
Bowman Systems Accessibility Audit

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Executive Summary

Positive Impressions

- Some of the forms were laid out very well. This is also noted in the UX section.
- When Jaws could see a modal, it did announce it to me, which is in compliance with 508 checklist.
- Tabbing through the fields did work on most forms that Jaws could see.

Negative Impressions

- I played around in the system for many hours and I am still confused when I go back through it again. I am not sure if I found all the modals. After spending as much time as I have, I should definitely know what is going on, but I don't.
- The systems is very confusing and busy because of so much "stuff" on the screen. The "stuff" is called visual noise and adds to the user's [cognitive load](#). This means that users have to think longer and harder to figure anything out. Thus, the system is definitely not easy to use.
- There are too many [buittons](#). This can overwhelm the user and adds to their cognitive load. Define the [primary and secordary actions](#). All other actions can be given less visual weight (links) and placed in other areas of the screen. This should be a focus when you do usability texting.
- Very difficult to tell what is going on – I click a button and I cannot [tell what happened or changed on the screen](#). If I cannot tell, then I cannot move my cursor so that Jaws can read that section for me.

Redesign

Please do consider a redesign of the system by defining the tasks and the screens needed to complete those tasks. It is okay if you have several screens – you don't need to cram everything on one screen.

Jaws Issues in CallPoint

Jaws not reading left navigation

Possible solutions:

- Use proper HTML semantic structure with elements marked up appropriately.
- When a page opens, focus should be set to the navigation using JavaScript so the screen reader user can begin reading or navigating within that site area.
- Keyboard focus must be trapped within the navigation area.

Where appropriate, allow users to skip over repetitive navigation links

- A link is provided to skip over repetitive navigational menus or other lengthy lists of links. A good heading structure also facilitates navigation.
- Include "Skip to main content" or "Skip navigation" hyperlinks.
- Such links speed up the reading process and help screen reader users to distinguish between the main navigation and the main content.

Jaws not reading information in tables, list boxes, pull-downs

- Focus should be set to the navigation using JavaScript so the screen reader user can begin reading or navigating within that site area.
- Use proper HTML semantic structure with elements marked up appropriately.
- Data table cells are associated with the appropriate headers using the scope or ID/headers attributes.
- Row and column headers should be identified for data tables. Data tables have column and/or row headers appropriately identified (using the <th> element). Tables used strictly for layout purposes do NOT use the <th> element.

Jaws not reading all modals

- When a modal dialog opens, focus should be set to the dialog using JavaScript so the screen reader user can begin reading or navigating within the dialog.
- Keyboard focus must be trapped within the modal. You do not want the user to read or navigate content from the underlying page.
- If the modal is closed or dismissed, focus should be set back into the underlying page at a location that is logical (**typically on the link or button that triggered the modal**).
- If you open a modal, add a warning in the link title, including a message like "(this will open in a new window)". Including the warning as part of the hyperlink

makes the link title more meaningful when read out of context, e.g. it will be read by screen-reader users when they call up a list of links on the page.

SEE also: [Dialog with Overlay](#) and [Dialog Inlay](#)

Jaws not reading all fields on screen

- Use proper HTML semantic structure with elements marked up appropriately.

Jaws not reading all ALT text

- Every image, applet, icon, embedded media, plug-in, etc. that conveys content has equivalent alternative text (alt, longdesc, or in the element context).

Too many links and buttons on the page

Hyperlink and Button Roles

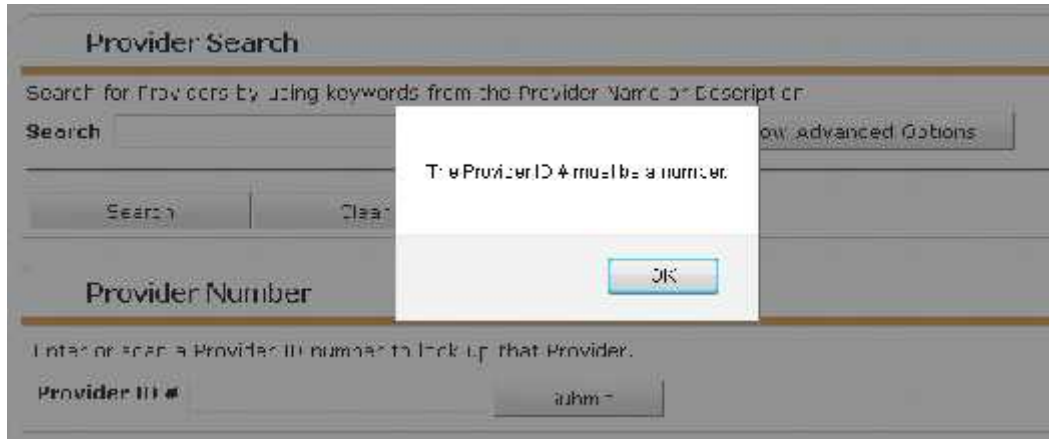
- [Buttons](#) should only be used when form data is being submitted or when other in-page elements are being controlled or manipulated.
- [Links](#), on the other hand, should be used when a context change will occur for the user - such as going to another page or jumping to another position within a page.
- Because links and buttons are identified differently by screen readers (e.g., "Search link" versus "Search button"), they should be used appropriately (i.e., links to do link functions and buttons to do button functions).
- Sometimes constraints may make it difficult to use the appropriate element. In these cases, role="link" or role="button" can be added to cause the element to be identified appropriately in screen readers

Error messages in pop-ups

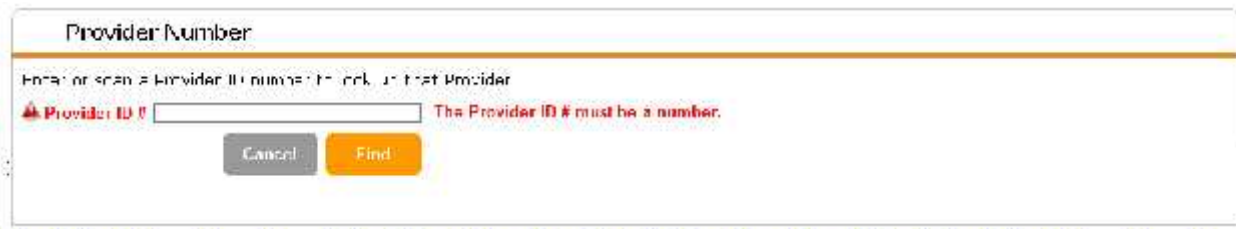
- Pop-up used to display an error message in a form can cause problems too. The user has to read the content of the pop-up window, navigate back to the main page, and then find the relevant position on the form again before they can fix the error.
- Avoid opening links in new windows.
- If you open a link a new window, add a warning in the link title, including a message like "(this will open in a new window)". Including the warning as part of the hyperlink makes the link title more meaningful when read out of context, e.g. it will be read by screen-reader users when they call up a list of links on the page.

Error message pattern

- When the user makes an error, place the error icon, alert message and helpful text close to the field so the user sees it.



- The error icon gives the user a secondary cue of a problem in the event the user is color blind.
- Place the helpful text as close to the field in error as possible. Align the [primary and secondary action buttons](#) on the right side of the text box.



UX Issues

In IBM's write-up on User-Centered Design, there is a section titled "Cost Justifying Ease of Use," which states: "**For developers and manufacturers, the advantages of creating usable products far outweigh the costs. The rule of thumb: Every dollar invested in ease of use returns \$10 to \$100.**"

The write-up then goes on to say that reports have shown that it is far more economical to consider user needs in the early stages of design than it is to solve them later. For example, in *Software Engineering: A Practitioner's Approach*, author Robert Pressman shows that for **every dollar spent to resolve a problem during product design, \$10 would be spent on the same problem during development and \$100 or more if the problem had to be solved after the product's release.**

Simply stated, it is far less expensive to prevent a problem occurring in the first place, than to fix it later.

UX Benefits

- Reduced production costs and more effective use of resources.
- An easier to use interface enables users to learn the system quickly and use it efficiently.
- Consistency enables users to move from one module to another with minimal difficulty.

User Working Memory and Long-Term Memory

Working memory, the part of our brain that consciously processes information, dominates everything we do in terms of learning. Working memory can only hold 4-5 bits of information at one time and information in working memory lasts only around ten seconds.

Long-term memory appears to have an unlimited capacity. Information in long-term memory is stored in schemas, which are mental structures we use to organize and structure knowledge. Schemas incorporate multiple elements of information into a single element with a specific function. And existing knowledge in long-term memory is brought into working memory to help us understand the world.

Cognitive Load

Sometimes learning involves great effort. That's because working memory is quite vulnerable to overload, which occurs as we study increasingly complex subjects and perform increasingly complex tasks. As user experience designers, we have to watch out for **cognitive load**, which refers to the total amount of mental activity imposed on working memory in any one instant.

What causes too much demand on working memory? More information than the user can process. But high cognitive load is also strongly influenced by the number of elements in working memory that interact with each other. Often, complex learning is based on interacting elements that must be processed simultaneously.

Minimizing Cognitive Load

Many top usability guidelines—from chunking content to optimizing response times—are aimed at minimizing cognitive load. In addition to these basics, there are three more tips for minimizing cognitive load:

1. **Avoid visual clutter** - Redundant links, meaningless typography and numerous buttons slow users down.
2. **Build on existing mental models** - People already have mental models about how applications work, based on their past experiences using other applications. When you use labels and layouts that they've encountered in other applications, you reduce the amount of learning they need to do.

3. **Offload tasks** - Look for anything in your design that requires users to read text, remember information, or make a decision. Then look for alternatives: Can you show a picture, re-display previously entered information, or set a smart default? You won't be able to shift all tasks away from users, but every task you eliminate leaves more mental resources for the decisions that truly are essential.

UX Issues In CallPoint

Buttons and page names do not match

Primary and secondary actions

- Buttons and page headings do not match. Users may think they are on the wrong page or modal.
- Without headings, this method of skimming through content is completely useless. To the extent possible, the headings should represent an accurate outline of the content.
- Screen readers announce the page title (the <title> attribute in the HTML markup) when first loading a web page.

Could not see where cursor goes on the page after I click a button or close a modal

- Focus should be set to the navigation using JavaScript so the screen reader user can begin reading or navigating within that site area.
- If the modal is closed or dismissed, **focus** should be set back into the underlying page at a location that is logical (typically on the link or button that triggered modal).
- Consider a [Spotlight transition](#) to call attention to changes on the screen.

Cannot tell what changes on the page when a button is clicked

- Same fixes as listed above.

Modals are confusing and do not appear to have any standard

- [Dialog with Overlay](#)
- [Dialog Inlay](#)

Tabs are VERY confusing

- [Tabs](#)

Call Record Information	Caller Information	Service Transactions
Caller Profile	Follow Up	Assessments
CallPoint Profile		
Street Address 1	<input type="text"/>	
Apartment Number	<input type="text"/>	
ZIP Code	<input type="text"/>	Apply ZIP Code Information
City	<input type="text"/>	
State	-Select-	
County	<input type="text"/>	
Do you or your child(ren) have any concurrent conditions such as: depression, alcohol use, drug use, etc. which we need to be aware of?	<input type="text"/>	
Work Phone Number	<input type="text"/>	
Home Phone Number	<input type="text"/>	
Cell Phone Number	<input type="text"/>	
Fax Number	<input type="text"/>	
Email Address	<input type="text"/>	
Legal Relationship	-Select-	

UX Patterns

Form Layout

This is a **great example** of easy to use form layout:

- Field labels are all left aligned.
- Pull-down menus are uniform in size

This layout makes the form fast to fill out and easy to read and understand.

Relationships and Family Issues	
Accepts Authority	-Select- G
Family Support System	-Select- G
Friends And Other Community Support	-Select- G
Relates Well To Others	-Select- G
Parenting Skills	-Select- G
Has Secured Child Care	-Select- G

Bad Example

Pull-down menus should be the same size allowing the user to easily scan through them.

Staff Type	-Select-
Incoming Line	-Select-
Queue	-Select-
How did you hear about this telephone number?	-Select-
Transfer Offered	-Select-

Dialog with Overlay

Also called Modal

What Problem Does This Solve?

- You want to interrupt current process and catch the user's full attention to something really important or potentially complex tasks.
- You need to display other options that are "independent" from other pages.
- It is important to show additional or related content/options in context.
- You need to get input from the user.

Solution

- Use for critical or infrequent, one-off tasks that require completion before continuing.
- **Don't use more than 50% of the screen real estate for the dialog and overlay.**
- If you use more, the user might think he navigated away from the original page. **Use a separate page instead if there is too much content to show.**
- Decide on when and how to show the dialog.
- Dialog can be activated by the user, or it can be surfaced automatically. It is best to let the user launch the dialog when he decides so, but sometimes showing the dialog automatically works better.
- When the user needs to be notified about something important, the dialog should show up automatically.
- Provide a simple way to access the dialog and invite users to use it.
- Use a link or button for revealing the dialog, and label it clearly.
- Use icons or other visual cues with the link/button that describe the behavior.
- Use a tooltip to help users understand what will happen if they click the link/button.
- Make it easy to close the dialog.
- If the dialog is activated by hovering over an item, it should disappear when the mouse moves away.

- Closing the dialog should be as easy as opening it.
- **Allow users to close the dialog with the ESC key. This will allow users who use screen readers and keyboards to navigate your website.**
- Close the dialog when users click outside it (except if there's a Cancel button).
- Dialogs are used to get a response from a user, to reveal critical information that cannot be ignored, or to show data without losing the overall context of a page. Interactions on the main page must wait for the dialog to close.
- **Don't use scrollable dialogs.** Don't use dialogs that require the use of a scroll bar to be viewed completely during normal usage. Redesign the dialog box instead.
- **Don't have a menu bar or status bar.** Instead, provide access to commands and status directly on the dialog itself, or by using context menus on the relevant controls.

Button Placement



1	Dialog title/header
2	Message/static text
3	Secondary action button
4	Primary action button
5	Close

Labels

- The primary action should be included in the title/header text, message/static text and on the primary action button.

Element	Capitalization Style	Examples
---------	----------------------	----------

Buttons	Title case Bold	Create Copy Delete Add Save
Message, Dialog & Information Pop-Over Headers	Title case Bold No period (.) No colon (:)	Save Order Item as a Template Delete Order User Preferences Create New License
Dialog Static/Message Text - The text in a dialog that is not in the heading/title.	Sentence case: Capitalize first word of each sentence Not bold Use ending punctuation	Error message - Unknown branch. Select a branch. Success message – Collection "Nature" created successfully. Warning message - If this order is deleted, all items are deleted.

Rationale

- Simplifies the UI and saves screen real estate - Additional tools or content are hidden by default, but when user needs them he can access them quickly.
- Allows the user to stay on the same page - This saves user's time because he doesn't need to wait for another page to load and then move page to the original page.
- Keeps the context - When user opens a dialog, he still knows where he is and how to get back because he actually doesn't leave the original page.
- Get user's attention - Dialog provides a way to notify the user about something important he needs to notice.

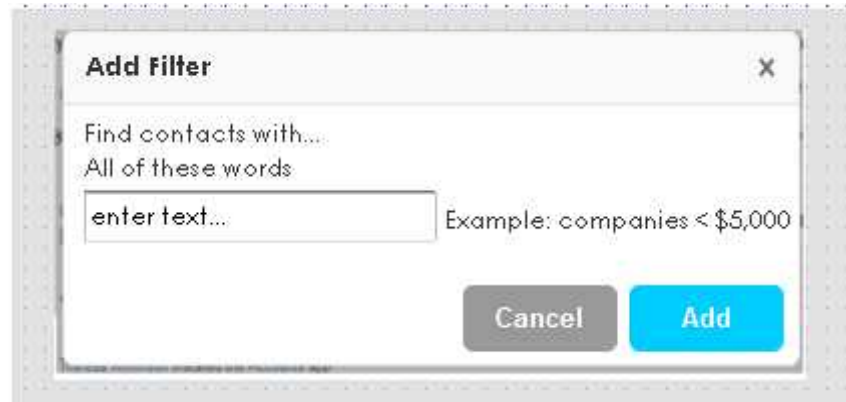
When to Use This Pattern

- You need to get input from the user. Use for simple, small forms like sign in or contact (3 or 4 fields).
- You want to interrupt current process and catch the user's full attention to something really important like alerts or warnings.
- You need to display application preferences or other options that are "independent" from other pages. Placing them in a dialog saves the user a return trip to another page and makes it easy to get back to the original page where he came from.
- It is important to show additional or related content/options in context.
- **Do not use dialogs** for showing error or success messages (use same-page feedback messages instead), or for warning dialogs when you mean undo.
- Use if there is a multi-step process.

Interaction

- User clicks the Add Change Request button.
- A modal dialog displays prompting the user to select a reason and add any additional instructions.
- User clicks the Save button.
- Information is saved and modal closes.

Screen Sample



Dialog Inlay

What Problem Does This Solve?

- There are too many screen elements (features, content, options etc.) to comfortably fit on the page.
- Most users won't need all the elements all the time.
- There are not large amounts of additional elements to be revealed (Otherwise consider using Modal with Overlay instead to avoid heavy page jumping).
- It is important show additional elements in context and without hiding anything else on the page.
- You don't want to interrupt the user (If you need to get user's full attention, use a Modal with Overlay).

Solution

- Make a split between primary and secondary elements.
 - Figure out which elements are the most important and most commonly used for the task the user wants to focus on, and which are less critical, rarely used.
 - Keep the number of primary elements as low as possible.
 - Don't put complex items on the primary group.
- Show primary elements up front, and hide the rest by default.

- Let the users decide if they need secondary elements or not.
- Provide a simple way to access secondary elements and invite users to use it.
 - Use a link or button for revealing additional elements, and label it clearly.
 - Use icons with the link/button that describe the behavior: Chevrons, arrows, plus and minus controls, etc.
 - In addition, you can use tooltip invitation to help users understand what will happen if they click the link/button.
- Use transition to help users notice what changed.
 - Show a transition effect when secondary elements slide out or in.
- Make it easy close secondary elements.
 - Users might need secondary items just for a while.

Button Placement



1	Dialog title/header
2	Message/static text
3	Secondary action button
4	Primary action button
5	Close

Labels

- The primary action should be included in the title/header text, message/static text and on the primary action button.

Element	Capitalization Style	Examples
---------	----------------------	----------

Buttons	Title case Bold	Create Copy Delete Add Save
Message, Dialog & Information Pop-Over Headers	Title case Bold No period (.) No colon (:)	Save Order Item as a Template Delete Order User Preferences Create New License
Dialog Static/Message Text - The text in a dialog that is not in the heading/title.	Sentence case: Capitalize first word of each sentence Not bold Use ending punctuation	Error message - Unknown branch. Select a branch. Success message – Collection "Nature" created successfully. Warning message - If this order is deleted, all items are deleted.

Interaction

- User is browsing orders.
- User clicks Tax button.
- Tax dialog displays. User changes Tax1 value.
- User clicks Recalculate button, Dialog disappears.

Rationale

- Doesn't interrupt users' flow. Instead of going to a new page, additional elements are revealed in a dialog.
- Simplifies the UI and saves screen real estate.
- Saves time and helps users avoid mistakes because there is less stuff to scan and learn.
- Doesn't hide anything else on the page.
- Keeps the context.

When to Use This Pattern

- There are too many screen elements (features, content, options, etc.) to comfortably fit on the page.
- Most users won't need all the elements all the time.
- There are not large amounts of additional elements to be revealed.
- You don't want to interrupt the user.
- Keeps the context. When user opens a dialog, he still knows where he is and how to get back because he actually doesn't leave the original page.

Headings

- Without headings, this method of skimming through content is completely useless. To the extent possible, the headings should represent an accurate outline of the content.
- Headings should not be underlined – only hyperlinks are underlined. If the user tries to click on the heading and it does not work, they think that the system is broken.



Hyperlinks

- Hyperlinks can be any color but they should **always** be underlined giving visual clues to the function of the object.
- Hyperlinks should make sense when read out of context. Also, the distinguishing information of the link should be at the beginning of the link.

Element	Capitalization Style	Examples
Action Links & Hyperlinks	Title case Not Bold No period (.) No colon (:)	Edit Settings Add Item Holdings View

Solution

- Use a hyperlink when hypertext is the right interaction pattern—that is, text that responds when clicked and navigates the user to more information about, or related to, the text that was clicked.
- Keep individual hyperlinks far enough apart from one another that the user clicks them accurately.
- Only use the disabled state for a hyperlink if that state is temporary—such as other system processes are occurring—or if the hyperlink can be enabled by user action.
- When navigating to an external website, put the domain name inside the tooltip and style it with a secondary font color. Adding the domain name to the tooltip lets users know that they're about to navigate to an external site so they won't be surprised when they click the link. It's enough to just show the top-level domain.
- Keep the link text concise. If you want to provide additional information, put it inside the link's tooltip.

When to Use This Pattern

- Hyperlinks have multiple uses, as navigation, as paths to more information, and as access points to features and functionality.
- Hyperlinks are primarily used for navigation.
- Hyperlinks are clearly distinguished from regular text so that users can easily recognize the linked text as a link.
- Consistent treatment of hyperlinks helps ensure that users understand the difference between regular text and hyperlinks.

	Local Food Pantry	Level 1	010-000-0000	Address: 12345678	N/A	1/1	
	The Subscription Entry	Level 1	000-000-0000	Editor: 12345678	N/A	1/1	
	Ahner's Painting - Downtown	Level 2	000-000-0000	Unknown	N/A	0/1	

Color

- Do not use the colors of red or green for conveying any type information.
- Fifty percent of the population is color blind so they will not be able to distinguish any importance of the information.

Text Alignment

- In the US, users read left to right. Centering text on the screen is harder to read, slows the user down, and adds to the user's cognitive load.
- Left aligning text makes it easier to read.



Primary & Secondary Actions

- Match the visual presentation of actions to their importance to minimize the risk for potential errors and help people complete a form as quickly as possible.
- Primary actions are actions such as Save, Add, and Delete. They enable from completion, therefore they are the most important action on the form.
- Secondary actions are actions such as Cancel or Reset. They are less important or alternate actions, which often have negative consequences when used accidentally. For example, clicking Reset erases all the data the user has entered.

What Problem Does This Solve?

- Commands that look the same can be hard for users to correctly and quickly choose between, thus slowing down task completion.

Solution

- In general, the navigational path out of a form should be limited to explicit primary and secondary actions.
- A button or action link represents an action that users can initiate.
- Using verbs in labels on buttons and links makes the screens more usable because the labels contain all of the information the user needs to be able to make a decision. **All the information is contained in the button labels.**
- The primary action should be included in the title/header text, message text and on the primary action button.

Primary Action

- If there is an overall goal that a view is addressing, then the primary action will most likely be whatever enables users to accomplish that goal.
- Add visual weight to primary action elements.

Secondary Action

- Avoid secondary actions if possible.
- Reduce visual weight on the secondary actions.
- Ensure a clear visual distinction between primary and secondary actions.

Screen Sample

Username

Password

Remember me

[Forgot Password?](#)

Primary Action Secondary Action Tertiary Action

Labels

Element	Capitalization Style	Examples
---------	----------------------	----------

Buttons	Title case Bold	Create Copy Delete Add Save
Action Links & Hyperlinks	Title case Not Bold No period (.) No colon (:)	Edit Settings Add Item Holdings View

Interaction

Primary Action

- User clicks into field to enter information.
- User clicks Save (primary action) button.
- Information is saved.

Secondary Action

- User clicks into field to enter information. User realizes they are not in the correct form.
- User clicks Cancel (secondary action) button.
- No information is saved.

Rationale

- Visual distinction between actions helps users make "good" choices.
- Having an obvious target action that makes sense for most people most of the time both reinforces a sense of the goal that people are working towards and makes it easy to take action to accomplish that goal.
- Especially when there are multiple possible commands within a given view, visually emphasizing the primary one can really help people quickly move on with accomplishing their goal and also can increase the likelihood that they will choose the right action for a given context, which could mean lower customer service costs and higher customer satisfaction.

When to Use This Pattern

- All form actions are equal therefore the visual presentation of the action should match their importance to make it easier to complete a form.
- There is a known primary action that users normally want to do or that you want to guide towards.

Buttons

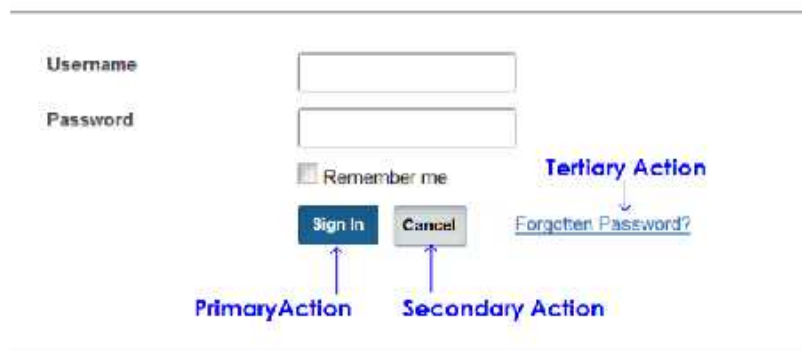
What Problem Does This Solve?

- Users need to know what actions to take on a screen to complete their task.
- A button, also known as a command button, gives the user a way to trigger an immediate action.

Solution

- A button enables the user initiate an immediate action, such as submitting a form.
- Buttons should always be labeled with the “verb”: the action of the statement.
- The primary action should be included in the title/header text, message (static) text and on the [primary action button](#).
- Don't use a button when the action is to navigate to another page; [Use a hyperlink](#) instead.
- Use the primary action button to indicate the most common or recommended action, such as saving information.
- Provide enough space between buttons so that users can click a specific one easily. In particular, if a button can lead to a potentially dangerous or destructive action (such as Delete), it should be far enough away from safe buttons so that users are unlikely to click it accidentally.

Screen Sample



Labels

- A button represents an action that users can initiate.
- Using verbs in labels on buttons and links makes the screens more usable because the labels contain all of the information the user needs to be able to make a decision.
- **All the information is contained in the button labels.**

- Use wording that describes the action that the button represents.
- Use three or fewer words in the button label. If the label needs further explanation, provide the details in a tooltip.

Element	Capitalization Style	Examples
Buttons	Title case Bold	Create Copy Delete Add Save
Action Links & Hyperlinks	Title case Not Bold No period (.) No colon (:)	Edit Settings Add Item Holdings View

Interaction

- User clicks Delete button inline with the desired invoice.
- Dialog with Overlay displays so the user can confirm the delete. User clicks delete button. Dialog closes.
- Message displays at top of table confirming the invoice was deleted.

Rationale

- Buttons suggest an "action" due to their push-button affordance.
- Using the right button(s) in the right way allows focus on what actions are most important to the user during a given task. Typically, buttons are used to convey the [primary action](#).

Accessibility

Buttons are pretty straightforward from an accessibility perspective. Whether using `<input type="button">` or `<button>` element these rules apply:

- Ensure buttons can be accessed via the keyboard and the button value is recognized by assistive technology, like screen reader software.
- If using images for buttons (not recommended), the ALT attribute must be defined to convey the meaning of the button. Typically, this value is exactly what is visually conveyed in the image.

When to Use This Pattern

Buttons help users recognize a recommended action or of one recommended action over other actions offered on a page. Buttons are used as:

- Direct call to action, such as beginning a process, submitting information, or confirming an action.

- Action to update status, such as adding notes, comparing items or deleting information.

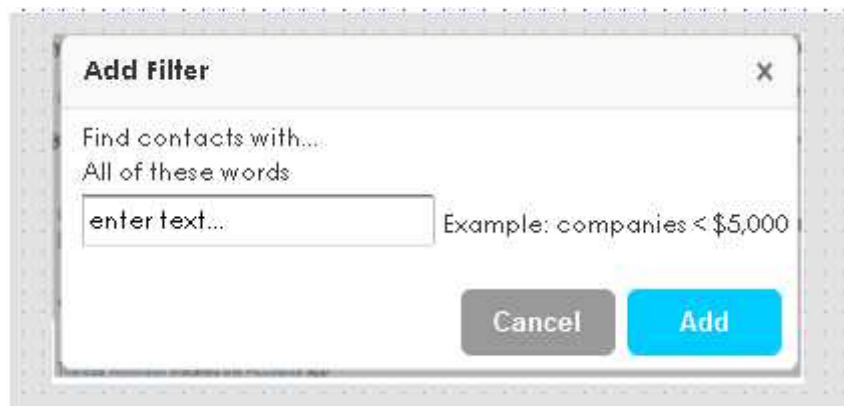
Appearance

- Graphical treatment should mimic push-button affordance with the level of visual prominence dependent on button type.
- Text Placement: Text within buttons is centered with equal padding on either side, non-wrapping.
- Size: Dependent on specific button type.
- Stacking: If buttons are required to align vertically, the width of both buttons should be determined by the wider button.

Rules for Disabling a Button

- The disabled state should only be used in special cases and only when an action is unavailable until a user has performed a required action. Example: When a user must enter information that totals a specific value.
- The button is disabled until the value is entered.

Button Placement



Tabs

What Problem Does This Solve?

The user needs to navigate through a site to locate content and features and have clear indication of their current location in the site.

When to Use This Pattern

- There are 3 - 10 category titles.
- The category titles are relatively short and predictable.

- The number of categories is not likely to change often.
- The entire width of the page is needed for content. An alternative approach is to use a left bar navigation
- The categories belong to a single site.
- You need to represent the highest level navigation options on a site.
- You need to indicate the user's current location in the set of available options.
- You need to change the entire page and not a sub-section of content within the page.
- You need a way to control the highest level of navigation.

Solution

- Present a single-line row of tabs in a horizontal bar.
- The complete tab area is clickable-- not just the tab label.
- When the list of categories becomes too long and suggests the need for a "more..." link, consider using a left bar navigation instead.
- Only have 1 row of tabs: **Stacking tabs on top of each other, complicates the UI and makes it harder for the user to navigate.** This guideline specifically refers to having two or more sets of tabs and does not include double tab navigation. The latter is in fact considered a good convention to introduce hierarchy within tabs.
- Always have one of the tabs pre-selected: This adds more impact to the tab, which is vital especially within the first few seconds.
- Clearly indicate which tab is currently active. Also, ensure that the label of the active tab is clearly visible and readable.
- Clearly indicate which tabs are currently inactive: Ensure that inactive tabs are dimmed and/or faded. At the same time, make sure that they are still visible and their labels readable so that users can still see them and select them.
- The active tab should appear connected to the content area: So as to reinforce the real-life tab metaphor, you must make the active tab appear as being connected with the page containing its content. This is what users would expect with a filing cabinet.

Maintaining the Metaphor

- The selected tab should come forward in terms of prominence from the other tabs. Unselected tabs should sit back visually to reinforce the notion of where the user is via the selected tab.
- The page that is delivered by selection of the tab should be visually connected to the tab via design cues: color, brackets, borders etc.
- Selection of another tab redraws the entire page and presents the new information tied to the new selection.
- **Never stack multiple rows of tabs as this leads to confusion about the selected layer versus inactive layer.**

- Tabs should always appear in the same locations as a user navigates within the tab set from one tab to another.

Why Use This Pattern?

- Tabs provide context. They offer the ability to give visual indication of a user's location within a body of information.
- Tabs build on a real world metaphor. The selected state is reinforced with the file folder tab metaphor of a folder physically in front of the others in the set.
- Tabs provide navigation. They provide the ability to navigate the site.

Accessibility

- Allow the user to navigate across the tabs in a logical order with the Tab key.
- A focused tab can be selected with the Enter key.
- Indicate the active tab (pane) by one of these alternative means (in addition to visual indication):
 - Include a TITLE attribute with the word "active" into the link that was just activated.
 - Include an invisible graphic with an ALT attribute and a word "active" into the link.
 - Attach an ALT attribute with the word "active" to Yahoo's graphic that indicates active link.

Screen Sample



Transitions

- The user is changing or narrowing their focus of operation, completing a command, opening a new area in the interface or they need to know that application state is changing.
- The designer wants to keep the user aware of a change in relationship between elements, a change in application state, a way to slow down an interaction, or make time seem to pass faster.

Why Use This Pattern?

- Transitions are a powerful way to communicate change in a user interface.
- Transitions can communicate a change in relationships between elements on a page or a change in an element's state.
- **Additionally, when interactions are complex or involve important changes transitions can be used to slow down an interaction allowing the user to "see what just happened."**
- During lengthy processes, transitions can be used to make time seem to pass faster by distracting the user during the waiting time.

Transitions Communicate

- If an object fades away we know it changed state from visible to invisible even if we are not staring directly at the object.
- If an object fades into view then we know the object has arrived.
- If an object fades rapidly it is seen as more important. If it fades slowly its importance is lower.
- If an object is coming at us (getting larger and appearing to go past us) then we think of it as something that is important (and dangerous). Interestingly Matt Webb in his talk on Broken Windows [1] points out that the Mac OS X Widgets use this transition effect to indicate that the widgets are going away (reduced in importance). The point being is the transition actually communicates the opposite of its intended meaning.
- If an object zooms down in size rapidly and disappears it will capture the user's attention immediately. However if the object was not in the user's immediate focus (user was not directly manipulating the object) they will glance to see the change but may not even be able to tell what object went away.

Rules of Communication

Transitions are a communication device. Having said that, it is important that the goal of communication be kept in mind regarding any transition effects.

In more engaging or entertainment based sites a transitional effect can become more important and thus may require longer transition times or more effects. In

communication-oriented web sites, the transition is secondary and is only communicating changes in the interface.

From the discussion above we can extract some general rules.

1. The more rapid the change the more important the event.
2. Rapid movement is seen as more important than rapid color change.
3. Movement toward the user is seen as more important than movement away from the user.
4. Very slow change can be processed without disrupting the user's attention.
5. Movement can be used to communicate where an object's new home is. By seeing the object moving from one place to another we naturally understand where it went and therefore will be able to locate the object in the future.
6. Transitions should normally be reflexive. If an object moved and collapsed to a new spot, you should be able to open it and see it open up with the reverse transition. If you delete an object and it fades, then if you create an object it should fade into place. This reinforces the concept of 'symmetry of action' (the opposite action is implied by the initial action.)

Accessibility

Since transitions are about visual communication they by default are not accessible by users with visual impairments. If what the transition communicates is important for the user not to miss then you can consider these techniques.

- Set the focus on the item that got changed. This enables assistive technologies to detect where a change happened. Of course if the user is typing or needs the focus in another area then this solution cannot be used.
- Provide ALT tags that preview what will happen when the user engages an interaction. For example, if you can close a panel and provide a way to communicate where the panel is collapsed to, you might consider putting text in the ALT for the image that tells the user what will happen when the click/activate the close icon and how they can get the panel open again.

Spotlight Transition

- When an object or data value changes on the screen (and not too many changes are happening all at once), call attention to the change with a lightweight confirmation.
- For example, change the background color of the content area or data value to a light pastel color. The color difference from the background needs to have enough contrast to be distinct from the normal background color but not too much as to be overwhelming.
- Have the highlight appear instantly when the change occurs and then fade out within one second or less.

What Problem Does This Solve?

- The designer needs to call attention to where a data value or content has changed within the interface.

When to Use This Pattern

- You want to provide a lightweight confirmation that the user's interaction caused a change to a data value or content. A confirmation dialog is the heavy-weight option to using a highlight.
- You need to call attention to changes in the interface that are happening without the user interacting. Examples are real world monitoring systems that keep the interface updated with live values.
- There are not too many changes happening at once. If values are changing very frequently or are changing all over the page using a highlight for each change can be very distracting.

What's the Solution?

- Change the background color of the content area or data value to a light pastel color.
- The color difference from the background needs to have enough contrast to be distinct from the normal background color but not too much as to be overwhelming.
- The highlight should appear instantly.
- The highlight should fade out within 1 second or less.

Why Use This Pattern?

- When providing micro updates to a page (instead of refreshing the whole page), the spotlight transition is very useful.
- The eye can notice the change and be clued in to where a change happened.

Jaws Review of CallPoint

CallPoint Navigation

- JAWs did not read the side navigation.

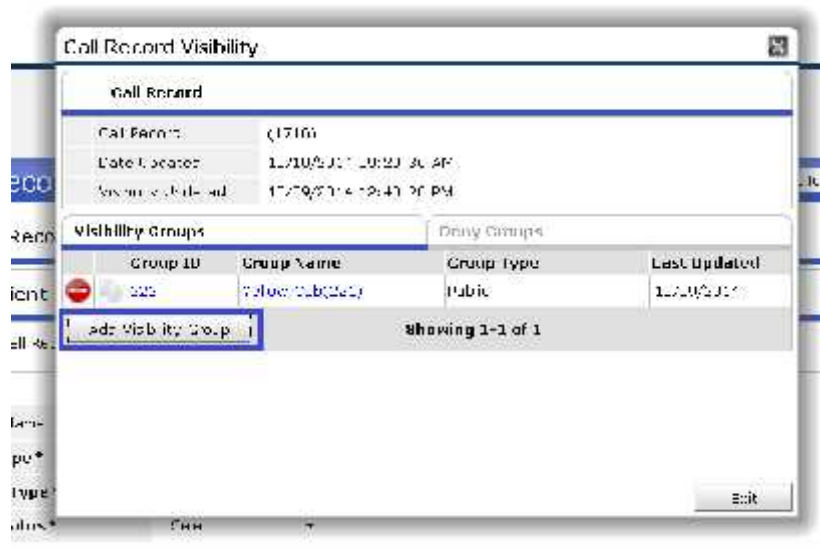
Home > CallPoint > Call Record Search

- JAWs did not read what is highlighted in red on the screen.



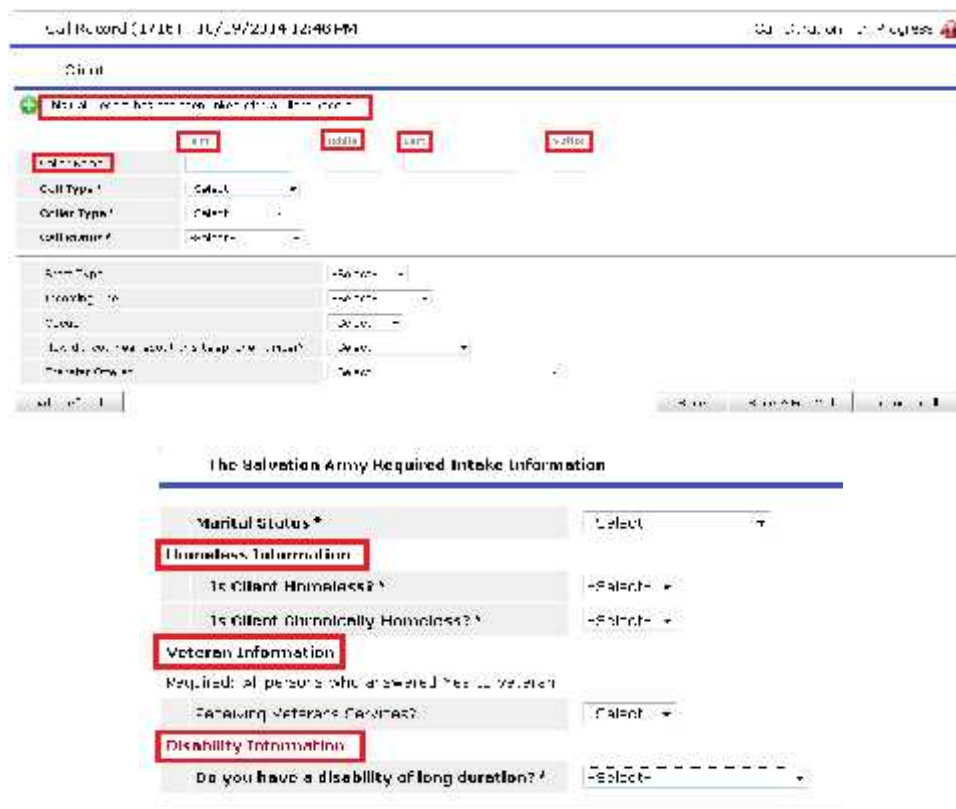
Home > CallPoint > In Progress Calls

- JAWs read both pop-ups.
- When I click the call, I could not tell where the cursor was on the page. I had to manually put the cursor at the top of the screen. I doubt users would know to do this.
- JAWs read the red icon (I have no idea what it is). Pop-up displays but JAWs only read the button highlighted in blue.



CallPoint > Add/Edit Call Record

- JAWs did not read what is highlighted in red.



- JAWs did not read icon alt text. When I clicked on the icons, JAWs did not see any of the changes on the screen.



- JAWs did not read column headings or any of these buttons. It reads the buttons if I click them but a user would not find them using JAWs.

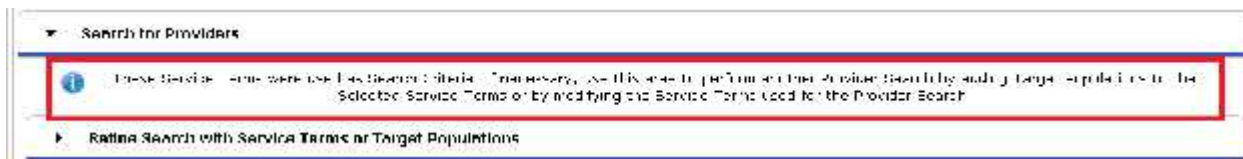


Add Referral Button

- On CallPoint > Add/Edit Call Record screen, I clicked Add Referral button. The screen updates but the cursor instead of going to the new areas in the page, where I would assume it would go, it takes me back at top of the screen and I have to click through the entire page to find what was changed. A user could definitely miss what changed on the screen.
- Jaws only reads 1st item in list box and then skips to the button. So the user will miss anything else in the list box.



- JAWs not reading anything highlighted in red.



Rating Provider Search Criteria

Search for providers by using keywords for their Provider Name, Address Description.

Search

Search for Provider based on their Physical Location on the Area Served.

City State

County / Parish ZIP

Landmark Uses ONLY

Selected Providers

Provider	Type	Phone	Location	Last Updated
----------	------	-------	----------	--------------

- JAWs did not read icon alt text or anything highlighted in red.

Need Data

Date of Need*

Selected Needs

Need	Amount If Financial	Need Status / Outcome / If Not Met, Reason	Notes
------	---------------------	--------------------------------------------	-------

- No tooltip on envelope icon. Why is it here? If it is just a graphic, delete it. It adds no value.

 [Check to notify ServicePoint Providers by Email.](#)

Service Code Lookup Button

- Jaws did not read all items in a pull-down menu. It did not reading anything highlighted in red.

Service Code Search

Search - Select a term that best describes the need.

Code Ref: AIRS taxonomy

Search: Term

Beginning with Containing

Search Results

	Code	Term
Select View	B	Basic Needs
Select View	D	Consumer Services
Select View	F	Criminal Justice and Legal Services
Select View	II	Education
Select View	E	Environment and Public Health/Safety
Select View	L	Health Care
Select View	M	Income Support and Employment
Select View	P	Individual and Family Life
Select View	R	Mental Health and Substance Abuse
Select View	T	Organizational/Community/International

Selected Service Codes

	Code	Term
	<Available>	
	<Available>	
	<Available>	
	<Available>	
	<Available>	

Details

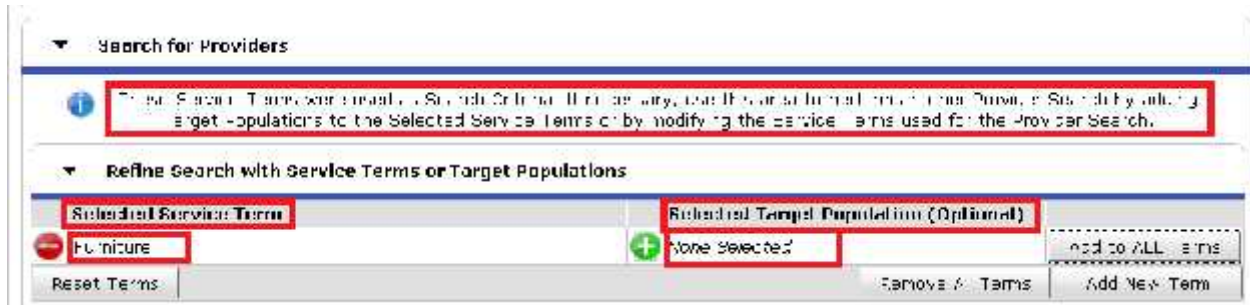
Term	
Code	
Definition	
Facet	
Created	
Updated	
Use	
References	
See Also	
References	

Showing 1 Service Codes

The structure of the service index and definitions of the terms contained herein were originally published in *A Taxonomy of Human Services: A Conceptual Framework with Standardized Terminology and Definitions for the Field* by the Information and Referral Federation of Los Angeles County, Inc., 528 W. Las Tunas Dr., East Anaheim, CA 92776; Copyright (c) 1988, 1989, 1991, 2001, 2002, 2003, 2004, 2005, 2006, 2007. No part of this listing of human services terms and definitions may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the Information and Referral Federation of Los Angeles County, Inc.

- It read the items highlighted in blue but there were a lot of extra words. It would take several minutes for the user to get through all items in this section.

Refine Provider Search Button



Terms and Go to Search Results Button

- Cursor does not go to new section so user may not find it. JAWs read the table headers but calls them links. Clicking re-orders items in table but JAWs did not seem aware of this.
- JAWs does not read anything highlighted in red. It read the icon but not their name or what they do. It reads the table cells as only "grid".

Provider	Type	Phone	Location	Distance	Matched Results
A-Topping Fund	Level 1	(619) 441-1000	San Diego, CA 92103	Yes	2/2
Abolition Army	Level 1	(478) 384-5900	Lawrenceville, GA 30043	Yes	2/2
Advanced to Independence	Level 2	(415) 621-0911	San Francisco, CA 94106	Yes	1/2
Acuity Tech Systems	Level 1	(214) 711-1450	Dallas, TX 75110	Yes	1/2
Advanced Software Systems	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Systems Care Management Program	Level 2		Dallas, TX 75110	Yes	1/2
Advanced Systems LLC	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 3	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 4	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 5	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 6	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 7	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 8	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 9	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 10	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 11	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 12	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 13	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 14	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 15	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 16	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 17	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 18	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 19	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2
Advanced Tech 20	Level 1	(619) 210-0000	San Diego, CA 92101	Yes	1/2

- Jaws read the Bed Availability button but not the First, Previous, Next or Last buttons.
- If text is a link, it should always be blue and underlined so the user can see that it is a link.

Bed Availability button

- JAWs only read what is highlighted in blue AND the Exit button.

Unit List Filter: **Matching Providers ONLY** **All Providers**

Unit List Type: **Default** (dropdown menu with options: Disabled Section, Emergency Shelter, Family, Family Section)

show only lists with available capacity:

Search: [] Reset: []

Unit Lists

Provider	Unit List	Type	Total Units	Used	Available	Overflow	Capacity
Helping Hand	Helping Hand Emergency Shelter	Family	29	10	19	1	34%
Helping Hand	Helping Hand Special Treatment Unit	Emergency Shelter	3	3	0	0	0%
Helping Hand	Helping Hand Family Section	Family	10	1	9	3	40%
...	Emergency Shelter	Emergency Shelter	30	3	27	0	90%
Knowlan Systems, LLC	Emergency Shelter	Emergency Shelter	25	3	22	3	7%
Knowlan Systems, LLC	Family Section	Family Section	2	1	1	0	0%
Knowlan Systems, LLC	Medical accessible	Emergency Shelter	10	0	10	0	10%
Knowlan Systems, LLC	Housing for Disabled Persons	Disabled Section	18	7	11	0	30%
Knowlan Systems, LLC	Simple Shelter	Male Section	20	7	13	0	10%
Urban Solutions & Service Center	Single Men 18+ Emergency Shelter	Male Section	14	1	13	0	7%
Urban Solutions & Service Center	Single Women 18+ Emergency Shelter	Women's Section	14	1	13	0	10%

Provider Link in Search Results

- JAWs did not see anything else on the page except the Exit button.

Service Information

Note: Unavailable Services are listed.

Primary Services

Service Code	Service Name	
31-1800 .CCC	Brown Bag Food Programs	See Referral
31-1800 .LHU	Urgo Shelter	See Referral

Showing 1-2 of 2

Secondary Services

Service Code	Service Name	
No matches.		

Contact Information

Provider Telephone Numbers:

Main: 800-776-6281 (Friday)
 Toll Free: 800-999-502

Provider Contacts:

Contact ID: 00000000000000000000
 e mail: www.brownbagfood.org

Location Information

No Location Information Listed.

- Clicked Referral Data Search button, JAWs did not see this pop-up.

Select VI SPDAT Scores

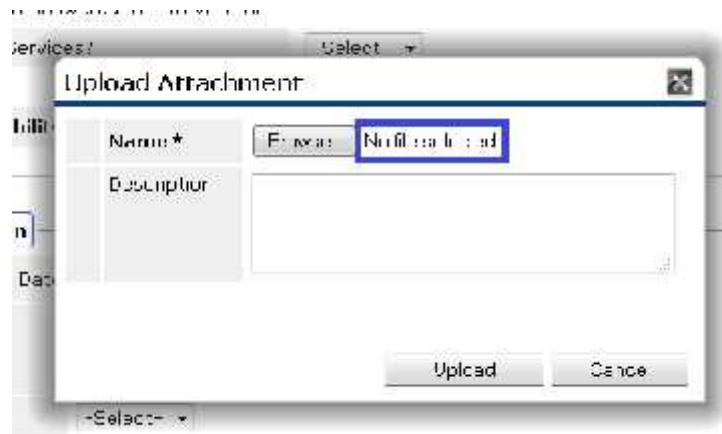
VI SPDAT

Provider	Start Date *	GENERAL INFORMATION	4. HISTORY OF HOUSING AND HOMELESSNESS	5. SOCIALIZATION D. & DAILY FUNCTIONS	6. WELLNESS	PRE SCREEN TOTAL
No matches.						

END

Add Attachment Button

- JAWs only read what is highlighted in blue.

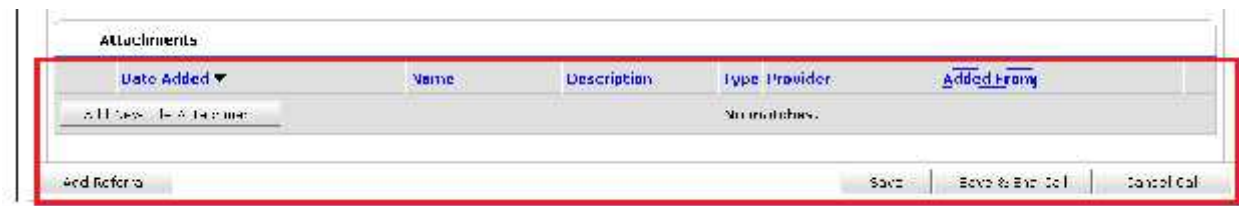


Add Referral button

- On CallPoint Call Record Search screen. I could not press either the Yes or No button using the keyboard.
- Tables used strictly for layout purposes do NOT use the <th> element.
- JAWs did not read the Caller Name or text field names.

	First	Middle	Last	Suffix
Caller Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

- Not reading column headings or any of these buttons. It reads the buttons if I click them but a user would not find them using JAWs.



Add/Edit Call Record Client Screen

- Jaws did not read anything in red.

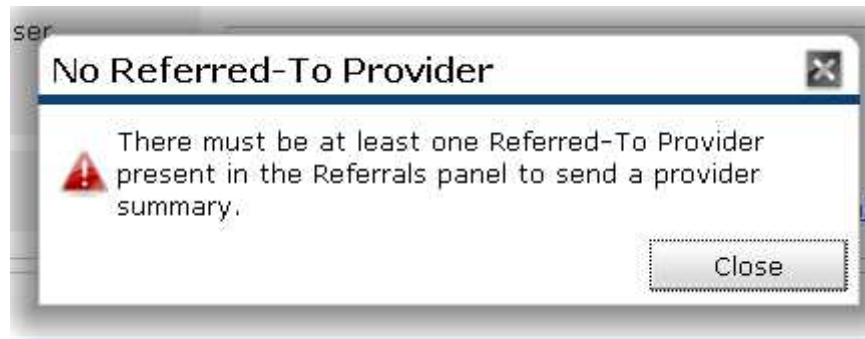
Client

The following information is used to generate a Referral Summary:

	First	Middle	Last	Suffix
Case Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Call Type*	Information Only			
Caller Type*				
Call Status*				
Call Date				
Call Time				
Call Duration				
Call Location				
Call Reason				
Call Outcome				

Send Summary Link

- Jaws did read this pop-up.



Fixes for Jaws Issues

Review Sections that Jaws Could See

Obviously, go through the sections where Jaws could read and make the necessary changes to the sections it could not read.

Jaws Not Reading Tables

In the Call Records Results table, JAWS says Grid Read Only – It does not read the Table headings.

- Row and column headers should be identified for data tables. Data tables have column and/or row headers appropriately identified (using the <th> element).
- Tables used strictly for layout purposes do NOT use the <th> element.