

The Accessibility Kit for SharePoint - A Community-Based Approach to Web Accessibility

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ABSTRACT

Microsoft Office SharePoint Server 2007 (MOSS) is an integrated suite of server capabilities that can help improve organizational effectiveness by providing comprehensive content management and enterprise search, accelerating shared business processes, and facilitating information-sharing across boundaries for better business insight.

The Accessibility Kit for SharePoint (AKS) is an add-on pack for Microsoft Office SharePoint Server 2007 that provides accessibility and usability enhancements for SharePoint. This development effort was broken into two parts (a) standing up a more accessible web-site in an effort to accelerate the process of building accessible Web sites in SharePoint in accordance with the WCAG 1.0 AA guidelines and (b) enhancing the accessibility of the collaborative environment within SharePoint, including blogs and Wikis, to meet the guidelines in a similar fashion. The AKS is developed by HiSoftware in collaboration with and on behalf of Microsoft.

The product was designed to be partner-led to allow the partners specific examples through the use of best practices and documentation.

As part of the project, Microsoft and HiSoftware are co-hosting and nurturing an AKS Community. The AKS Community site allows Microsoft Partners, customers and stakeholders to engage in dialogue with each other and Microsoft about Accessibility best practices, lessons learned challenges and successes.

This community-based approach to accessibility has generated a great deal of enthusiasm, including approximately 1000 downloads in the first month and 150 organizations joining the community. This community approach to accessibility for a particular authoring environment has applicability to the broader field of web accessibility.

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Design, Reliability, Standardization, Verification.

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Accessibility, Community, SharePoint, Collaboration, Best Practices, Extensible.

INTRODUCTION

Microsoft Office SharePoint Server 2007 (MOSS) is a business productivity server based solution that can improve organizational efficiency and collaboration through integrated content management and enterprise search, accelerating shared business processes, and facilitating information-sharing across boundaries for better business insight.

Microsoft Office SharePoint Server 2007 ("MOSS") made a number of accessibility improvements and enhancements over its predecessor, SharePoint Portal Server 2003. The WCAG 2.0 working drafts were considered as part of the design process. However, Microsoft received feedback from customers who had a need to create WCAG 1.0 AA conformant web sites on the SharePoint platform. Based on analysis of that feedback, and the most urgent customer requirements, the SharePoint team determined that they would create an accessibility add-on for SharePoint, to address those requirements which became AKS 1.0. AKS 2.0 will address additional customer scenarios and will provide additional WCAG 2.0 support.

AKS provides an accessible layer on top of a SharePoint implementation that accelerates the process of accessible Web development. AKS supplements the templates, style sheets and the components that are already utilized in SharePoint to create the most common types of sites, enabling users to deploy accessible SharePoint sites quickly. It also provides a framework and documentation to help developers make more complex and customized sites accessible. The Community site and discussion infrastructure include peer and expert support as well as code-sharing. This provides the community with the ability to extend the tools that Microsoft and HiSoftware have provided.

Microsoft has provided this solution, in collaboration with HiSoftware, as open source and at no additional cost to its customers. The creation of an “accessibility community” for this dominant platform technology will educate, enhance and extend awareness and accessibility initiatives as a high priority for organizations using SharePoint as their business productivity platform.

AKS is intended to significantly reduce the time, knowledge, and effort required to implement a SharePoint-based web site that conforms to the World Wide Web Consortium’s (W3C) Web Content Accessibility Guidelines 1.0 Priority 1 and 2 checkpoints. SharePoint is the fastest growing server product in Microsoft’s history with revenues in fiscal year 2007 of more than \$800USD million worldwide and greater than 37% annual growth in the UK alone. Microsoft sold 84 million licenses of SharePoint worldwide. These licenses are for internal users of SharePoint, and do not even contemplate the hundreds of millions of additional Web users that SharePoint may impact when it is used to create public facing Web sites. AKS allows the creation of WCAG 1.0-compliant SharePoint sites. This is extremely important because SharePoint has been deployed extensively throughout enterprise organizations worldwide, to create collaborative work spaces and Intranet sites, as well as Internet Sites. Microsoft’s emphasis on accessibility across the SharePoint Platform will have a dramatic impact on improving accessibility of Web sites AND Intranet (employee) portals.

AKS is developed as a set of building blocks rather than an end-to-end solution. SharePoint users can utilize various pieces of the kit and integrate them into their respective product or service offerings while some customers will integrate particular components of the kit into their SharePoint deployment processes.

AKS is available-at no cost- via Microsoft Public License (MS-PL) which was recently approved by the Open Source Initiative as an open source license. Additionally the kit utilizes an open and well documented interface to enable accessible extensions of SharePoint. Finally, AKS contains tutorials and education-empowering others to “build accessible”. This education based approach to accessibility allows business users and content creators within the organization to do the “right thing” in terms of accessible development, more easily. By exposing content creators to more accessible tools and utilities and providing the explanation for “why” these tools are more accessible, users can learn, extend and incorporate these principals into their ongoing Web development efforts, both within and outside of SharePoint.

AKS APPROACH

There are many, many SharePoint-based web sites and intranets in the world. AKS allows organizations to continue to use their existing SharePoint infrastructure to build accessible sites, and to incrementally improve their existing sites. AKS significantly reduces the amount of work needed to make these sites conform to WCAG 1.0. This puts a WCAG 1.0 compliant site within reach of many organizations that may not have been able to achieve it in the past, and as such, improves the overall accessibility of the Web.

In developing AKS, Microsoft and HiSoftware wanted to ensure that adopting it would be as painless as possible for organizations using SharePoint. To achieve that it had to be non-invasive, educational, and extensible.

Non-invasive – AKS does not modify any core components of SharePoint, cannot break existing installations, and won’t be broken by service releases. Developers can use as much or as little of AKS as they choose, and can apply it incrementally.

Educational – By deploying open tools to assist in the deployment of more usable sites the kit is going beyond just telling the designer to do something. AKS provides tools are being provided to help designers achieve and understand Web accessibility.

Extensible – By openly documenting and issuing guidance around web parts, the AKS solution provides a simple framework example for all developers to use, allowing for the broader impact of the AKS across all developers who build SharePoint sites and add-ons for reuse.

This non-invasive, extensible, educational approach has made the barrier to entry for WCAG 1.0 conformant Web sites much lower.

AKS allows an organization to meet organizational goals and objectives with regard to compliance with standards and guidelines at a low cost, not only because it is a free add-on, but because it is also designed for a low total cost of ownership. It is non-invasive and won’t break existing installations. It does not require training for end-user content authors. It allows WCAG 1.0 AA conformance on a site built with SharePoint 2007, and introduced accessible business productivity solutions.

End users reading sites benefit from AKS because it lowers the cost of accessibility improvements on the most common SharePoint sites, which means that more of these sites will be made accessible.

End-user Authors

AKS and for that matter, SharePoint itself empowers users to become site authors. The very purpose of SharePoint is to separate design from content. SharePoint uses templates and master pages with CSS to design the look and feel of a site, and then Web parts to feed rich content through those templates. End users choose from templates and add content through them. In this way users are empowered to build their own content through the creation of MySites, TeamSites and through direct publication of content on the Web which can be managed through a SharePoint work flow. This empowering process is extended with accessibility through the implementation of AKS. AKS applied on the server allows users to create content that is more accessible without specific design knowledge.

Since AKS is run on the server, end-user authors do not need to install or configure anything. They don’t need to understand the details of Web Accessibility or even Web site development. AKS provides, out of the box, WCAG 1.0 conformant versions of the most common SharePoint scenarios, including site templates and the most popular Web parts.

AKS empowers users to create more accessible output through SharePoint by allowing them to 1) start their site with an accessible template; 2) create accessible rich user experiences with accessible versions of the most common web parts used in SharePoint 3) accomplish this without any additional burden on the content-creator or end-user, as AKS is installed entirely on the server side of SharePoint by an administrator. Business users and content creators are then more able to achieve accessible Web site design because they are provided with the tools to help them do

the “right thing” without having to fully understand the details of doing so.

The following pieces of the solution empower end users engaged in authoring functions to create WCAG 1.0 AA conformant sites, without having to fully understand the intricacies of that standard or web development.

The AKS Solution-Enabling Accessibility

The AKS solution represents a set of files, programs, and utilities that facilitate the enhanced accessible and usable output of Microsoft Office Server SharePoint (MOSS) 2007 and Windows SharePoint Services (WSS). While the kit is not an end-all to accessibility it represents both a step forward in technology and education. Throughout this project, HiSoftware’s development team worked in collaboration with the Microsoft SharePoint Server development team to ensure that AKS was designed and developed in a way that would have little to no impact on the core system architecture of SharePoint. In this way, there would be little impact to AKS users when Microsoft released a Service Pack or update for SharePoint.

The AKS development effort also used an iterative approach with phased releases of the kit to address top accessibility priorities with gains that could be readily achieved. This was undertaken through the use of updates to Master Pages, Publishing Templates, CSS and Control Adapters that intercept the output of SharePoint Web parts before that output is rendered in a Web browser.

From a technology perspective it provides new Cascading Style Sheets (CSS), Master Pages, multiple control adapters and Reusable Content Examples as needed to be successful. One approach addressing accessibility challenges within SharePoint would have been to modify the Web parts within SharePoint itself. But HiSoftware in collaboration with the SharePoint development team determined that this approach carried too great a risk of creating other issues that could be detrimental within the SharePoint environment.

The AKS Size Utility

The AKS Size Utility is a C# Application developed to help facilitate the change of units from absolute to relative. While there are many places on the internet where one can find these calculations, the AKS Size Utility provides a practical and automated solution. The utility does this by opening and documenting conversion figures that will be adjustable by individual designers and developers alike.

The AKS Style Sheets

The AKS Style sheets represent a group of style sheets that have been reviewed and tested to allow for the quick implementation of relative sizing for sites that use the styles shipped with SharePoint 2007 and for sites that will be implemented anew with SharePoint styles.

The AKS Master Pages

A master page in SharePoint is used to create a standard “look and feel” for a Web site. The master page controls the primary colors, navigation and “style” of the site. The master pages apply to the entire section of a site and create a consistent experience across the site. These pages can be created through the out of the box templates in SharePoint and can also be created by developers from scratch. The AKS master pages are a group of master pages that will implement the new styles and additional template related

corrections that provide better usability overall. These pages will allow for a one click implementation of the AKS Style sheets and other accessibility and usability enhancements as required or wanted by the site designers. The image below is a typical SharePoint Web page. One of the accessibility challenges in SharePoint is its use of Absolute font sizes versus relative font size. Thus when an end user changes the font size in their browser, nothing happens.

AKS Reusable Content

Reusable content can provide SharePoint users with simple code examples that can be cut and pasted into their implementations. The AKS examples will provide a great way to both educate and deliver more usable and in some cases more accessible content. In addition re-usable content provides the ability for more uniform and accessible standardized content to the internet or intranet sites to which you are publishing.

IT Developers

AKS also provides tools for the developers and administrators in the organization who are responsible for more complex or customized SharePoint based sites. All of the features of AKS are available separately, so that developers can pick and choose the ones they need.

This enables developers to either use bits and pieces of the code in AKS that are applicable to their custom development, or to utilize the documented practices in AKS to enhance the accessibility of their own development efforts. In addition, the community of AKS developers offers both peer and expert support, and open source code sharing. This educational aspect of AKS is appealing to these developers, and will help to drive both adoption and quality of implementation.

One of the primary goals of the AKS project was to develop a set of building blocks, components, documentation and educational materials that accelerate the process of accessible development using SharePoint. In order to accomplish this goal, a key priority was to ensure that the kit was open and fully documented and that developers working in SharePoint would be able to quickly review and understand the components of the kit. Because SharePoint is a highly customizable solution, and every SharePoint site can be totally different, the kit was designed utilizing an “a la carte” methodology, so that developers could pick and choose the pieces that applied to their implementation.

AKS uses a combination of replacement templates, CSS and Control adapters. SharePoint is built on top of ASP.Net 2.0, which includes a feature, called Control Adapters that allows a developer to override the default rendering of a control before it is sent to the browser. AKS makes extensive use of this feature to optimize the output for WCAG 1.0 conformance.

The AKS Control Adapters

AKS control adapters are documented so that they can be implemented in multiple scenarios. The control adapters that ship with AKS improve the accessibility of the out of the box web parts that are used in the common scenarios for SharePoint deployments for the Internet and Intranet Web publishing scenario. Developers creating custom web parts can use a similar approach. AKS 1.1 provides control adapters to address Web parts related to WIKIs and Blogs.

The AKS Feature

The AKS Feature is a standard SharePoint implementation that provisions a complete set of master pages, templates and CSS files that replicate the out of the box files included in SharePoint and utilized by the Publishing Portal site definition. Once the AKS Feature is activated on a site collection created using the Publishing Portal site definition, a user can select one of the AKS provided master pages that use the AKS provided CSS files. Developers can then pick through these files to see how things were implemented.

As previously mentioned, these custom ControlAdapter classes allow developers to see how the rendering of Web controls is modified from the default rendering options.

Education and Community

The educational approach is also a very important goal of the AKS solution. AKS does not contemplate an automated process to remediate any accessibility or usability concerns with current published content where the organization has implemented custom approaches that excluded the CORE SharePoint styles or masters. However, this is far from a roadblock for implementing the principals of the kit. The Guidelines and approach outlined in the AKS can be applied to existing sites and in fact should be used by companies who are in the process of hiring an outside firm to develop an internet or intranet site to better define requirements.

Best Practice Integration

The goal of the AKS community site is to not only create a forum through which SharePoint users can share their challenges and solutions, but it also provides an opportunity to bring together key stakeholders with different perspectives in an open and constructive dialogue. The community is open to anyone and the initial 150 members that have joined the community are geographically dispersed, with worldwide representation. Community members include government organizations, Universities, Non-government organizations, Advocacy organizations, technology companies, Systems Integrators, Microsoft SharePoint partners and others. Community members are also encouraged to contribute source code, and best practices to the community repository to further extend the kit. HiSoftware extends the AKS solution through its commercial applications that also enable "end-to-end" accessibility through the SharePoint Web project life cycle. These solutions empower developers to create accessible custom templates with desktop validation and remediation software. They also enable content monitoring and automated testing through SharePoint work flows. Additionally content authors can use HiSoftware's page tester as part of the Web editor console within SharePoint. While these solutions are available at a cost to customers, they extend the concept of accessibility beyond the tools that Microsoft provides them, and allow the organization to take additional ownership of their longer term accessibility goals.

CONCLUSIONS

The AKS initiative is an ongoing project. Phase I of the kit was released in late November 2007. Phase II of the kit is scheduled to be release in early March 2008. Phase II will be available in W#2008. In the first 30 days of the release of AKS 1.0 over 1500 organizations downloaded the kit and over 150 organizations joined the AKS community and discussion list. Although this

project is an ongoing initiative, several interim conclusions can be drawn:

- 1) By including a broader community outside of just of the software vendor you can encourage sharing even amongst competitive organizations because they are all working towards a common goal.
- 2) Involving the target organizations from the beginning ensures that the initiative does meet their needs in a much more relevant way.
- 3) By delivering small sections of the initiative incrementally value can be demonstrated early on and it ensures that the target audiences' needs are being met. If they are not being met then there is an opportunity to adjust plans and refocus on the highest priorities.
- 4) Developing an add-on kit with the real-world concerns of site implementers, such as cost and impact on existing installations, in mind will drive adoption and increase the field of accessible web sites.

HiSoftware

HiSoftware is an Independent Software Vendor and ten-year Microsoft partner, which has developed software solutions to address Web Accessibility and Web Governance standards for the past ten years. HiSoftware provides end-to-end solutions to empower organizations to develop maintain and monitor accessible Web sites, systems and applications.

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