Content Accessibility Guidelines (WCAG)⁴ was developed, which would go on to serve as the foundation for future legislation supporting improved access to web properties for individuals with disabilities.

"

The power
of the web is in its
universality.
Access by everyone
regardless of disability is
an essential aspect.

Says: Tim Bernes-Lee

Director & inventor of the World Wide Web

The United States government also developed its own set of regulations in response to the rapid growth of the Internet. In 1998, Congress passed an act known as Section 5086, which requires all agencies under the purview of the federal government to follow the included accessibility guidelines when designing their respective websites and online applications. The provisions of this regulatory measure also extends to any local or state entities that receive money from the federal government. Naturally, Section 508 slowly became a guideline on inclusive web design for non-governmental organizations, too, despite the fact that they aren't legally obligated to comply with it.

Section 508 was a substantial advancement for website accessibility, although it was preceded by other compliance-focused legislation such as the:

- Americans with Disabilities Act (ADA, 1990)
- Health Insurance Portability and Accountability
 Act (HIPAA, 1996),

both of which had implications for content on the internet.

"

Examples of accessibility challenges a user might face include; visually impaired, hearing impaired, color blindness, fine motor skill challenges, and reading difficulties.



What is ADA?

To provide additional context, the ADA is often the primary source cited in current case law when deciding whether a plaintiff belongs in a protected class because of their disability or whether a service or product whose accessibility has been brought into question falls under the jurisdiction of the federal government.

What is HIPAA?

Similarly, HIPAA is a **set of legal guidelines designed to regulate the healthcare industry** in an effort to protect the health outcomes of those with disabilities, regardless of whether they have a new or pre-existing condition.



Some Accessibility Challenges

When combined, these pieces of legislation provide detailed guidelines and strict requirements that website developers and managers must adhere to when creating consumer-facing websites and applications that are accessible to visitors or users with disabilities. Specifically, some (but not all) examples of accessibility challenges a user might face include:



01. Visually Impaired:

Those who can't see web content and therefore need a screen reader to read text to them on a website. Or, those who cannot read small font sizes.



04. Fine Motor Skill Challenges:

Those who may not be able easily click on small navigation items or links.



02. Hearing Impaired:

Those who cannot hear audio or video content.



05. Reading Difficulties:

Those who may have dyslexia or other conditions that impact reading skills.



03. Color Blidness:

Those who may not be able to distinguish between certain text and background colors.



Web Compliance at a Glance

The W3C has extensive guidelines, to help organizations comply with the various legislations put forth above. Thankfully, they have distilled their guidelines down to just a few bullet points to help organizations understand how their websites and web content should fall in line.

Compliant web content needs to be four things; perceivable, operable, understandable, and robust. Here's what that looks like in practice.







Perceivable

- Provide text alternatives for non-text content.
- Provide captions and other alternatives for multimedia.
- Create content that can be presented in several ways, including by assistive technologies, without losing meaning.
- Make it easier for users to see and hear content.

Operable

- Make all functionality available from a keyboard.
- Give users enough time to read and use content.
- Do not use content that causes seizures.
- Help users navigate and find content.





Understandable

- Make text readable and understandable.
- Make content appear and operate in predictable ways.
- Help users avoid and correct mistakes.

Robust

Maximize compatibility with current and future user tools.



A Closer Look at Section 508

As we outlined earlier, the provisions of Section 508 apply to federal agencies and state or local entities that receive funding from the federal government. The law dictates that organizations under the purview of Section 508 must give any employees or members of the public who have recognized disabilities access to online information that is equal to that which other visitors, who are unaffected by disabilities, currently have.



"

Section 508 applies to governmental bodies in the United States.

In its early days, regulatory groups found it difficult to enforce the requirements set forth by Section 508 largely due to a lack of objective methods to identify and discipline properties in violation of the guidelines. In response, the Federal Electronic and Information Technology Accessibility and Compliance Act was proposed to fix many of the problems that Section 508 originally faced in its development.



Section 508

Here are a few **examples of elements** that are addressed by the language in Section 508:

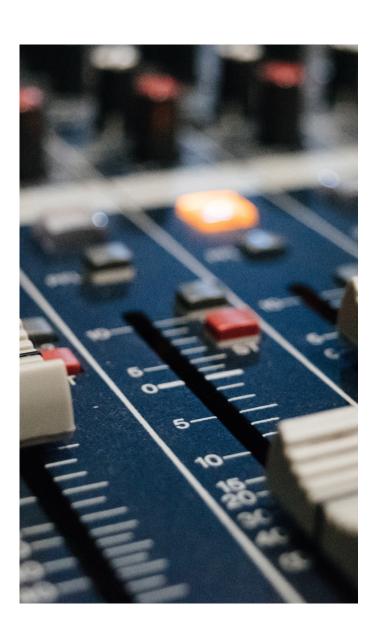
01. A text equivalent of all non-text content must be provided. **02**. Color should not play a deciding role in the interpretation of a web page. 03. Documents should be able to be consumed and synthesized without a style sheet. 04. Text links must be provided for all active regions of an image map.





Section 508

Here are a few **examples of elements** that are addressed by the language in Section 508:



Row and column headers should be easily identifiable.
Frames within the webpage must utilize text within the relevant operating system.

07.

Pages should avoid flickering that lies between
 2 Hz and 55 Hz in frequency.

08.

If a page utilizes scripting language, the info.
 must be identified by functional text which can also be read by assistive technology.

Section 508

Here are a few **examples of elements** that are addressed by the language in Section 508:

09.

 When electronic forms are to be completed online, all prior guidelines must be followed, along with any necessary directions or cues.

10.

 If timed responses are required, the user must be alerted, and have an option to indicate that more time is required to give them sufficient time to complete the action.



Does Your Website Need to be Section 508 Compliant?

Section 508 applies to governmental bodies in the United States, so if you aren't under the purview of the United States government in any shape or form, you should be exempt from the obligation to comply with Section 508.



A Deep Dive Into the Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public.

It requires that organizations covered under its jurisdiction must provide "reasonable accommodations" to employees with disabilities. Accessibility requirements on a variety of publicly accessible properties such as transportation resources, commercial facilities, and knowledge sources have also been enacted, and are most relevant when discussing compliance with accessibility case law. It's therefore worth noting that the ADA has also been cited in lawsuits taken against companies from customers, not just employees.

Since the enactment of the ADA in 1990, discussions around its implications for digital properties have continued to move further up the administrative

docket.

Since the enactment of the ADA in 1990, discussions around its implications for digital properties have continued to move further up the administrative docket. In fact, **multiple potential expansions have been created to govern the production and deployment of websites, applications, and other cyber resources.** As a result, the ADA now has broad implications for any qualified organization that reaches its audience through the web, even if they have no physical presence, which the original laws had been drafted to recognize.

Here are some examples of where and how case law related to the ADA has impacted online properties in a variety of sectors:

01. Vision

National Federation of the Blind v. Target Co.¹⁰ was a major case law in which the defendant was sued because the web designers did not create a design which would enable people with low or no vision to use it.

02. Hearing

Bates vs. UPS established a legal precedent that deaf employees and customers must be fully covered under the ADA, including their use of online properties.

03. Mental Illness

Olmstead vs. L.C. established that mental illness is considered a form of disability under the law and would thus be covered under the ADA. By institutionalizing and isolating a person with mental illness without justification, an unwarranted stigma is thus created that prevents the falsely diagnosed subject from participating within daily life.

The implications of the ADA for web developers is not as cut and dry as Section 508. While it is always important to consider the specific needs of website visitors or application users with disabilities, it may be difficult to definitively determine whether or not your product would be deemed a "program" in the eyes of the court. Violations are typically handled on a case-by-case basis, but we would advise you to operate under the assumption that your projects are under the purview of the ADA in order to minimize your liabilities and ensure organizational compliance.

Does Your Website Need To Be ADA Compliant?

While the ADA goes a step further than Section 508 to include commercial and non-profit organizations, there is still ambiguity as to who ADA can be applied towards. Without getting too deep into legal complexities, U.S. courts hold three views in the case of the ADA.11

Some courts take the position that the ADA applies to all commercial businesses because the law was meant to protect disabled individuals from having a more difficult time than able-bodied individuals from doing business.

In 2011, Facebook was served with a lawsuit for failure to comply with the ADA, but won the case on the basis that they have no physical location.

The second approach holds that if a website has a connection to a physical location — which would apply to a wide range of businesses — then the ADA applies.

The third view simply holds that the ADA only applies to physical places, and therefore digital-only establishments are exempt.

In 2011, Facebook was served with a lawsuit for failure to comply with the ADA, but won the case on the basis that they have no physical location 12, meaning that disabled "visitors" were never put at a disadvantage. However, Scribd, Inc. — which also has no physical location for customers to visit — was met with a different interpretation of the ADA 13 when they went to court in 2014 and had to settle as a result.

In the case of a business that has a presence both online and offline, Target 14 had to settle their lawsuit when judges found that complaints about their inaccessible website was covered by the ADA because of the link between the company's website and physical stores.

With these lawsuits in mind, it's fair to say that ADA compliance should be high on your priority list, even if you don't offer a physical location for your customers or clients to visit.

A Detailed Look at the Health Insurance Portability and Accountability Act (HIPAA)

HIPAA compliance is an industry buzzword that is used liberally, but often misunderstood when it comes to the true implications for corporate entities. The HIPAA act is often referred to in case law as the standard for fair and equitable treatment in the private sector.

For the purposes of our discussion, Title II, which establishes a national standard for electronic transactions and identifiers utilized by healthcare providers, employers, insurance plans, and other entities that manage patient information is the most relevant portion of the law.

Here are some of the implications for web and application developers when it comes to HIPAA compliance:

- The collection, management, storage, and protection of personally identifiable health information (PHI).
- The secure transmission of PHI between internal systems and/or with integrated systems that exist outside of the organization.
- Reliable validation of PHI when crossreferenced with other non-health data sources to make decisions about user permissions, accessibility, or benefits.

When combined with its legislative predecessor, HIPAA firmly established those with physical and sensory disabilities as a truly protected class under the law. The regulatory measures placed upon the healthcare industry not only protected patients, policyholders, and their families, but also served as a strong incentive for companies in other industries who regularly interface with healthcare entities to prioritize the protection and accommodation of their consumers, especially those affected by disabilities.

Does Your Website Need To Be HIPPA Compliant?

According to HIPAA 15, if you belong to the category of "covered entities" or "business associates," and you handle "protected health information (PHI)," you and your business are required to be HIPAA-compliant.

"Covered entities" describes U.S. health plans, health care clearinghouses, and health care providers. That includes companies offering health plans, health maintenance organizations (HMOs), Dentists, Pharmacies, and any other organization handling protected health information.

If your organization is handling personal healthcare information of any kind, you'll want to take the necessary steps to comply with HIPAA.

2009 created a tiered penalty configuration for HIPAA violations, with the Office of Civil Rights (OCR) determining which tier applies in each scenario. For example:

The American Recovery and Reinvestment Act of

- The fine for a first time infringement: by someone who did not know they violated HIPAA could be as low as \$100 or as high as \$50,000.
- The fine for a violation due to willful neglect: but corrected within the required time period, is a minimum of \$10,000 per violation with a maximum of \$50,000.
- The fine when the willful neglect violation is not corrected: increases from \$10,000 to \$50,000.

However, whenever there is a violation that is not considered willful neglect and it is corrected within 30 days of notice, the OCR cannot impose the civil penalty.

So, if your organization is handling personal healthcare information of any kind, you'll want to take the necessary steps to comply with HIPAA. If your organization doesn't deal with any healthcare-related activities, you should be in the clear.

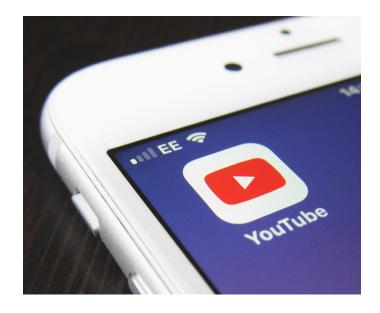




The Role of The W3C's Web Content Accessibility Guidelines (WCAG)

With legislations like Section 508, ADA and HIPAA in play, it may be difficult to ascertain where the W3C's web content accessibility guidelines fit in. But upon closer inspection, the link between the law and the WCAG becomes clear.

For example, when a lawsuit was brought against the University of California Berkeley¹⁶ in August 2016, the Department of Justice decided that university was in violation of the ADA because their



YouTube channel's videos didn't include captions for hearing impaired visitors. To point the institution in the right direction, the Department of Justice urged the university to seek out and follow the guidelines set out by the W3C's WCAG guidelines ¹⁷.

With that ruling in mind, organizations should pay close attention to the information laid out by the W3C, and follow their guidance when it comes to website accessibility.

The Ethical & Financial Benefits of Website Compliance

For federal bodies and healthcare organizations, building a compliant website in accordance to Section 508 and HIPAA respectfully, is obligatory. For everyone else, it's simply the ethical thing to do. As we have discussed, not every company has to have a compliant website, but even if you can escape a lawsuit, you can't escape the fact that your web properties aren't inclusive.

From a purely ethical standpoint, almost one-infive American adults have trouble with hearing and almost one-in-ten adults have trouble with vision 18. While those numbers are high, the reality is that the majority of your audience will not be impacted by your campaign to improve the accessibility of your website — but for those who are positively affected by your efforts, your brand will quickly become a beloved resource.



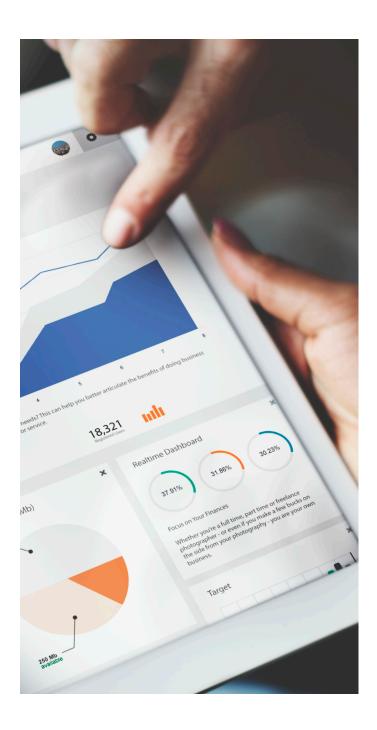
Almost one-in-five
American adults have
trouble with hearing
and almost one-in-ten
adults have trouble
with vision.



According to Accenture, Americans with disabilities are three times less likely to go online¹⁹, mainly because of lack of accessibility. And while legal obligations have been a main driver in encouraging enterprises to make their sites more accessible (ADA lawsuits have increased by 181 percent in a single year)²⁰, Stefan Schinkel, Enterprise Sales at dotCMS, speaking at a recent dotCMS webinar²¹, emphasised that the threat of litigation should not be the main driver.

The aforementioned Accenture report stated that people with disabilities can potentially add \$23 billion to the global economy²². But more importantly, and this should be your main criteria to achieving digital accessibility, **people with disabilities across the globe control \$8 trillion in disposable income²³.** This market is only going to get bigger, and the UN considers it to be one of the fastest-growing minorities in the world.

To give you an example of an enterprise taking advantage of financial benefits of website accessibility, a Tesco case study carried out by the W3C²⁴ showed that the retailer's revenue from site sales increased to \$17.9 million annually in 2001, the year after they implemented a slew of chang.



04.

A Developer's Checklist: 10 Things Every Compliant Website Must Have

An accessible, compliant website gives your audience the power to consume your content, use your services or purchase your products, no matter their device or disability.

If your website can comply with the checklist below, you're well on your way to delivering an accessible customer experience.

01.			
•	Screen-reader Compatible Web Pages: Web pages must be readable by electronic "screen readers".		
02.			
•	Alt-tagged Images: Images must have "altags" (a type of metadata) which will help visually-impaired users to identify the image via text or via a screen reader.		
03.			
•	Alt-tagged Tables: If you're using tables on any web pages, they must also have alt-tags that help explain each column via text.		

Automatic Scripting: Any scripted display usage of image mapping should be accompanied by textual alternatives.

shouldn't need a stylesheet to display in a way that is understandable. They should be readable to screen readers, most of which cannot load style sheets. 7. Text Links to Plugins: If your website requires a specific plugin to work correctly, you should present the link to that plugin in text form. 8. Inclusive Color Schemes: Your website should not contain any colors or color combinations that are either integral to the correct usage or your website, or which may confuse those with color blindness in any way pertaining to your website, products or services. 79. Keyboard-friendly Browsing: Your website Harmless Website Design: Your website should be even without a mouse, and each field should be labelled. **Harmless Website Design: Your website should be labelled.	03.		00.	
 Text Links to Plugins: If your website requires a specific plugin to work correctly, you should present the link to that plugin in text form. Inclusive Color Schemes: Your website should not contain any colors or color combinations that are either integral to the correct usage or your website, or which may confuse those with color blindness in any way pertaining to your website, products or services. Keyboard-friendly Browsing: Your website should not serve images or videos that can cause or touchpad. Users who wish to navigate using 	•	shouldn't need a stylesheet to display in a way that is understandable. They should be readable to screen readers, most of which	٠	Accessible Forms: Web forms should be usable even without a mouse, and each field should be labelled.
a specific plugin to work correctly, you should present the link to that plugin in text form. not contain any colors or color combinations that are either integral to the correct usage or your website, or which may confuse those with color blindness in any way pertaining to your website, products or services. 10. Keyboard-friendly Browsing: Your website shouldn't be reliant on the usage of a mouse or touchpad. Users who wish to navigate using seizures.	07 .		08.	
 Keyboard-friendly Browsing: Your website should shouldn't be reliant on the usage of a mouse or touchpad. Users who wish to navigate using Harmless Website Design: Your website should not serve images or videos that can cause seizures. 	•	a specific plugin to work correctly, you should	•	Inclusive Color Schemes: Your website should not contain any colors or color combinations that are either integral to the correct usage of your website, or which may confuse those with color blindness in any way pertaining to your website, products or services.
shouldn't be reliant on the usage of a mouse not serve images or videos that can cause or touchpad. Users who wish to navigate using seizures.	09.		10.	
	•	shouldn't be reliant on the usage of a mouse or touchpad. Users who wish to navigate using	•	Harmless Website Design: Your website should not serve images or videos that can cause seizures.

But remember, the checklist above isn't exhaustive, so consult the WCAG accessibility requirements 25 for more information.

Speaking at a recent dotCMS webinar on digital accessibility ²⁶, Everett Zufelt, Director of Technology at Myplanet, highlighted the importance on getting the design aspect just right. In the webinar, he shared a simple process for universal design.

01. Discover

- What should the product do, what are the business and user benefits?
- Who will be using the product, what will they need to achieve?
- Where can we recruit users of all skills and abilities?

This where you will need to discover all the different types of personas, including those who have a disabilities.

03. Deploy

- Design and build the user interface.
- Test with different browsers, devices and assistive technologies.
- Incorporate users early and often in testing.

Again, designers and developers must incorporate users all of abilities during testing phase.

02. Define

- Review prototypes to ensure they will work for all personas.
- Incorporate users early in prototype validation.
- Conduct expert reviews to identify challenges for design and development.

When incorporating users during prototyping, make you're incorporating users with different type of disabilities.

04. Analyze

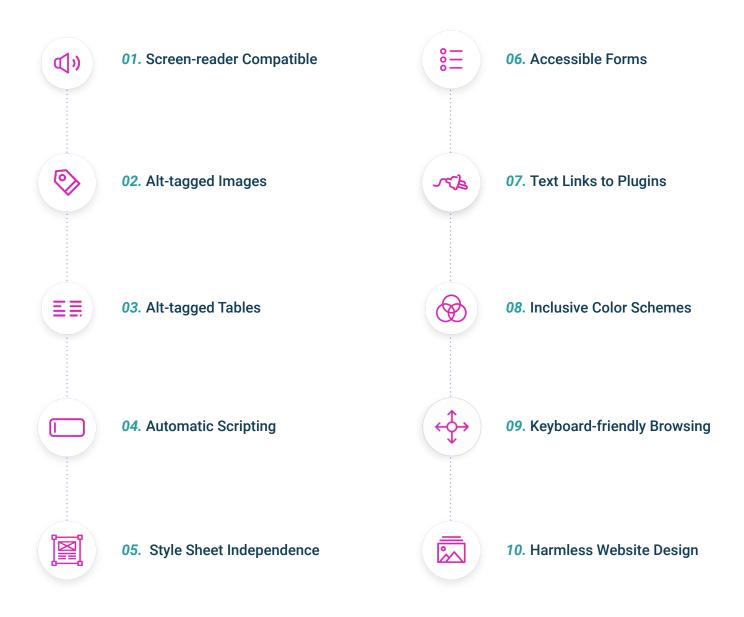
- What is working well and what could be improved?
- Seek quantitative and qualitative user feedback.
- Great products require optimization so that their value increases the longer they're in the market.

Once the product is in the market, it is beginning of new journey of gathering feedback and see what can be improved.



A Developer's Checklist

10 Things Every Compliant Website Must Have





How dotCMS Helps Brands Deliver Accessible Customer Experiences

At dotCMS, we offer a comprehensive portfolio of solutions that are not only designed to meet or exceed today's accessibility requirements, but also provide a level of adaptability that ensures your audience will be able to consume your most valuable content in any format that may become more prevalent in the future.

Here are just a few ways that dotCMS solutions support web accessibility:

01. Separation Between Content and Presentation

dotCMS gives you complete control over how your content is presented on different types of electronic readers — even ones that haven't been released yet — thanks to headless content

management features. Things like "doctypes" or "metadata" can be customized to meet your specific needs, while templates allow your team to make updates to any pages and have those changes be reflected throughout the entire repository without compromising deliverability or accessibility.

02. Custom CSS Classes

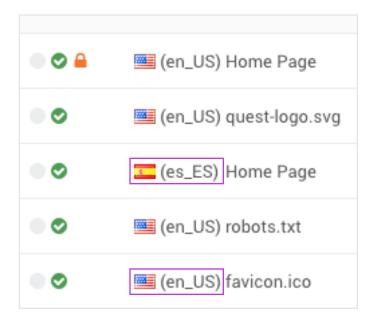
Using dotCMS, you can tailor the look and feel of your web content to meet the specific needs of multiple independent channels. Customizing CSS classes is an industry best practice when it comes to optimizing for accessibility compliance.

```
h3, .size-h3 {
  font-size: $h3-size !important;
  line-height: $base-unit * 5;
  margin: 0 0 $base-unit * 2;
  color: $gray;
  margin-bottom: $base-unit;
  font-weight: 500;
  span {
    font-weight: 700;
  }
}

h4 {
  font-size: $h4-size;
  margin: 0 0 $base-unit * 1;
```

03. Content Customization for Multiple Languages

We use speech making technology to give you the ability to add metadata that dictates how specific words or terms should be pronounced in different languages. This ensures that vision-impaired visitors who use audio technology to consume content always get the format that is appropriate for their needs, even when they're visiting your website from a different continent.



04. Complete Control Over Meta Fields

CSS is the industry standard for dictating page layouts, but designers or developers will need to use alt-tags to describe the content within tables, images or other website assets that are not text-based so that users who rely on assistive technology can still understand what they're consuming. We also provide full access to other meta page elements, meaning authors can insert custom titles, descriptions, or captions that will better serve their audience members with sensory disabilities.

☐ Toggle Editor			
Page Metadata:			
dotCMS			
☐ Toggle Editor			
Canonical URL:			
Canonical URL:			



Whatsmore, dotCMS provides headless capability enabling you to deliver experiences to emerging interfaces. From a website accessibility perspective, there are many ways brands can utilize different IoT devices to syndicate their content to various platform or provide content-as-a-service.

Myplanet took advantage of dotCMS' platform to enable users to book events into their calendar via an Alexa-enabled device²⁷. For those who are visually impaired, having this kind of accessibility is much quicker and more convenient.



Finally, dotCMS has extensive experience with compliant website deployments thanks to having worked with clients in various industries.

With our tools, you can make accessibility-focused design customizations that include:

01. Font Formatting

Giving users the **ability to select a font** that will better suit their visual needs, including the ability to make fonts larger, smaller, heavier, or lighter.

02. Appropriately Colored Website Elements

Developing "compliant" color schemes for your website helps to ensure that individuals with varying degrees of color blindness do not struggle to consume your content or navigate through your website.

03. Image Replacement

For some users, supportive graphics and images are not useful. Instead, dotCMS allows you to replace those images with **text-based or audio descriptions** that achieve the intended result while accommodating for the specific needs of the individual user



About dotCMS



Is an open-source Java, customer experience orchestration hub for companies that want to drive business outcomes with their websites and other content-driven applications. dotCMS provides the technology to deliver connected and continuous customer experiences that business teams can orchestrate. Extensible, scalable, and with headless content management capabilities, organizations can rapidly build their Digital Experience Platform and drive innovation while their marketing and business teams drive customer experiences for every touchpoint, in every customer journey, on any device — all from a single system.

Founded in 2003, dotCMS is a privately owned U.S. company with offices in Miami (Florida), Boston (Massachusetts), and San José (Costa Rica). With a global network of certified implementation partners and an active open-source community, dotCMS has generated more than a half-million downloads and over 10,000 implementations and integration projects in over 70 countries. Notable dotCMS customers include: Telus, Standard & Poors, Hospital Corporation of America, Royal Bank of Canada, DirecTV, Nomura Bank, Thomson Reuters, China Mobile, Aon, DriveTest Ontario, and ICANN.

schedule A dotCMS demo at dotcms.com

DISCLAIMER: the website accessibility guidelines in this document should not be taken as legal advice, nor should it be applied without seeking advice on how accessibility legislation applies to your organization specifically.





About dotCMS

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