A Framework for Enterprise-Level Accessibility Management

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Abstract

How do large organizations manage their digital properties to ensure that they are built to be accessible and continue to remain accessible to their users? And how do we as civic-minded software quality professionals and managers work toward a future of inclusive design that centers around the diverse needs of our users?

There is plenty of readily-available documentation related to understanding accessibility guidelines and a healthy selection of tools geared toward identifying and remediating accessibility issues. However, there is a dearth of standard practices that address managerial-level oversight of accessibility processes, such as ensuring continuous improvement and monitoring quality. Organizational leaders need reference material to help them create accessibility policies and divvy up responsibilities among their staff.

This paper proposes a methodology for addressing digital accessibility at the enterprise level that incorporates capability maturity models, role-based responsibilities, event-triggered and maintenance tasks, processes for using software tooling, and specific direction for handling shared templating systems. While this methodology specifically focuses on website accessibility, many of its key features can also be applied to other digital platforms such as mobile apps and PDF documents.

Biography

Gage Pacifera is a web developer, designer and project manager with over twenty years of experience building and improving websites. Gage began his career in design, animation and UX before shifting focus to website development. He specializes in custom WordPress sites and front-end technologies. He is the owner of Harmonic Northwest, a web development-focused agency based in the Pacific Northwest.

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Introduction

Digital accessibility ensures that websites and digital resources can be used effectively by all individuals, including people with disabilities. In recent years, its importance has grown significantly. This is so from the perspectives of business requirements, ethical considerations, and legal or regulatory mandates. Numerous regulations in the United States and around the world—e.g. Section 508 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), and European directives—mandate accessible digital experiences in both public and private sectors. These policies have driven broader awareness and accountability for inclusive digital design to meet the needs of diverse end-users.

The Web Content Accessibility Guidelines (WCAG), currently in version 2.2, provide a well-established standard for assessing and implementing accessible design. Section 508 and other national frameworks often reference or directly incorporate WCAG criteria. However, meeting these standards requires more than technical compliance—it calls for a cultural shift in how organizations build and maintain digital systems.

Accessibility work is inherently multidisciplinary. It demands collaboration between developers, designers, content authors, quality professionals, IT and non-IT staff, and organizational leaders. Human judgment and manual testing remain essential, even in the age of automated audit tools. Issues like semantic structure, clarity of language, and contextual image descriptions cannot be reliably resolved without skilled human review, feedback, and intervention.

To address this complexity, organizations must adopt well-defined processes to achieve and maintain compliance. This includes the establishment of lifecycle-based workflows, clearly assigned responsibilities, appropriate training, and ongoing governance to ensure continuous improvement.

This paper is about digital accessibility at the enterprise level, with a focus on HTML-based websites. While our emphasis is on web content, the methodology and management practices discussed are also applicable to mobile apps, downloadable documents such as PDFs, and other digital platforms and content.

1. Organizational Maturity in Accessibility

Successfully managing accessibility at the enterprise level requires more than technical remediation of individual issues—it necessitates a comprehensive organizational strategy and an enterprise-wide approach. Maturity models provide a valuable framework to assess how well accessibility practices are embedded across an enterprise. Two models—developed by the University of Arizona and the World Wide Web Consortium (W3C)—offer useful frameworks that would help guide this paper.

1.1 University of Arizona Maturity Assessment Model

The University of Arizona's model for assessing maturity in Electronic and Information Technology (EIT) accessibility evaluates organizational practices across six domains: administrative support, planning and implementation, evaluation, procurement, training, and support/resources. Maturity is measured on a five-point scale from "Initiating"—where awareness is nascent and processes are ad hoc—to "Transformative"—where accessibility is embedded into institutional culture and practices. This model provides an accessible entry point for institutions, particularly in higher education and public sector settings, seeking to formalize and benchmark their accessibility programs. [Hunziker, 2012]

1.2 W3C Accessibility Maturity Model

The W3C Accessibility Maturity Model (W3C-AMM) is a broader framework currently under development that spans seven organizational dimensions: culture, governance, processes, support, skills, technology, and procurement. It emphasizes strategic integration of accessibility into the full operational lifecycle and leadership agenda. Like the Arizona model, it uses a five-tiered maturity scale, but with added focus on systemic accountability, cross-functional coordination, and cultural change. The W3C model is well-suited for organizations aiming to incorporate accessibility as a part of enterprise-wide digital governance. [Fazio, LaPierre, Sajka 2014]

1.3 Applying Maturity Models in Practice

Both maturity models offer a lens through which organizations can identify current capabilities, set realistic goals, and prioritize next steps in evolving their accessibility posture. Applying these models allows organizations to engage key stakeholders, reveal organizational gaps—whether in training, tooling, policy, or oversight—and support planning for long-term success. The remainder of this paper builds on these concepts toward a practical framework for enterprise-level accessibility management. It outlines actionable guidance for handling shared content systems, defining team roles, using software tools effectively, and establishing sustainable processes. The objective is to ensure digital properties meet enterprise accessibility standards but remain sustainable and inclusive over time.

2. Defining The Roles of Team Members in Addressing Enterprise Accessibility

There are several classes of stakeholders who have different responsibilities that include doing the actual accessibility auditing and remediation, monitoring and improving processes and advocating for accessibility. Those roles are outlined in the following sections.

2.1 Responsibilities of Management

Managers and the leadership of an enterprise play a pivotal role in ensuring that accessibility is discussed and acted upon. The following sections are a breakdown of key roles that managers play.

2.1.1 Understand the importance

Before you can become an advocate for accessibility, you must understand why it is important and how it benefits people and society at large. There are plenty of free online resources for learning more about this topic—the W3C Introduction to Web Accessibility is a good place to start.

2.1.2 Be an advocate

Once you understand the importance of accessibility, it's easy to become an advocate. Being an advocate means pushing your organization to do the best it can within its means to ensure its online properties are as accessible as they can be. This can also mean creating organizational accessibility policies around how and to what degree accessibility is addressed in website projects.

2.1.3 Plan for accessibility

Ensuring accessibility is part of the conversation in all forms of website planning, including in meetings, communications, documents and budgeting. Managers should appoint an accessibility expert, whose roles are detailed below, and ensure designers, developers and authors have received accessibility training. Managers who want to be more hands-on with accessibility can ask their designers what they are doing in their designs to ensure they are accessible. Managers can ask similar questions of developers about their approach to accessibility in coding.

2.1.4 Procure budget and resources

Considerations for accessibility should be built into initial and ongoing budgets for projects. Managers should advocate for including line items in budget documents that specifically call out making websites accessible at the WCAG 2.2 A or (better) AA levels, which should include ample time for design and development, an auditing and remediation process, and ongoing monitoring for sites that receive updates.

When faced with budget limitations that jeopardize addressing accessibility concerns, managers should consider reducing the feature set or otherwise simplifying a project in a way that allows for making accessibility a priority.

Additionally, training should be made available for designers, developers and others tasked with updating web content.

2.1.5 Improve processes

Managers should strive to enforce continuous improvement in processes related to accessibility. Steps to make improvements can include:

- Talking to people involved in executing accessibility tasks (i.e. designers and developers) and seeing where the pain points are and what could be improved from their perspective
- Evaluating and re-evaluating tooling used for auditing, automated testing, remediating and reporting accessibility; allowing for testing of new tools
- Training processes for onboarding new workers and ongoing education

These processes should be viewed through the lens of a Capability Maturity Model where the sophistication of each process can be evaluated and assigned a tier: 1) initial, 2) managed, 3) defined, 4) quantitatively managed and 5) optimizing. The goal is to shepherd each process from the lower tiers to the higher tiers and eventually be focused on optimizing. Managers should create documentation that documents snapshots of where processes are currently and goals and timelines for upgrading processes to higher tiers.

2.1.6 Verify success

Management-level professionals are ultimately responsible for ensuring that the efforts put into addressing accessibility are actually working. Managers should have documented requirements around what constitutes success, which should indicate a particular standard (i.e. WCAG 2.2 AA), a person or role who verifies compliance and a set of standard software tools used for tracking and reporting.

More details on task assignments, useful software and tactics can be found in the content below.

2.2 Responsibilities of the Accessibility Expert

Organizations should enlist the services of an accessibility expert (or team of experts) to design processes around accessibility to be carried out by staff, to train and create training materials, to perform periodic audits that ensure accessibility processes are working and to suggest updates to processes to improve performance. When this role is absent from an organization, that organization cannot say with confidence how accessible their site is, nor will they have a roadmap of how to ensure their websites are and remain accessible.

The accessibility expert can be either an internal or external resource. If internal, this individual (or group of individuals) can potentially also be in other roles with the most likely other role being developer.

2.3 Responsibilities of IT Team

The IT team should support developers and other staff as needed. They can support developers by ensuring server capability and configuration allows for fast web page loads (i.e. a healthy amount of RAM, file caching, etc.) and ample configurability for executing UX-related tasks, setting up DNS entries, adding redirects, etc. Also, IT can help set up and configure software related to accessibility audits and remediation. In many organizations the IT team also plays the role of developer, whose responsibilities are listed below.

2.4 Responsibilities of Designers, Developers, Authors and QA

The designers, developers and authors of a website are the ones who are “hands-on” and work together to create and maintain accessible websites. Any of these roles can be trained to identify accessibility issues. Most remediation needs to be handled by the development team, though to the extent that you can train another of those roles in development, you can also have them remediate certain code-centric issues.

For the purposes of the framework outlined in this paper, here are definitions of the three “hands-on” roles:

- *Designer* — This person is responsible for the user experience and user interface design of the website. This person determines at a high level what fonts, font-sizes, colors and content modules look like on the site. This person also often determines patterns for how content should be organized. This person can also sometimes be a developer or an author, but usually this is not the case.

- *Developer* — This person is responsible for editing the codebase of the site and has specialized knowledge around coding, code deployments and IT needs (though IT itself is likely handled by a separate person or team). The developer can fix most issues on the site and is generally responsible for implementing accessibility directives from the designer and making content updates that the author is unable to execute.

- *Author* — This person works within existing website systems to create and manage content on a website. Usually this means working within a content management framework (i.e. Drupal or WordPress) created and implemented by the developer and IT roles. The degree to which an author can remediate accessibility issues is limited by technical expertise and the authoring capabilities of the website.

QA staff with proper training and background can audit any of the items that other roles can. In the categorization of roles below, if a QA specialist is trained in identifying technical issues, they can be

grouped with the Developers. Likewise if they have been trained in evaluating accessible design or accessible copywriting, they can be grouped with Designers or Authors. QA staff typically do not remediate issues and would not be included in the remediation categories.

2.4.1 Responsibilities for Identifying Accessibility Issues by Organizational Role

Organizations should procure a reasonably comprehensive list of discrete potential accessibility issues for a given standard (i.e. WCAG 2.2 AA) and for each issue, determine which role is able to determine if the website meets acceptance criteria. Automated testing can identify certain kinds of accessibility issues and should be included as a role in this list, as well.

Below is an example of what such a list might look like.

	Automated Testing	**Designer**	**Developer**	**Author**
<html> element has valid lang attribute (WCAG 3.1.1 A)	**X**		x	
HTML page title is descriptive (WCAG 2.4.2 A)		x	x	**X**
Users must be able to switch off animations (WCAG 2.2.2 A)		x	**X**	
Definitions must be provided for any unusual words, phrases, idioms, and abbreviations (WCAG 3.1.4 AA)				**X**
Important information must not be conveyed only through use of color (WCAG 1.4.1 A)		**X**	x	x
…				
Run automated testing		x	**X**	x
Validate results of automated testing			**X**	

Figure 1*: Table of accessibility issues and organizational roles that are responsible for identifying accessibility issues. "**X**" indicates the primary responsible role, "x" indicates additional roles that can identify the issue. Each role should map to one or more individuals.*

Note that there are two special issues here that are not really issues at all, namely: running automated testing and verifying its results. Running tests is a fairly straightforward task when using appropriate

software, but verifying most results is something that a developer would need to do. The verification is necessary because sometimes automated tests produce false positives. However, verification can happen alongside remediation after a developer has been tasked with fixing a particular issue.

2.4.2 Responsibilities for Remediating Accessibility Issues by Organizational Role

Organizations should designate roles responsible for remediating accessibility issues. Some issues require multiple roles to remediate. For example, generally designers don't have direct access to the website and will need the help of a developer or an author to implement their proposed remediations. Developers are capable of fixing most issues even when a designer or author is designated as the primary responsible party.

Below is an example of what a list of roles responsible for remediations might look like.

	Designer	**Developer**	**Author**
<html> element has valid lang attribute (WCAG 3.1.1 A)		**X**	
HTML page title is descriptive (WCAG 2.4.2 A)		x	**X**
Users must be able to switch off animations (WCAG 2.2.2 A)		**X**	
Definitions must be provided for any unusual words, phrases, idioms, and abbreviations (WCAG 3.1.4 AA)		x	**X**
Important information must not be conveyed only through use of color (WCAG 1.4.1 A)	**X**	**X**	

Figure 2*: Table of accessibility issues and organizational roles that are responsible for remediating accessibility issues. "**X**" indicates the primary responsible role, "x" indicates additional roles that can remediate the issue in most or all cases. Where there are two "**X**"s, both roles must collaborate on the fix. Each role should map to one or more individuals.*

2.4.3 Responsibilities for Updating Content

Authors and developers are typically responsible for updating site content such as pages, blog posts and alerts. These staff members should have training and access to documentation that covers creating accessible content. That training should be customized for the type of content the users are creating and for the workflows and capabilities of the authoring tools provided by the system (i.e., using the WYSIWYG content editor in Drupal).

Sites that get regular content updates should be regularly rescanned for newly introduced accessibility issues to ensure that they remain accessible.

3. Use of Accessibility Tools

There is a wide selection of tools available for identifying accessibility issues and tracking the lifecycle of issue identification and remediation. Software options run the gamut from free to one-time fee to subscription-based, desktop software to online applications, lightweight to comprehensive.

3.1 How Software Facilitates Improving and Maintaining Website Accessibility

Software can help in the process of making websites accessible in several ways. Some software is geared toward simply identifying accessibility issues (at least the issues that are detectable within the public-facing codebase of the site). Some software provides checklists and guided steps for auditing website accessibility. Another class of software helps track the lifecycle of issue identification and remediation, providing a progress report of how many potential issues have been reviewed, the results of those reviews on a site-wide and page-specific basis, reporting on tasks remaining to complete a review and tracking of site scans at a point in time.

There are also a number of tools that allow for fine-grained testing of specific accessibility issues. The WebAIM Contrast Checker allows a user to input a foreground and background color to determine if there is sufficient contrast between text or iconography and a background. The ARIA DevTools plugin allows fully sighted users to view a website as a screen reader would. The Web Disability Simulator approximates the online experience of your website from the perspective of a person with disabilities of your choosing.

3.2 Automation in Identification of Accessibility Issues

Automated processes can identify certain classes of accessibility issues for auditing purposes, but most issues are sufficiently context-sensitive that the current suite of automated testing tools is unable to evaluate them effectively. [BrowserStack, 2025]

For example, automated tests can easily identify images that are missing alt tags. However, automated tests currently cannot reliably determine if the alt text on an image is accessible—i.e. sufficiently descriptive and providing appropriate context-sensitive instructions or information. One can imagine a future where AI-powered agents can identify and remediate accessibility issues, but the technology currently isn't there. As such, the process of doing accessibility work remains a largely human-powered endeavor.

3.3 Select List of Software

Below are some popular software packages that can be used for identifying and tracking accessibility issues along with a key of "Uses".

- *Automated tests* — The software runs automated tests on one or more pages of a website to surface accessibility issues.
- *Checklists* — The software provides lists of granular potential accessibility issues that the tester can check off to verify that compliance has been met for a page or for the site at large.
- *Lifecycle tracking* — The software allows teams to track progress in remediating website accessibility issues, potentially on a page-by-page, element-by-element and per scan basis.

Software	Platform	Uses	Price
SiteImprove	Web application	Automated tests, checklists, lifecycle tracking	Call for pricing
Acquia Optimize	Web application	Automated tests, checklists, lifecycle tracking	Call for pricing
axe DevTools	Browser plugin	Automated tests, checklists (paid)	Free-$45+/mo.
Accessibility Insights for Web	Browser plugin	Automated tests, checklists	Free
WAVE accessibility evaluation tool	Browser plugin	Automated tests	Free
Google Lighthouse/PageSpeed Insights	Browser plugin & web application	Automated tests	Free
Section 508 Compliance Reporting Tool (SCRT)	Desktop application	Checklists	Free

***Figure 3**: Table of select software platforms that can be used in identifying and tracking website accessibility issues. Note that except where noted, these are geared toward achieving WCAG 2.x compliance.*

4. A Practicable Methodology for Enterprise Accessibility

The following section presents a practicable methodology for implementing enterprise-level accessibility and outlines sequences of actions by role. The manager is responsible for ensuring that stakeholders understand their roles and at what point in the process they need to be involved.

4.1 A Plan for Enterprise IT

Before any work is done on identifying and remediating accessibility issues, the organization should create policies that identify accessibility goals, tooling and processes. The organization should enlist an accessibility expert to collaborate in the creation of these policies. This could be a person within the department, someone in a different department or an outside vendor.

4.1.1 Creation of policies

Below is a checklist an organization can run through to establish policies around website accessibility:

Accessibility policy question	Accessibility policy potential answers
Who is ultimately responsible for ensuring that all online properties within an organization meet their accessibility goals?	Department manager; Marketing manager; CTO
Who is the accessibility expert?	Internal department resource; Adjacent department resource; External resource
Who is responsible for setting accessibility goals?	CTO; CEO; Marketing manager; Any of these in conjunction with the accessibility expert;
What are our accessibility goals?	Some combination of: WCAG 2.x A/AA/AA; section 508 compliant; user acceptance testing by select disabled individuals; user acceptance testing by individuals representing select communities;
How often should accessibility processes be re-evaluated?	Quarterly; Annually;
What are the benchmarks for reevaluating accessibility processes?	Some combination of: statistics from results of regular accessibility tests; experience of “hands-on” staff; hours dedicated to accessibility tasks; timelines for identifying and remediation
Who is responsible for reevaluating accessibility processes?	Accessibility expert; Department manager; CTO;
For sites that are updated regularly, how often should accessibility audits be run on a per role basis?	Roles: automated testing; designer; developer; author; Frequency: daily; monthly; quarterly; annually
What tools will be used to procure a comprehensive checklist of potential accessibility issues?	A particular software package; Manually curated list;
What tools will be used to track the lifecycle of	A particular software package; Manually created

accessibility issue identification and remediation?	spreadsheets; A particular project management software;
What tools will be used to perform automated testing?	A particular software package or combination of software packages;
What accessibility training should various roles have and how should that accessibility training happen?	One-on-one trainings with more experienced staff; Pre-recorded trainings; Online courses; College courses; Online documentation;
What documentation should staff members use to help them identify and remediate accessibility issues?	Some combination of particular online website accessibility documentation websites: WCAG 2.2 quick reference; Acquia Optimize Quick Guides; Lighthouse accessibility scoring;

***Figure 4**: Table of questions to consider when developing organizational accessibility policies.*

4.1.2 Project planning

At the beginning of a website design or redesign process, planning should occur where roles are determined, scope of work is roughed out and timelines are established. Once the high-level project plan is in place, the managers can brief IT and the "hands-on" roles, namely developers, designers and authors, on their involvement in the project.

Website accessibility planning question	Website accessibility planning potential answers
Will this project follow all of the general accessibility policies and procedures?	Yes; Yes, but with documented exceptions; No, we're using another set of policies and procedures;
Who is responsible for ensuring this website meets the project's accessibility goals?	Department manager; CTO; Any of these in conjunction with the accessibility expert;
Who is responsible for ensuring the design of the website is accessible?	The primary website designer; A different designer;
Who is responsible for ensuring that the organization of information, semantic structure and written content are accessible?	The lead website author; An editor;
Who is responsible for ensuring that code-related accessibility issues are addressed?	The lead website developer; A different developer;

Who is responsible for running automated tests?	The lead website developer; Department manager; IT team; The accessibility expert;
Who is responsible for running periodic manual accessibility testing related to design?	The lead designer; The accessibility expert;
Who is responsible for running periodic manual accessibility testing related to development?	The lead developer; The accessibility expert;
Who is responsible for running periodic manual accessibility testing related to content authoring?	The lead author; The accessibility expert;
What additional training do assigned staff members need to fulfill their roles?	None; Need to address these documented deficiencies;

Figure 5*: Table of accessibility-related questions to consider when planning for designing or redesigning a website.*

4.2 Examples

To put these principles into context and give further depth to the above information, below are some examples of how the above information might look when put into practice.

4.2.1 Example #1: A Medium-Size Business

Let's say a medium-size business is creating a new website that elaborates on an offering inadequately covered on their large flagship website. This company is just becoming aware of the benefits of and legal requirements around accessibility and has no accessibility policies in place. The company has a small development team and one designer. The marketing manager is in charge of producing copy for the website.

Here is how the website project might proceed:

1. Managers within the organization recognize the need for help with accessibility and enlist an outside accessibility expert.

2. The accessibility expert works with the management team to create an accessibility policy that addresses items such as what the accessibility goals should be, what tools should be used in addressing accessibility and tracking the lifecycle of accessibility work within projects, how often the website should be re-evaluated for accessibility, etc.

3. Once accessibility policies have been established, the managers and the accessibility expert create a project plan for the website project that specifies individuals responsible for ensuring that the design and proposed content structure of the website is accessible before it is released to development, individuals responsible for running various flavors of accessibility testing (automated, design, development, authoring), individuals responsible for remediating accessibility issues, what additional training is needed for staff, etc.

4. Team members are provided additional training to shore up deficiencies. In this case, the marketing manager receives training on good practices for website content and the designer receives training on good practices for designing accessible websites.

5. The designer designs the site in conjunction with the marketing manager, who supplies them content for the pages.

6. The accessibility expert reviews the designs for accessibility concerns, and there are a few rounds of feedback and revisions.

7. Once the designs are deemed to be sufficiently accessible, the development team puts together the site.

8. A combination of manual and automated tests are run on a staging site to surface accessibility issues, and there are a few rounds of revisions and re-testing.

9. The accessibility expert deems the site sufficiently accessible and the management team finds the site to be otherwise complete and the site is launched.

10. The marketing manager continues to update content on the site as needed.

11. The site is periodically re-evaluated for accessibility issues per the project plan. When issues are identified, generally the IT team takes care of them. Additional training is given to the marketing manager and designer as problematic patterns with their content creation practices are discovered.

4.2.2 Example #2: A Government Agency

Let's say a government agency is redesigning a website to make important information easier to find and digest. This agency has inherited accessibility policies from a bigger parent department, but these are not considered to be comprehensive. The organization has an IT team that it shares with several other departments, also serving as its development team. The IT team uses a fairly locked-down system of templates on a CMS platform for all websites it manages. The agency has a junior designer on staff. The department manager is in charge of producing copy for the website. There is a senior developer within another agency under the same parent agency who has agreed to play the role of the accessibility expert for this project.

Here is how the website project might proceed:

1. The accessibility expert works with the agency management team to review the parent agency policies and expand on those as needed.

2. Once accessibility policies have been established, the managers and the accessibility expert create a project plan for the website project that specifies individuals responsible for ensuring that the design and proposed content structure of the website is accessible before it is released to development, individuals responsible for running various flavors of accessibility testing (automated, design, development, authoring), individuals responsible for remediating accessibility issues, what additional training is needed for staff, etc.

3. In this case, the site must be built on the CMS managed by the IT team, and that system is fairly locked down in what elements can be changed. The designer provides some banner images (per specifications provided by the IT team), icons and infographics (created in conjunction with the Department Manager), and then their part is largely done.

4. The IT team creates a new instance of the templated CMS system for the agency to use.

5. The media and content are added to the CMS by the department manager.

6. A combination of manual and automated tests are run on a staging site to surface accessibility issues, and there are multiple issues found related to the codebase. Those issues are forwarded to the IT team.

7. The IT team fixes the easy “low-hanging fruit” issues, but leaves the others unaddressed due to limitations within the system and lack of resources to perform major system updates.

8. The site is deemed sufficiently accessible and otherwise complete by the internal accessibility expert and the site is launched.

9. The department manager continues to update content on the site.

10. The site is periodically re-evaluated for accessibility issues per the project plan. When issues are identified, sometimes the IT team takes care of them. Additional training is given to the department manager as problematic patterns with their content creation practices are discovered.

4.3 High-Value Approaches to Testing

Comprehensive website accessibility auditing can be very resource intensive and as such, is not practical to do on a regular basis (or at all) for many organizations. In these cases, we recommend a combination “wide-and-shallow” and “narrow-and-deep” approach.

The wide-and-shallow part is provided by automated testing. Automated tests can easily scan hundreds of pages and quickly provide detailed reports on the findings. These tests can typically be run as often as desired by the company’s scanning tool of choice without any additional cost beyond the standard subscription fee. While these tests aren’t able to register the full spectrum of possible issues, they can nonetheless reveal important deficiencies that can be passed along to the appropriate staff members for remediation. They can also provide very timely data that helps an organization catch and remediate issues quickly. For example, if an error is introduced into a global element on a website (like a navigation menu), daily automated scans can help ensure that the issue is discovered and forwarded to the remediation team within 24 hours.

There is value in having the accessibility testing team go over just a few select pages within a site of several hundred pages, looking for any and all accessibility issues that might be present—this is the narrow-and-deep approach. Oftentimes the issues that are uncovered are global in nature either because 1) they appear in global elements of the site (i.e. navigation) or 2) because they are examples of flawed patterns used by content authors. For the latter, if the content authors are trained to fix their flawed patterns, this will prevent future issues from popping up and also allow them to fix existing content errors on other untested pages.

Page selection is important for the narrow-and-deep approach. Recommended pages to test should have the following features:

- The pages have a similar structure to many other pages on the site (i.e. a blog post)

- The pages are relatively high traffic (which can lead to more people running into the accessibility issues that are present)

- The pages have not been tested recently (it's better to scan a new page, all other things being equal)

The narrow-and-deep approach isn't quite as cheap and easy as the automated testing as it involves human effort, but it can provide a very high amount of value for the time spent. When this approach is combined with the wide-and-shallow automated testing, oftentimes that's enough to uncover most issues on the site.

5. Conclusion

Enterprise-level managers looking for effective ways to improve digital accessibility across their organizations will do well to consider the key concepts presented in this paper. These concepts are:

- understanding of the benefits of accessibility and the core concepts of capability maturity models;
- establishing policies and procedures around accessibility;
- learning the roles and skill sets needed to audit and remediate accessibility issues;
- providing appropriate training;
- familiarizing oneself with available software tools;
- implementation of the combination "wide-and-shallow" and "narrow-and-deep" approaches provided by automated testing and manual audits; and
- creating a relationship with an accessibility expert.

The efforts spent improving accessibility will pay dividends in two important ways:

- enabling those with special needs to more easily consume information, online services, and other digital properties offered by an organization; and
- overall improvement of everyone's user experience.

The authors believe that those of us lucky enough to work at the intersection of information, technology, and online services have special responsibilities in accessibility, especially when these services serve large user communities. We should want to build accessible solutions. We should appreciate that equitable access to information and online services is good business and a matter of human dignity and human rights in the internet age.

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