



**THE ACCESSIBLE CUSTOMER EXPERIENCE:  
Delivering Superior Experiences to All**

# THE ACCESSIBLE CUSTOMER EXPERIENCE: Delivering Superior Experiences to All

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## EXECUTIVE SUMMARY

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Accessibility is an important element to consider when designing customer experience on the web. It is easy to feel overwhelmed by accessibility standards and laws; this document was written to help your organization overcome the challenge.

In the US, Target was recently sued for failing to make its website user friendly to disabled users and this case is potentially precedent setting. **Other companies may also face litigation if they do not make efforts to ensure the accessibility of their web support experience.**

Aside from being the law, as well as being the right thing to do, accessibility will have benefits for your bottom line. It is estimated that between 15%-20% of the world's population can be considered "disabled", and one study found that disabled users in the United Kingdom alone had an annual buying power of 80 billion pounds (~\$121 billion US) [1]. **Ignoring disabled users means that you are unnecessarily limiting your market and reducing the reach of your organization.**

The remainder of this document will introduce you to the Accessibility efforts undertaken at RightNow. We will start with our recommendations at a strategic level and then dive down into specific examples of web-development best practices you should consider; at this point you may wish to hand this document off to a technical lead on your team.

This document was written to be usable in itself - important points for skimming are bolded and the appendix contains several pages of additional material that may be useful to you or your team. You do not need to read this paper from beginning to end.

## WHERE DO I START?

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Each country has its own unique laws that apply [5] and there are multiple standards available to ensure compliance [see Appendix - Accessibility laws and guidelines]. Despite the diversity behind these initiatives, the goal behind each is simple – they strive to ensure that everyone has similar access to information and services regardless of disability.

If you have ever sat down and tried to read one of the standards, for example WCAG 2.0, you will appreciate how easy it is to get lost in the details and miss the big picture. Apparently this is a common occurrence, as **one study found that 65% of the problems that real disabled users experienced when visiting various websites would NOT have been addressed by adherence to standards** [4]. This data show that standards are not sufficient to ensure a good customer experience.

What can a company do to deliver a superior customer experience to all? We've written this paper to help you answer this very question.

In the remainder of this paper we'll first make the case for why accessible customer experiences are important, come to a common understanding of who a disabled customer is, and then talk about some methods that can be used to ensure that your company is able to deliver the same positive experience (or better!) that you can deliver to non-disabled users.

This document is a result of our own accessibility research initiative which includes interviews with disabled customers and usability testing, as well as secondary research gathered from the user experience industry. The combined result of this effort means that **this paper draws on in-depth research with nearly 150 disabled customers in three countries.**

## VALUE OF ACCESSIBILITY

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Accessibility in Customer Relationship Management (CRM) is more than a faceless requirement—it is a **human-centered outlook on customer experience design** that believes all customers are worthwhile. In addition to being the ‘right the thing to do’ it also has monetary benefits.

Designing to accommodate persons of disability often has the fortunate side effect of making the product or thing work well for everyone, even if they do not have a disability. While the impetus for change may come from accessibility the customer experience almost always improves for all.

Consider the following quote:

*“Google is, for all intents, a blind user. A billionaire blind user with tens of millions of friends, all of whom hang on his every word.” - Karsten M. Self*

Programmatically exposing web content to the screen readers used by blind folks happens to also **ensure that Google can properly “see” the same web content.** A high Google ranking for your content helps anyone on the web who is trying to reach the information in your knowledgebase – regardless of who they are.

The rarest diamond in all of customer experience is the ability to deliver such a great experience that it literally wins the customer’s loyalty for life. With accessibility there is no greater opportunity to win customers for life. The inverse is also true of course, that delivering a bad customer experience may lose a customer for life.

During our customer interviews, we found that disabled customers are often very gracious. They write letters thanking helpful representatives and make buying decisions based on which companies are the most helpful. They are aware that it takes effort to meet their needs, and they appreciate a good experience more than your average customer. If you’ve had the pleasure of helping a disabled customer, you’ll know what we mean.

## WHO ARE DISABLED CUSTOMERS?

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**The term “disabled” is not as easy to define as you might expect.** Someone who has no vision can clearly be considered disabled, but what about someone who has low vision and can only see rough shapes and some colors? What about a person with excellent normal visual acuity (20/20 vision), but who is also red-green colorblind? What about someone who uses corrective lenses?

As you can see there is an infinite continuum of sight disabilities and even someone who wears corrective lenses might be technically called disabled even though they do not consider themselves as such. The US Center for Disease Control and Prevention determines if someone has a disability by the following question:

*“Are you limited in any way in any activity because of physical, mental, or emotional problems?”*

It is also important to note that vision impairments are only a portion of all possible impairments. Individuals may have any single or combination of these impairments:

- **Sight**
- **Motor**
- **Cognitive**
- **Hearing or Speech**

A customer who has a hearing impairment obviously has no problem visually browsing the web, and a customer who has sight impairment may desire the use of an Interactive Voice Response (IVR) phone menu instead of using the web. **The needs of “disabled users” are thus very diverse** and creating a great customer experience for all requires one to take into account a wide variety of conditions and situations.

**RightNow Technologies conducted persona research in this area in 2009.** The results were used to help guide design efforts for the November 09 Customer Portal page set and we would encourage you to use these personas in your own business to help ensure you meet the needs of each group of individuals. Please see the appendix at the end of this paper to see the full personas.

Figure 1 - The RightNow Disabled Personas

Given the multi-channel choice available to customers, it’s worth noting that each of these personas has differing preferences for each customer service channel due to the unique nature of the abilities.

	JANE (Sight Disabled)	JACK (Sight Impaired)	BETTY (Movement Impaired)	TOM (Cognitively Impaired)	ALEXA (Hearing/Speech Impaired)
Local Store	May use	May use	May use	May use	<b>Cannot easily use</b>
Phone	<b>Preferred</b>	May use	<b>Preferred</b>	May use	<b>Cannot use</b>
Chat	May use	May use	<b>Cannot easily use</b>	<b>Cannot easily use</b>	<b>Strongly preferred</b>
E-mail	May use	May use	May use	May use	<b>Preferred</b>
Web	May use	May use	May use	May use	<b>Preferred</b>

Figure 2 - Personas by Channel

Note that offering a Chat channel to Alexa is an opportunity to deliver a tremendous customer experience! **This persona cannot easily go into a local store** (unless the employees are trained in sign language) or phone the company (unless the company supports Telecommunications Devices for the Deaf [TDD] devices), so the availability of real-time support from a company representative is a pleasant surprise.

Rather than ensuring that every channel is accessible to every persona, it will result in a better customer experience if you **instead provide multi-channel choice to your customers** so they can choose the channel that works the best for them. This strategy also requires fewer resources to implement due the difficulty of imposing the requirements of technical accessibility compliance onto a channel which certain personas cannot easily use in principle.

## COMPLIANCE STANDARDS AND GUIDELINES

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There are several laws and compliance guidelines for accessibility, and most of them are long documents. The web standard with the largest world-wide adoption is WCAG 2.0, but there are also standards that apply to desktop applications, employers, buildings and facilities, and others. Laws also vary by country, so we encourage you to check out the appendix section (Accessibility laws and guidelines) to see which laws and guidelines may apply to your circumstance.

## CERTIFICATION VS. MEETING THE REQUIREMENTS

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It is important to note that in each of the accessibility documents there is no such thing as a formal certification or recognition of compliance. **Various 3rd party vendors may offer to verify that you meet the requirements outlined in each document, but there are no independent validations with impartial oversight.** If your product or service meets the requirements outlined in the standards, then this is all that is needed.

You should also note that it is not technically possible for a vendor to comply with section 508, as this document only applies to federal agencies in the United States. Instead, we say a vendor “meets the technical requirements of section 508” - the agency itself is what has to be compliant, but a vendor may fill out a VPAT (Voluntary Product Accessibility Template) to declare that their product meets the requirements of the standard; to request a copy of RightNow’s VPATs please see reference #6.

## THE SPIRIT OF THE LAW

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The high level purpose of all of these documents is to make technology work better for people with disabilities. Don’t lose sight of this big picture! **In order for your accessibility project to be truly successful you will have to validate that your product or service is usable by real disabled users in the real world.** It is entirely possible to build something that meets technical requirements but fails the real world/real user test. If this is the case, then ultimately your project has been a failure as well.

## DISABLED AGENTS

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While the Agent Desktop does not meet the technical requirements of section 508, **RightNow does offer a Thin Client interface which exposes the functionality of the Service portion of the Desktop in an accessible fashion.** The Thin Client provides access to manage RightNow Incidents, Contacts, Organizations and Answers through a simplified web interface which was developed in collaboration with blind users at the US Department of Veteran Affairs. This interface meets the technical requirements of Section 508 as well as WCAG 1.0 and 2.0 and allows for a contact center agent to create, update, and delete the same content that is otherwise accessed in the standard Agent Desktop.

## WEB SELF-SERVICE AND ACCESSIBILITY

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**Starting with the November 09 Customer Portal framework**, every effort has been made to ensure that code produced by the framework, e.g. widgets and other core utilities such as dialogs, **is accessible by default on a new installation.** If you are upgrading to **November 09** or later, then you should consume the newest widgets and ensure that the config verb `CP_DEPRECATED_CORE` is set to disabled. If you will be producing a custom widget or modifying the reference implementation (by changing templates or pages under the 'views' directory) then you are responsible for maintaining the accessibility of those changes.

Also, the **content you place into the RightNow System is not automatically accessible.** For example, answer content needs to be checked for accessibility issues especially if an answer contains images, videos, or file attachments. See the RightNow Answer Content section for more information.

## PRINCIPLES OF ACCESSIBILITY

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How do you ensure the accessibility of your modifications? Before diving into specific examples, **let's discuss some basic principles of accessibility** that will help you as you customize your Customer Portal implementation or any web page.

Although we will present a check list of things to watch out for later, we find that it's best to focus on the principles of accessible design so that when new accessibility questions come up, like they did for us, thinking about the principles can guide how to best handle them.

The four guiding principles of accessibility in WCAG 2.0 [7] can be remembered with the acronym "POUR":

- **P**erceivable
- **O**perable
- **U**nderstandable
- **R**obust

### Perceivable

Perceivable means that **the information presented must be discoverable to users through sight, hearing, or touch.** Since some people may have limited or no use of one or more of those senses, web content must have:

*"Text alternatives for any non-text content so that it can be changed into other forms people need" [7]*

In general, plain text is the easiest format for users to consume as it may be easily changed into any number of other formats such as speech via a screen reader or Braille display. Examples of non-text content include images which need alternative text (alt text) and audio or video which need captions.

Since web content may be consumed in a variety of different ways, it is important that relationships and structure be maintained when the format is changed. For example, content should have appropriate markup such as headings, lists, and paragraphs so that the right meaning is maintained even if it is read aloud by a screen reader.

## Operable

**Not everyone uses a standard keyboard and mouse to access the web.** Some people use alternative devices that accommodate their disabilities [8]. These devices may include mouth sticks, foot pedals, voice recognition, and others. Web Designers and Developers tend to focus on use of the mouse but people who lack fine motor control or cannot see the screen may not be able to use a mouse, so it is necessary that all functionality be available via the keyboard.

If there are any time-sensitive pieces of your web content, there must be a way to ensure that all users have enough time to read and use that content. This is important because some users may take longer than others to complete tasks. It's also important to avoid any elements that may cause seizures such as flashing elements (see <http://www.w3.org/TR/UNDERSTANDING-WCAG20/seizure.html> for more info).

Another piece of operability involves ensuring that your website provides ways to help users navigate, find content, and determine where they are [7]. This involves making sure form elements are labeled, navigation is consistent, providing search capability and/or a site index, and ensuring that every page has a title.

## Understandable

To be understandable, **both the content and functionality of the website must make logical sense to the user.** For the content, it's important that it is written in Plain Language, with vernacular that is familiar to the customers and doesn't contain organizational or technical jargon.

The understandable principle also applies to the way web pages look and operate. All navigation elements should be consistent, and elements that provide input functionality should be labeled consistently across the site. To meet this principle, you must also set the language of the page so that it can be programmatically determined by assistive technology; this will allow screen readers to pronounce the words correctly according to the rules of that language.

The last part of this principle regards input assistance. To be accessible, **you need to pay particular attention to the process of filling out forms** and ensure that all instructions are communicated clearly and that if the user makes a mistake, it's clear what the problem is and how to fix it. **In the Customer Portal framework there is a sophisticated error recovery system.** When a form with an error is submitted, a red link is created at the top of page (Figure 3) which describes the error and how to fix it – clicking the link brings the user directly to the invalid field.

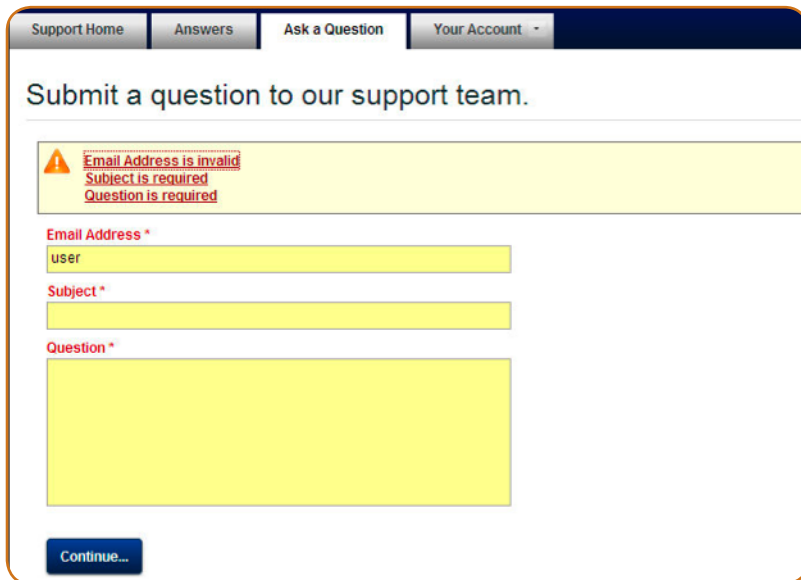


Figure 3 - Customer Portal Error Recovery System

## Robust

As you probably know, there are a lot of different ways to access web content using many different technologies. To name just a few, customers can browse the web on iPhones, Blackberries, Firefox, Internet Explorer, Chrome, Opera, Safari, through a screen reader, screen magnifier, Braille reader, and many other technologies. In the future there will certainly be new ways to access content that we aren't of aware of today. To be accessible, **web content needs to be produced in such a way that it can be accessed by as many technologies as possible.**

*"The best way to ensure that content displays properly—and accessibly—is to create web content that validates against the technical standards for the technologies being used."* [8]

The reference implementation of Customer Portal has been designed to validate according to W3C standards and as you develop your Customer Portal implementation, you should strive to make sure your content validates as well.

## HOW CAN I TELL IF MY CONTENT IS ACCESSIBLE?

There are many free accessibility evaluation tools to help you validate each web page, but we particularly like the **Wave Toolbar** made by [www.webaim.org](http://www.webaim.org) and the **Total Validator** Firefox extension (<http://www.totalvalidator.com/>) the best. Each of these tools can be installed as toolbars in Firefox for testing within your browser.

Figure 4 below shows the sample output from the Wave Toolbar for the New York Times.



Figure 4 - Wave Output for nytimes.com

As you can see, the **Wave Toolbar** found **37 errors** on www.nytimes.com. These errors range from missing alt text on images to missing form labels. We like the Wave Toolbar because it's easy to use and it allows you to quickly see errors right in your web page. It only does one page at a time which can make it unwieldy for large scale use. There are other automated accessibility testing tools that can spider your entire website and give you a report of errors, but they are generally not free. We haven't found a favorite yet, but some examples include Total Validator, Worldspace, and Compliance Sheriff.

## FIXING THE PROBLEMS AND IMPLEMENTING ACCESSIBILITY

**When you run one of the free tools above on your current site, you will get a good idea of how programmatically accessible it is.** Once you have identified potential issues, you'll then need basic HTML skills to fix the problems. Generally a web developer can learn the basics of accessible HTML in just a few days, especially when provided with a checklist of things to watch for; we have provided a checklist for you in Table 1.

<p><b>Provide appropriate alternative text</b></p>	<p>Alternative text provides a textual alternative to non-text content in web pages. It is especially helpful for people who are blind and rely on a screen reader to have the content of the website read to them.</p>
<p><b>Provide headings for data tables</b></p>	<p>Tables are used online for layout and to organize data. Tables that are used to organize tabular data should have appropriate table headers (the &lt;th&gt; element). Data cells should be associated with their appropriate headers, making it easier for screen reader users to navigate and understand the data table.</p>

<b>Ensure users can complete and submit all forms</b>	Ensure that every form element (text field, checkbox, dropdown list, etc.) has a label and make sure that label is associated to the correct form element using the <label> tag. Also make sure the user can submit the form and recover from any errors, such as the failure to fill in all required fields.  11`
<b>Ensure links make sense out of context</b>	Every link should make sense if the link text is read by itself. Screen reader users may choose to read only the links on a web page. Certain phrases like “click here” and “more” must be avoided.
<b>Caption and/or provide transcripts for media</b>	Videos and live audio must have captions and a transcript. With archived audio, a transcription may be sufficient.
<b>Ensure accessibility of non-HTML content, including PDF files, Microsoft Word documents, PowerPoint presentations and Adobe Flash content.</b>	In addition to all of the other principles listed here, PDF documents and other non-HTML content must be as accessible as possible. If you cannot make it accessible, consider using HTML instead or, at the very least, provide an accessible alternative. PDF documents should also include a series of tags to make it more accessible. A tagged PDF file looks the same, but it is almost always more accessible to a person using a screen reader.
<b>Allow users to skip repetitive elements on the page</b>	You should provide a method that allows users to skip navigation or other elements that repeat on every page. This is usually accomplished by providing a “Skip to Content,” “Skip to Main Content,” or “Skip Navigation” link at the top of the page which jumps to the main content of the page.
<b>Do not rely on color alone to convey meaning</b>	The use of color can enhance comprehension, but do not use color alone to convey information. That information may not be available to a person who is colorblind and will be unavailable to screen reader users.
<b>Make sure content is clearly written and easy to read</b>	There are many ways to make your content easier to understand. Write clearly, use clear fonts, and use headings and lists appropriately.
<b>Make JavaScript accessible</b>	Ensure that JavaScript event handlers are device independent (e.g., they do not require the use of a mouse) and make sure that your page does not rely on JavaScript to function.
<b>Design to standards</b>	HTML compliant and accessible pages are more robust and provide better search engine optimization. Cascading Style Sheets (CSS) allow you to separate content from presentation. This provides more flexibility and accessibility of your content.

*Table 1 – Accessibility checklist from webaim.org*

## THINGS TO WATCH OUT FOR WHEN CUSTOMIZING STANDARD WIDGETS AND TEMPLATES

Most widgets don't require any thought on the part of the developer or designer to make them accessible; however there are some widgets that require a few small modifications.

Three widgets contain images and a special attribute for the alt text on the image.

In the reference implementation, the **PrintPageLink**, **EmailAnswerLink**, and **AnswerNotificationIcon3** widget all have visible text as well as the image representing the functionality.

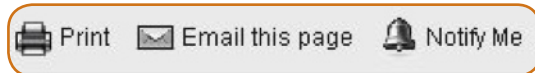


Figure 5 - Widgets with alt text attributes

Since the visible text serves as the text alternative for the icons, **the icons specifically have blank alt text**. This is because if the images were to have a tag such as **alt="Print"** then it would be redundant and distracting to a screen reader. However if you want to remove the visible text and allow an icon to represent the functionality, then you should set the **label\_icon\_alt** attribute on those widgets so that the information conveyed by the picture is also displayed in text.

The AnswerFeedback2 widget also has an attribute that you should be aware of. When the **options\_count** attribute is set to greater than 2, this widget displays a rating scale (with stars by default).



Figure 6 - AnswerFeedback2 Widget with Star Rating Scale

In this case, the stars have hidden text for screen readers only. This hidden text is controlled by the **label\_accessible\_option\_description** attribute which is set to "rate answer 1 of 5" where the first number is the star, and the second number is the value of **options\_count**. This allows a screen reader to know which star is which and how many there are total. If you change the "Was this answer helpful" text, then you should set **label\_accessible\_option\_description** to match.

The **ProductCategoryInput** and **ProductCategorySearchFilter** widgets are two widgets we've paid special attention to, as our older product and category drop downs caused a high rate of task failure with disabled users.

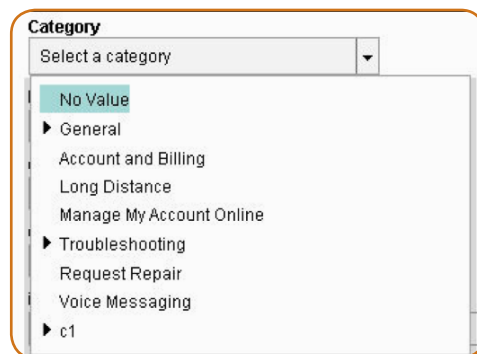


Figure 7 – New ProductCategoryInput Widget

This new widget works well for selecting structured products and categories for sighted users, but not for blind users. **In order to allow a blind user to operate this list, an alternate or “accessible view” of the widget is provided to screen readers.** The accessible view is accessed by a hidden link that is not visible to sighted users.

If you would like to “see” the accessible version of this widget, use the tab key to bring focus to the widget and then hit **shift-tab**. At this point the focus indicator may look like it went away. You’ve found the hidden link! Press -enter- and the accessible view (displayed below) will open.



*Figure 8 - Accessible View of ProductCategoryInput Widget*

This design provides all the structure needed to a screen reader user so that he/she can select a product or category even if it is in a complicated nesting structure. We thought you should be aware of the separate accessible view.

The standard CP ‘template’ contains a skip navigation link which is automatically placed on each page, but only becomes visible to sighted users when it receives focus. This skip navigation link helps keyboard users to skip past repetitive navigation so they don’t have listen to it on each page they visit. When modifying or making your own template, take care to leave the skip navigation link intact and ensure that it is the first focusable item on the page.

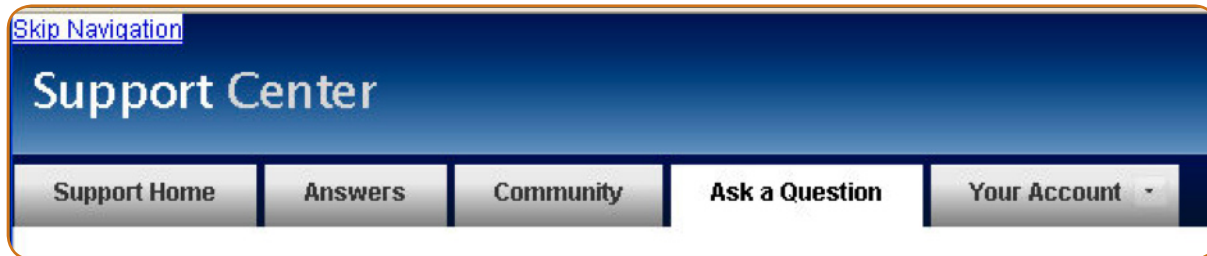


Figure 9 – Hidden Skip Navigation link with Keyboard Focus

## RIGHTNOW ANSWER CONTENT

We would like to remind you that **all content you put into the RightNow system needs to be checked to ensure it is accessible**. A common problem with answer content is missing or ineffective alternative text on images. Don’t put “image” as your alternative text because it provides no information to a disabled user - try to make it descriptive. If the image is purely decorative, use alt=”. This will make it invisible to a screen reader user, which is good if it conveys no relevant information.

Remember, **all images need an alt attribute, even if it is alt=“”!** For more information on alternative text, we suggest this excellent tutorial <http://webaim.org/techniques/alttext/>.

## DEVELOPMENT TECHNIQUES FOR CUSTOM WIDGETS

This section applies only to Custom Widgets created from scratch – if you simply reconfigure the standard widgets, this section doesn’t apply to you.

Since the number of possible Customer Portal customizations is limitless, it’s hard to enumerate a specific set of guidelines specific to Customer Portal that would apply to all situations. The basic accessibility checklist that we presented from Webaim should cover most situations, but we can share further techniques and creative solutions we found to our own accessibility challenges while developing the out-of-the-box Reference Implementation.

### Text for Screen Readers Only

**The first technique that we found useful is hiding text off screen in such a way that it is invisible to sighted users, but is still announced to screen reader users.** We learned of the technique from Webaim (<http://webaim.org/techniques/css/invisiblecontent/>), and we’ve tried to follow their best practice recommendations.

One good example is our dynamic dialogs. These dialogs present a context change to the user. For sighted users, the context change is visually maintained by casting a shadow on the page beneath the dialog, as well as functionally maintained by ensuring that users can’t

interact with the page beneath the dialog with the mouse or the keyboard. For screen reader users however, the screen reader allows them to continue to interact with the page below, so in order to make sure the screen reader user knows they are in a dialog, we use hidden text to mark the boundaries, so when the user explores the content of the dialog, they know when it ends and they are prompted to dismiss it before continuing. Look at the screenshot below to compare how a dialog looks to a sighted user compared to how it sounds to a screen reader user.

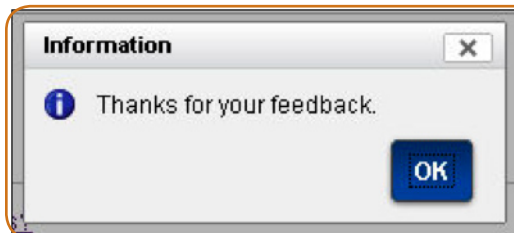


Figure 10 - Dialog with Styles On

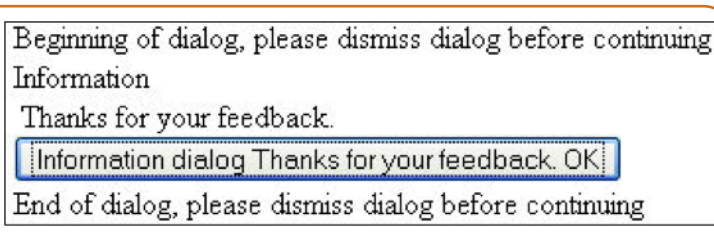


Figure 11 - Dialog with Styles Off

As you can see, we are providing extra cues to screen reader users that are not necessary for a sighted user. In fact, since this is a simple dialog, we've tried to pack all of its information into the hidden text of the button so that a screen reader user can hear it all without leaving the button. All they have to do is listen to the button and then hit enter to dismiss the dialog. If you want to use this technique to make something available to a screen reader only, just apply the CSS class `rn_ScreenReaderOnly` to that item.

### Wise Use of Focus

**Another helpful trick we used to improve both usability and accessibility for disabled users is wise use of JavaScript's `focus()` method.** As you can see in Figures 10 and 11 above, the button has focus when the dialog is opened. We made sure that when the dialog is closed, whatever link they were on when they triggered the dialog gets focus restored so that the keyboard user is back at the place where they were when they left off (in this case, the "Provide Feedback" link). This avoids disorientation a user may experience during changes of context.

Another creative use of focus that disabled users seem to like is demonstrated by our dynamic search results. When someone does a search or moves to the next page of results, we focus the first link in the result set so that after they hit search, they're immediately hearing the first result. This saves them from having to start at the top of the page each time.

### A Note on Multiple Dynamic Dialogs

If you want to create dialogs, you should use `RightNow.UI.Dialog` which has been designed to be accessible. For the most part if you use `RightNow.UI.Dialog.actionDialog` and `RightNow.UI.Dialog.messageDialog`, those dialogs should be accessible. However, if you call a base dialog that performs some action, then launches a confirmation dialog and closes itself, you must do it in a certain way in order for the second dialog to be announced to a screen reader. Essentially, don't close the base dialog until the second dialog is closed

by the user. This will ensure that JAWS knows the second dialog is there and announces it. We did this on the **SiteFeedback2** widget and you can refer to that widget for a technical example of how to call the second dialog and how to close the base dialog in a way that ensures accessibility.

### **Accessibility and Usability**

With Web-Self Service (WSS), really the whole game is about task success rates. Customers who try to self-serve, but can't because the technology is difficult to use will often choose a more expensive contact channel like the phone. This is true for all customers, disabled or not. In order to achieve maximum Return on Investment (ROI) from a WSS project, **it is critical to consider usability of the technology**, and there is no better way to do this than with Usability Testing. Before you involve users, you should make sure to have already applied the POUR principles to your website as well as run an automated testing tool and fixed the reported problems.

**Usability Testing involves observing customers (first hand) as they work through the self-service process in order to learn more about their goals and frustrations during their customer journey.** If you are interested in doing some quick and dirty usability testing, we recommend getting a copy of the short book – *Don't Make Me Think* by Steve Krug, which comes complete with comic book illustrations. You'll be amazed at what you can learn from your customers by actually watching them and this is true for all of your customers – regardless of whether or not they use assistive technology.

There are many ways of recruiting disabled customers to participate in usability testing. We recommend talking with a disability services office in your local government or a university to help facilitate. Please note that participants do require reimbursement, and generally \$40-\$50 (US) for a two-hour session will get you a good response rate and eliminate the need to hire a recruiter. You will also need to talk with participants beforehand to better understand if it will be possible to host the session in your office location, and if so, what specific configuration the user will need.

**It may sound intimidating or unorthodox to involve disabled users directly.** Have the courage to get them involved, even if you have to learn your way through the experience. You'll get tremendous feedback by having even just a single blind user involved in the project.

### **OUR ACCESSIBILITY PHILOSOPHY**

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Earlier in this paper, we noted that all policies and standards for accessibility have the same purpose: to make it easier for people with disabilities to interact with technology. To this end, the best way we have found to ensure that a technology is truly accessible is by iteratively providing a prototype design to disabled users, observing the interaction, recording any difficulties encountered, fixing these difficulties, and then repeating the process.

**RightNow has followed the PAS 78 standard** when developing the November 09 redesign CP page set. Disabled users were interviewed during the beginning of the project, and

usability testing with disabled users was completed at the end of the project to ensure that we went beyond technical accessibility and were able to deliver usable technology for real users in the real world. By placing real users in the center of the design process, the moral imperative of superior customer experiences for all can be met, along with the expanded market and reach of same technology.

**We recommend that you go beyond technical accessibility and strive to deliver a superior customer experience to all.** There is no better way to ensure this than an iterative user-centered design process that incorporates usability testing with disabled users.

## CONCLUSIONS

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This subject is both broad and deep; **at this point in the paper you probably know more about accessibility than anyone else you know!** A big challenge with accessibility is its seemingly unwieldy nature and difficulty getting your feet wet. Now that you're past this point, know that you may become the valuable "go to" person for accessibility at your company. Given the importance and coverage of accessibility and usability, **your learning will be ongoing.** Even the authors of this paper are still learning about both topics, and we doubt it's possible to ever learn everything there is to know about them. It's satisfying to know that your day job results in real and positive benefits for your fellow humankind, and we find accessibility to be one of the most rewarding aspects of our jobs. We hope it will become the same for you.

## APPENDIX

### PERSONAS

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The following list of persons constitutes the major classes of disability, and hopefully helps to give some color to each person's needs.

#### Jane

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**Age:** 48

**Attitude Quote:** "I really enjoy good conversation."

**Background:** Jane was born with normal sight however it quickly deteriorated early in adulthood. She is still able to see rough shapes and outlines of features (like people standing in a window), but is not able to drive a car due to her vision level, which is just under 20/200 when she wears her glasses – the most powerful prescription available.

When seeking customer assistance from a company, Jane prefers to go into the local store, but also will often use the phone to contact the corporate office. She has noticed some companies will actually let her use her voice to navigate the phone menus (IVR) – she really appreciates this type of interaction, especially when they allow her to quickly get the information she is after without waiting on hold. She'll use a company's website occasionally, especially if it "reads well".

Jane is avid user of the internet, and uses the internet for many of the same things a typical person does.

**Environment:** Jane recently upgraded to JAWS 10.0, but also has experience using Windows-Eyes 6.1, as this is the screen reader software installed at her local public library. Both screen readers are set to read text much faster than a normal person can talk. Sometimes she takes off her headphones and plays the digital speech back using her computer speakers, which sounds like hyperactive chipmunks to her husband.

Jane can read Braille, and has demoed some expensive digital Braille writers available for internet use. She found them to be too expensive and they weren't really that much better than JAWS.

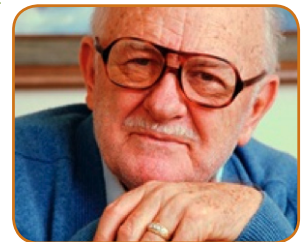
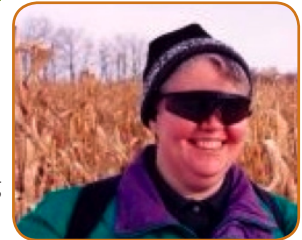
#### Jack

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**Age:** 71

**Attitude Quote:** "Why is all the text on the web so small?"

**Background:** Jack uses thick bifocal lenses, which he finds to be mostly effective for daily use. Every 6 months when he gets a new prescription for his glasses, his vision is actually pretty good for a while. He technically still has his driver's license, but he prefers to let his wife do most of the driving as it makes them both feel more safe.



When seeking customer assistance, Jack tends to use the channel that is most convenient for him at the time. This sometimes involves using the company website, calling the company, going to the local store, and occasionally emailing or using chat. If there is a long hold time on the phone, he'll use the company website while he's waiting on hold to see if he can find what he is after.

**Environment:** Jack has Windows XP installed on his home desktop computer. He was able to use it ok out of the box, but he had to squint a lot which gave him headaches. He stumbled across a high-contrast display setting in the Windows Accessibility options that allowed him to see everything he needed to without squinting, but the colors were a bit funky.

Recently his daughter purchased him a copy of ZoomText, along with a keyboard that has extra large labels on the keys. After getting used to the screen panning, he found this new setup much more enjoyable. He likes being able to see the standard colors, and finds it easier to change the text size of websites as needed.

## Betty

**Age:** 20

**Attitude Quote:** "For the most part, I can use a computer just like everyone else. It takes me a little longer because I can't move the mouse quite as fast."

**Background:** Betty was diagnosed with a form of Cerebral Palsy when she was an infant. Despite having significant motor impairment she considers herself lucky due to the fact that her condition did not affect her cognitive abilities or facial muscle control.

Betty has made some very close friends over the years, and enjoys using social networking applications to stay in touch with these fiends. When contacting companies for assistance, Betty generally finds the phone to be most effective. She has used other channels in the past with mixed success.

**Environment:** Now in her second year of college, Betty uses her own computer equipment in a special set up inside her dorm room.

Betty has some movement problems with her hands, but has excellent motor control above her neck. She finds that a mouth operated mouse-joystick is most effective in allowing her to navigate the computer.

Betty uses speech recognition software (Dragon Naturally Speaking 9.0) to write long papers for school, but gets by using a keyboard with a key guard when doing most of her web browsing.



## Tom

**Age:** 31

**Attitude Quote:** "...Jazz games!"

**Background:** Tom has IQ of 40, which means that by a legal definition Tom is mentally retarded. Tom is able to communicate with speech, though he has some difficulty understanding questions or comments which are moderately complex or unusual. He will sometimes make comments which seem out of place, but are actually logical if you understand his intent. His most frequent comment is "Jazz games" which he uses to refer to the Utah Jazz basketball team and anything related to their games.

Tom is in a learning program to help him better understand and interact with technology. He spends two days a week attending these sessions, and a good portion of the session is spent hands-on using and experimenting with a computer to browse the internet and write email.

**Environment:** Under light supervision, Tom uses a common computer at his learning facility. Tom finds symbol manipulation aids in his computing experience - he uses both a Symbol Browser called WebWide and a Symbol word processing program called Intellitalk that works with Windows and Firefox. He enjoys writing notes with Intellitalk because it helps him to form his thoughts into more complex and sophisticated structures.

When Tom gets stuck navigating the web, he generally asks an attendant for help or clarification. He occasionally uses Google to find new 'things'. He likes using it mostly because they have a polished "Did you mean?" feature that helps him to correct his misspellings, and a simple and uncluttered interface.



## Alexa

**Age:** 35

**Attitude Quote:** "I love my computer. I can't image what I'd do without out it – I use it for everything!"

**Background:** Since childhood, Alexa has had problems hearing; this led her to learn American Sign Language at a young age. She is capable of reading lips and communicating roughly with speech around close friends and family, but prefers to use sign language in public and around acquaintances.

She loves using the internet as it "evens the playing field" for her. She is a frequent reader of online blog postings, and even has her own blog.

**Environment:** When trying to communicate with a company for help, Alexa always tries to do it with her computer. She is sometimes forced to ask a friend to call a company on her behalf when she is not able to get resolution with other channels. She hates this.

Alexa also gets annoyed when websites post video files without subtitles and audio files without transcripts.



## ACCESSIBILITY LAWS AND GUIDELINES

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Below is a short introduction to the common accessibility documents that you may need to investigate further. We've tried to give you high level overview of each of these documents so that you can make an informed decision it's applicability to your situation.

### Section 508

You must conform if: You are a US government agency, or wish to provide products/services to these agencies.

Applicable to: Software and hardware

Length: 14 pages

Located at: <http://www.section508.gov/index.cfm?FuseAction=Content&ID=12>

Section 508 of the Rehabilitation Act in the US mandates that all government agencies conform when they “develop, procure, maintain, or use electronic and information technology.” A vendor or supplier cannot actually conform to 508 – it is the government agency which must conform. The vendor can only meet the technical requirements of section 508, and supply a VPAT (Voluntary Product Accessibility Template) which states which requirements have been met.

### Web Content Accessibility Guidelines (WCAG)

You must conform if: You wish to declare accessibility conformance on your website (A to AAA).

Applicable to: Web software

Length: 46 pages (version 2.0), 30 pages (version 1.0)

Located at: <http://www.w3.org/TR/WCAG20/>

Pronounced: “wick-agg”

Conforming to the WCAG standard will ensure your web content is properly exposed to screen readers (Jane), and meet other technical criteria that benefit all personas. Due to the technical nature of WCAG, conformance can be checked programmatically with an online tool, such as Cynthia Says (<http://www.contentquality.com/>). WCAG 2.0 has been widely adopted by industry all around the world.

### Disability Discrimination Act

You must conform if: You do business in the UK.

Applicable to: Access to all goods and services

Length: 11 pages

Located at: [http://www.opsi.gov.uk/acts/acts2005/ukpga\\_20050013\\_en\\_1](http://www.opsi.gov.uk/acts/acts2005/ukpga_20050013_en_1)

The DDA is perhaps the most far-reaching of the accessibility laws, and makes it illegal to treat disabled people less favorably due to their disability, and makes a provider of goods or services liable to a disabled consumer.

### **Public Available Specification 78 (PAS78)**

You must conform if: You wish to ensure real disabled users can actually use your website.

Applicable to: Websites that are high volume, have important customers, or serve the UK

Length: 66 pages

Located at: <http://www.bsigroup.com/en/Shop/Publication-Detail/?pid=000000000030129227>

Whereas WCAG has a technical focus, PAS78 has a human focus. PAS 78 dictates that disabled users are involved in the design process, both early on in the project to help guide the design, and then later in to project to verify that these users can actually use the design through usability testing. If you truly want to deliver a superior customer experience, we highly recommend you follow PAS 78 – it's not as difficult or time consuming as it may sound.

BS 8878 is scheduled to replace PAS 78 in early 2010; no draft of the new document was available for review at the time of publishing.

### **Americans with Disabilities Act (ADA)**

You must conform if: You are an employer with 15+ US employees

Applicable to: Providers of goods and services

Length: 25 pages

Located at: <http://www.eeoc.gov/policy/ada.html>

The Americans with Disabilities Act prevents discrimination on the basis of disability in employment, or in the providing of goods, services, facilities or privileges. One recent lawsuit occurred where a blind web user successfully sued Target for 6 million dollars, because the target.com website was not accessible, yet in order to get a special price on a product, use of the website was required.

### **ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)**

You must conform if: You are an employer with 15+ US employees

Applicable to: Work spaces, physical store locations

Length: 107 pages

Located at: <http://www.access-board.gov/adaag/html/adaag.htm>

The ADAAG offers guidelines to follow to ensure that a facility offers disability friendly access. Adherence to this guideline is mandated by the ADA. Note that a “reasonable accommodation” may also be made – in the contact center this is often achieved by allowing agents to work from home.

## REFERENCES

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- 1] ADA Accessibility Guidelines for Building and Facilities, American Disability Association, <http://www.access-board.gov/adaag/html/adaag.htm>
- 2] Empowers Forum on Disability, Disabled People Worldwide, <http://www.realising-potential.org/stakeholder-factbox/disabled-people-worldwide/>
- 3] Norman Nielsen Group, Beyond Alt-Text. Making the Web Easy to Use for Users with Disabilities, [www.nngroup.com/reports/accessibility/beyond\\_ALT\\_text.pdf](http://www.nngroup.com/reports/accessibility/beyond_ALT_text.pdf)
- 4] PAS 78, British Standards Institute, <http://www.bsi-global.com/en/Shop/Publication-Detail?pid=000000000030129227>
- 5] Policies Relating to Web Accessibility - W3C WAI, <http://www.w3.org/WAI/Policy/>
- 6] RightNow VPATs, <http://www.rightnow.com/technology-accessibility.php>
- 7] Web Content Accessibility Guidelines (WCAG) 2.0, <http://www.w3.org/TR/WCAG20/>
- 8] WebAIM Constructing a POUR Website, <http://webaim.org/articles/pour/>

NOTE: All references retrieved 11/23/2009

## ABOUT THE AUTHORS

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Ben Werner and Dallas Despain work together to ensure usability and accessibility in the RightNow product.

Ben Werner, Usability Engineer, is a board certified Associate Human Factors Professional and studied Human-Computer Interaction at the University of Minnesota, where he received his Master's degree. He also holds bachelor degrees in Computer Science and Psychology from the University of St. Thomas.

Dallas Despain, Developer, is the lead engineer for RightNow's accessibility design efforts. He received a bachelor's degree in Computer Science from Utah State University where he was able to work for TRISPED projects, a leading provider of disability training and support materials. Consequently, since the beginning of his programming career, he's integrated an awareness of accessibility issues into his projects focusing on designing and implementing user-oriented accessible solutions.

If you have comments about this paper, please contact Ben at [ben.werner@rightnow.com](mailto:ben.werner@rightnow.com) or Dallas Despain at [ddepain@rightnow.com](mailto:ddepain@rightnow.com).

## ABOUT RIGHTNOW TECHNOLOGIES

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