AccVerify/AccRepair DS2

High Tech Center Training Unit

Of the California Community Colleges at the
Foothill-De Anza Community College District

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AccVerify/AccRepair DS2

Publisher

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http://www.hisoftware.com

Retail Cost

Depends on version. AccVerify ($495.00), AccRepair ($995.00). Prices as identified via website. California Community College faculty and staff computers are covered under license through HTCTU (see the HTCTU for more information).

System Requirements

1. A PC-based computer running Windows 95/98/Me/2000/XP. Internet Explorer also recommended.

2. Recommended 64 MB RAM or greater.

3. 25 MB of Hard Disk space. Additional memory necessary for saving data sets.

4. AccVerify for FrontPage requires FrontPage to be pre-installed.

Description

AccVerify/AccRepair DS2 is combined application that provides web content developers with the ability to assess, review, and repair web content for accessibility and usability errors. The AccVerify component of the AccVerify/AccRepair application can evaluate web pages stored on the local desktop or "live" content published to a webserver and report on accessibility and usability violations. The AccRepair component can then assist a web author with repairing the web page to improve the overall accessibility of the web page (Note: the repair function does not make corrections to web pages evaluated directly from the Web).

Additional plug-ins are available from the HiSoftware website depending on your license agreement. These additional tools can increase the functionality of MS Office documents delivered via the Web as well as validating hyperlinks and creating accessible HTML-based forms.

Getting Started

Install the AccVerify/AccRepair desktop application on a PC-based computer. The application may install as AccVerify Professional – it is the same application (just a different name). Once you have installed the application, you will need to enter the license key code that unlocks the features of the application (see below). Once you have entered the license key, you should register the application at the HiSoftware website: (http://www.hisoftware.com/register.htm).

AccVerify Setup Wizard
After beginning the application, you may be asked several questions that determine how the AccVerify/AccRepair application will be configured for your use - these settings can be changed later if necessary. For general use of AccVerify/AccRepair, select the following radio button options:
1. Choose the "Section 508 Report Mode (US Only)

2. Choose "Summary Only (Graphs are generated for summary reports)

3. Choose "AccVerify Project Mode – Off"

When you have finished the Wizard, select the **Finish** button. These settings can be changed by selecting **Run** from the **File** menu and choosing the **Setup Wizard** option.

Installing the License Key
1. Select **File** from the menu bar.

2. Select **Run**.

3. Select **License Manager…**.

4. Press the **Add** button or select **Add Product License** from the **File** menu.

5. Enter the correct Company Name and License Key code. Incorrectly entering this information will not validate the application and you will only be able to evaluate a set number of files.

6. Select **OK** and return to the application.

Running Verifications

AccVerify/AccRepair provides the ability to run two different types of verifications on the Web content you have identified, crawled, or browsed. By simply running verification on the selected files, AccVerify/AccRepair will identify the pages with accessibility violations and provide a summary report. This is an instantaneous "snapshot" of the accessibility of the current set of pages.

It is also possible to create report groups such that an entire Web accessibility evaluation can be archived for later review or shared among users. Performing an evaluation as a report group allows for immediate verification, but also the ability to save the evaluation for review by accessibility team members.

A third option is to perform a verification immediately followed by a repair of the web accessibility errors. When operating in this fashion, AccVerify/AccRepair will first assess the web accessibility of a page followed by a prompt asking the user if they wish to run the AccRepair Wizard (see the section Using the AccRepair Wizard for more information about this tool). It is possible to select the Verification Only mode in order to only perform an evaluation on the web content and not be prompted for the AccRepair Wizard at each step.

Verify All Option
The Verify All option allows you to evaluate the web content you identified. This is a "snapshot" of the accessibility of the site and is not retained for later use. Select **Verify** from the menu bar and choose "Verify All".

Verify All As Report Group Option
The Verify All as Report Group option provides the opportunity to save a report for later viewing or to send the report to another individual. The resulting report is viewable using a web browser. Select **Verify** from the menu bar and select "Verify All as Report Group". You will then be asked to specify a name for this report group. Report groups can be accessed from Reports Distribution Utility option – see this section later in the manual.

Enable/Disable Verification Only Mode
To enable or disable the Verification Mode of AccVerify/AccRepair, select **Settings** from the menu bar and choose "AccRepair Settings…". To only evaluate content, make sure the Verification Only Mode checkbox is checked. If you wish to evaluate AND repair content, uncheck this checkbox.
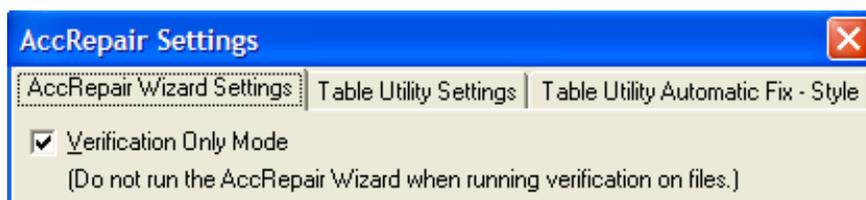
Evaluating Web Content

AccVerify/AccRepair will allow you to evaluate a web page individually, a group of web pages, or spider a website and report the accessibility and usability violations of the scanned files. Depending on your need, you may find it easier to scan one web page at a time or perform a review of a set of web pages. In order to manage your workflow and time investment, it is recommended to focus your efforts on a select group of web pages.

Evaluating a Single Web Page

1. Select **File** from the menu bar and choose **Select File or File List**.

2. If the "View/Edit File" button is selected, then you will see the Source Code of the file you chose in the upper pane and the accessibility violations in the lower pane. If you make changes to the source code directly, make sure to select the **Save File** button in the lower right corner.

3. To evaluate the web page, select the "View Reports" button and choose **Verify**. This will produce an evaluation report on the accessibility errors contained on the web page. Content will then be identified whether it Passes (Yes), Fails (No), or is Not Assessed (N/A). Content that does not pass will be identified by the line number in the HTML code where the violation occurs.

4. Select the "Files / Preview" button to manually assess the usability of the web page. Choose the desired file from the lower pane and press the **Preview** button (you may also select the **Auto Preview** checkbox if you want to view the web page when you select the desired file). See the information below regarding the different preview modes.

Evaluating a Group of Web Pages

1. Select **File** from the menu bar and choose **Scan Folders**.

2. Identify the folder containing the web pages. If you have subfolders with additional web page content, make sure to check the **Include Subfolders** checkbox. Press **Start** to begin the scan.

3. The list of files will appear in the Files/Preview view. To run a verification, press the **Verify** button just below the menu bar (or select **Verify** from the menu bar and choose **Verify All**). You may be prompted to **Run the AccRepair Wizard** – only run this wizard if you wish to repair the files in question before completing the analysis. If you wish to only analyze the files, select the **Run in Verification Only mode** checkbox and select **No**.

4. AccVerify will shift to the **View Reports** mode to view a summary of the accessibility review of the scanned web folder. Files that do not pass will be listed under the **Failed Files** heading in the left frame. Select the file and review the accessibility report for information regarding potential web accessibility violations.

5. Select the **View** button in the lower right if you wish to view the report in a HTML format.

Evaluating a Live Web Page

1. Select **File** from the menu bar and choose **Select from the Web**.

2. Enter the URL of the web page you wish to analyze. Be sure to enter the http:// .

3. Select the specific file under the Selected Files in the "Files / Preview" view. If the **AutoPreview** checkbox is selected, you will see a representation of the page.

4. When AutoPreviewing a web page, you will not be able to view the actual images or enable/disable stylesheet elements.

5. To run a verification, press the **Verify** button just below the menu bar (or select **Verify** from the menu bar and choose **Verify All**).

6. AccVerify will shift to the **View Reports** mode to view a summary of the accessibility review of the scanned web folder. Files that do not pass will be listed under the **Failed Files** heading in the left frame. Select the file and review the accessibility report for information regarding potential web accessibility violations. Select the **View** button in the lower right if you wish to view the report in a HTML format.

Evaluating a Website - Manual
To be performed when you want to gather specific live files in a website.
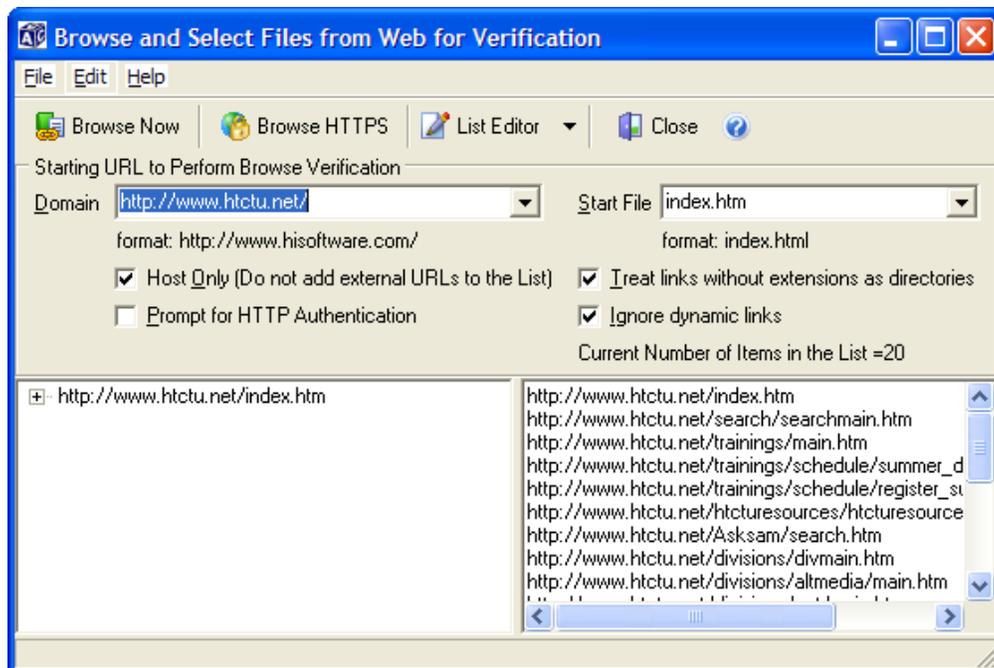
1. Select **File** from the menu bar and choose **Browse and Select from the Web**.

2. Enter the domain of the website (e.g., http://www.htctu.net) and the name of the start file (e.g., index.htm, etc.). Open the list box to select from a variety of start files names.

3. Select **Browse Now** to gather all the information currently hosted on the webserver. You will need to select the plus symbol (+) next to each URL in order to have this file selected for verification. Once you have selected the content, close the dialog window and all the files will appear in the "Files / Preview" window.

4. To run a verification, press the **Verify** button just below the menu bar (or select **Verify** from the menu bar and choose **Verify All**).

5. AccVerify will shift to the **View Reports** mode to view a summary of the accessibility review of the scanned web folder. Files that do not pass will be listed under the **Failed Files** heading in the left frame. Select the file and review the accessibility report for information regarding potential web accessibility violations. Select the **View** button in the lower right if you wish to view the report in a HTML format.

Evaluating a Website - Automatic
To be used if you wish to restrict the evaluation process to only a set of Web pages within a Website.
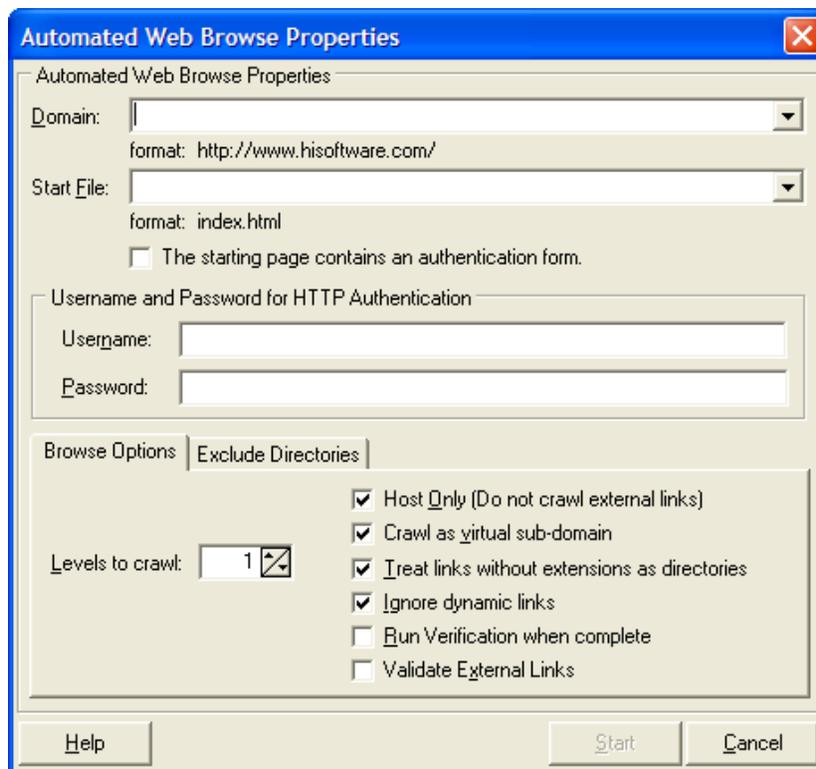
1. Select **File** from the menu bar and choose **Automated Web Browse Select**.

2. Enter the domain of the website (e.g., http://www.htctu.net) and the name of the start file (e.g., index.htm, etc.). Open the list box to select from a variety of start files names.

3. If there a need to "Log In" to the web page, enter the appropriate username and password for HTTP authentication.

4. Choose your **Browse Options** to determine how you wish the crawler to search your site. Recommended options are: Host Only, Treat Links without Extensions as Directories, and Ignore Dynamic Links. If you wish to remain within the directory you are evaluating, then check Crawl as a Virtual Sub-Domain. (In other words, you will crawl only within the /divisions sub-directory and not any pages outside of this directory if you set your domain to www.htctu.net/divisions).

5. Identify the total number of levels you wish to crawl. Level 1 would be the homepage and all links from the home page. Level 2 would be the homepage, those pages linked to the homepage, and those pages linked to the first set of pages from the homepage.

6. Use Exclude Directories tab to identify specific directories that you do not wish to be crawled and analyzed. Enter as **/directory/** (forward slash directory name) in order to exclude a particular directory. You can also download the "robots.txt" file (tells search engines which specific directories to ignore) in order to exclude these sub-directories as well.

7. Press **Start** when you are ready to begin. AccVerify will begin crawling the pages. When it has completed, press the **Close** button in the **Running Automated Browse** window.
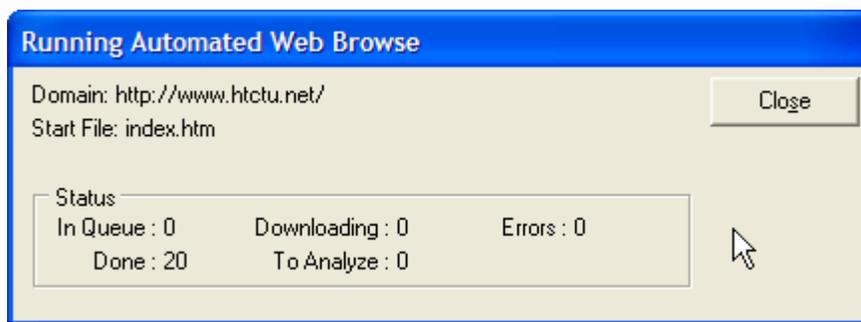
8. You may now run a verification to analyze the crawled information.

Performing Repairs

AccVerify/AccRepair provides web authors with the capability to make repairs to the content that is identifies as inaccessible. In some cases, the necessary "repair" has already been completed and added to the AccRepair Library. This can improve the speed at which

simple repairs can be made to web content (e.g., adding the same alternative text throughout a website, etc.). Repairing content is possible when performing a validation on the selected web content. It is necessary to turn on the repair functionality before running the validation.
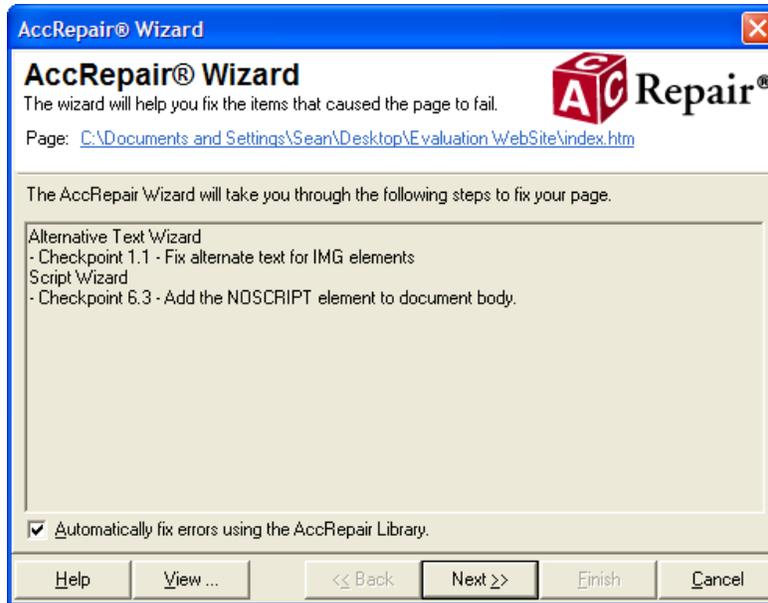
Enable AccRepair Wizard
When turning on the AccRepair Wizard, you are essentially disabling the Verification Mode of AccVerify/AccRepair. To turn on the AccRepair Wizard, select **Settings** from the menu bar and choose "AccRepair Settings…". Uncheck the checkbox marked "Verification Only Mode" and save your settings. This will launch the AccRepair Wizard the next time the selected web content is evaluated.

Starting the AccRepair Wizard
To start the AccRepair Wizard, follow the steps on the previous pages to select the desired web information. When you begin to run the verification, you will receive a prompt that asks if you wish to run the AccRepair Wizard. Select **Yes** to run the AccRepair Wizard.
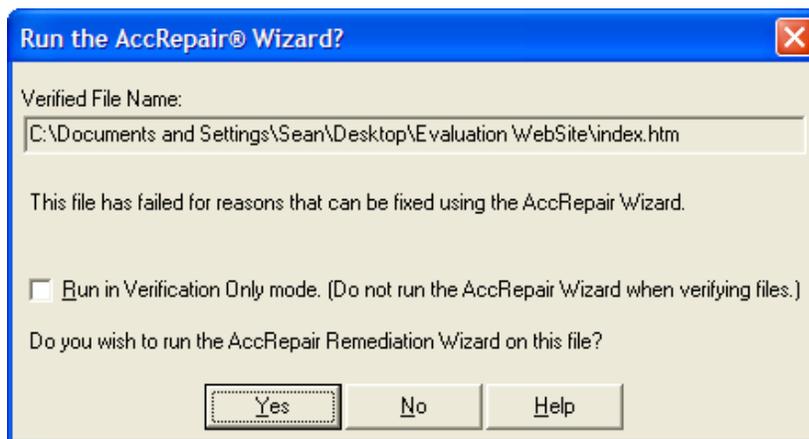
The AccRepair Wizard will prompt the user through the repair of web content based on the accessibility violations encountered.

The AccRepair Wizard identified two elements that did not pass the accessibility review according to the US Section 508 Standards. These two violations would be fixed by proceeding through the AccRepair Wizard. Make sure the **Automatically fix errors using the AccRepair Library** checkbox is checked to automatically repair the same errors.

Repairing Images
AccVerify/AccRepair can decrease the time required to make images more accessible to assistive computer technology by prompting a web author for the appropriate alternative text and, if necessary, long description information. When using images as "spacer" images for layout purposes, it is still necessary to enter an alternative text tag. Assistive computer technology will recognize that these "blank" images are used for layout purposes and will avoid reading the information to the user. To use a "blank" alternative text value, enter the word **null** into the Alternate Text field.

1. Select the web content you wish to evaluate.

2. Run verification on the selected content and choose to begin the AccRepair Wizard.

3. When AccRepair encounters an image with missing alternative text, it will prompt the user for the necessary information (i.e., alt-text and long description).

4. Enter the necessary information and press **OK**.
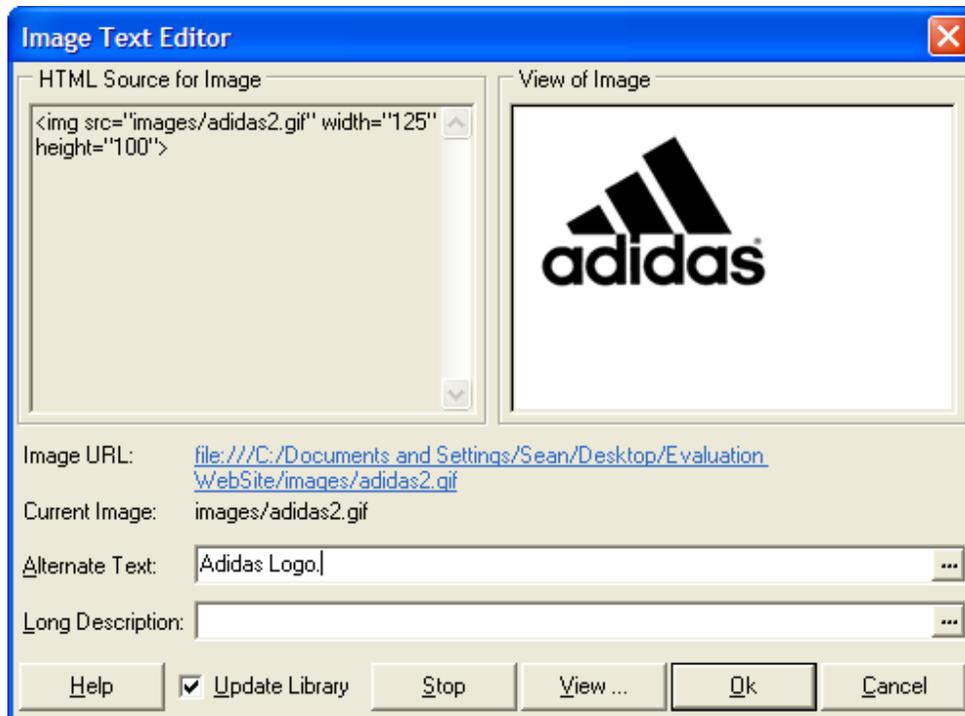
Repairing Tables

Using AccVerify/AccRepair, we authors can make changes to layout and data tables to improve the accessibility of the content. According to the Section 508 Standards (1194.22), only data tables are required to contain specific markup to make the data tables accessible to assistive computer technology. This markup includes the use of either the Scope tags or ID and Header tags. Including a Summary tag can also improve the meaning and comprehension of the table.

1. Select the web content you wish to evaluate and run verification on the selected content. The AccRepair Wizard will not automatically check for tables. However, it is necessary to run the verification in order to the program to detect the presence of tables.

2. Select **Tools** from the menu bar and choose "Table Repair Utility".

3. The Table Utility Editor will identify both layout and data tables in all the web pages that were verified. Use the "Table Preview" button at the top of the Editor to identify if the table is used for layout or for data.
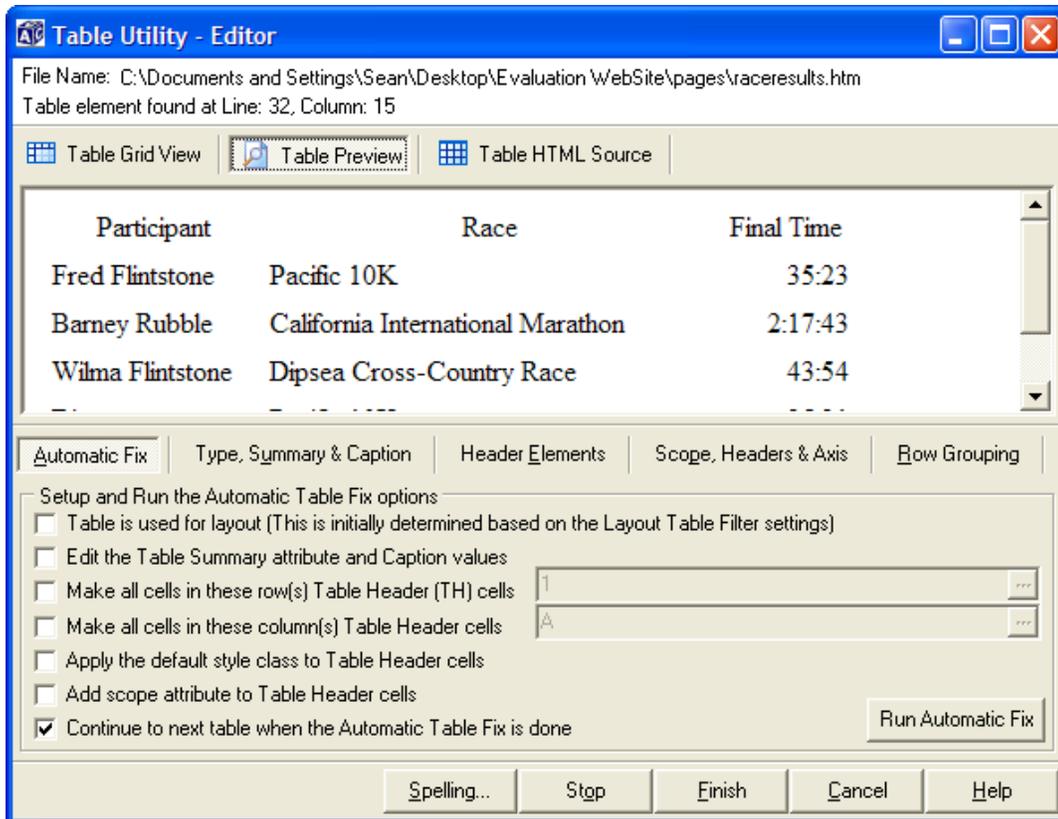
4. If the detected table is a data table, you will need to switch to the "Table Grid View" to identify the correct row and column headers.

5. Check the checkbox marked "Make all cells in these row(s) Table Header (TH) cells" and identify the appropriate row number. Also check the checkbox marked "Add scope attribute to Table Header cells".
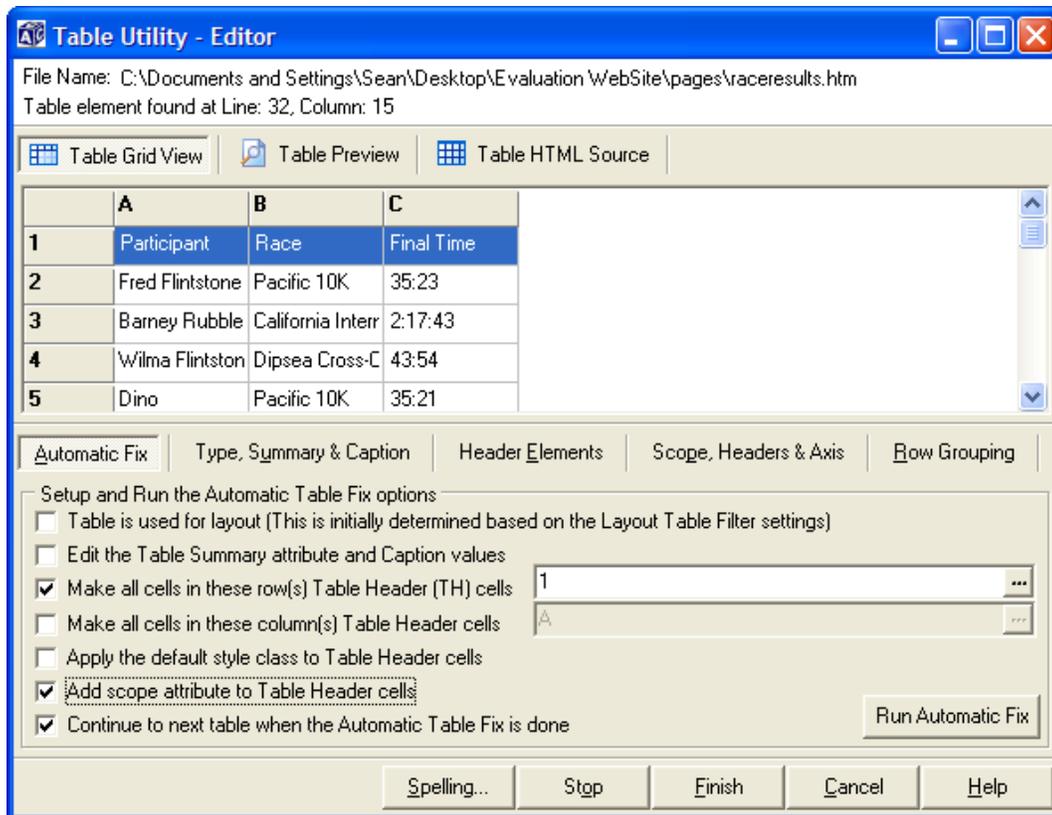
6. You can also easily change the scope tag using the "Scope, Headers, and Axis" button. Select the "Scope Wizard" and identify the appropriate row and column cells in the Table Grid View. Select Update to complete the Wizard.

7. Complete the data table information by selecting the "Type, Summary, and Caption" button and entering the summary and caption information (optional).
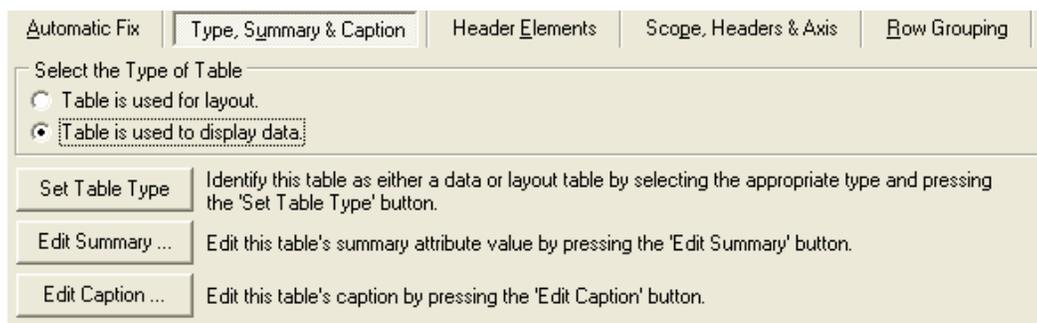
8. Press **Finish** to save the changes to the table.

Repairing Forms

Forms can provide a variety of uses on web pages and most interactive websites have some type of form element present (e.g., Search fields, etc.). Forms can be difficult for some

types of assistive computer technology in that the user must interact with the form using two different interactive methods. Usually this requires a user to read the web page and then enter a "forms mode" in order to enter data. However, when in the "forms mode", the user does not have the capability to read the rest of the web page.

Adding specific HTML content to the form input fields and the associated screen text can greatly improve the user experience. It is necessary to manually start the repair process for forms when using the AccVerify/AccRepair application.

1. Select the web content you wish to evaluate and run verification on the selected content. The AccRepair Wizard will not automatically repair forms. However, it is necessary to run the verification in order to the program to detect the presence of forms.

2. Select **Tools** from the menu bar and choose "Form Repair Utility".

3. The Form Utility Editor will launch and allow the web author to make the necessary changes to the form fields. Identify the field name in the list of form fields and select the "Field Label" button.
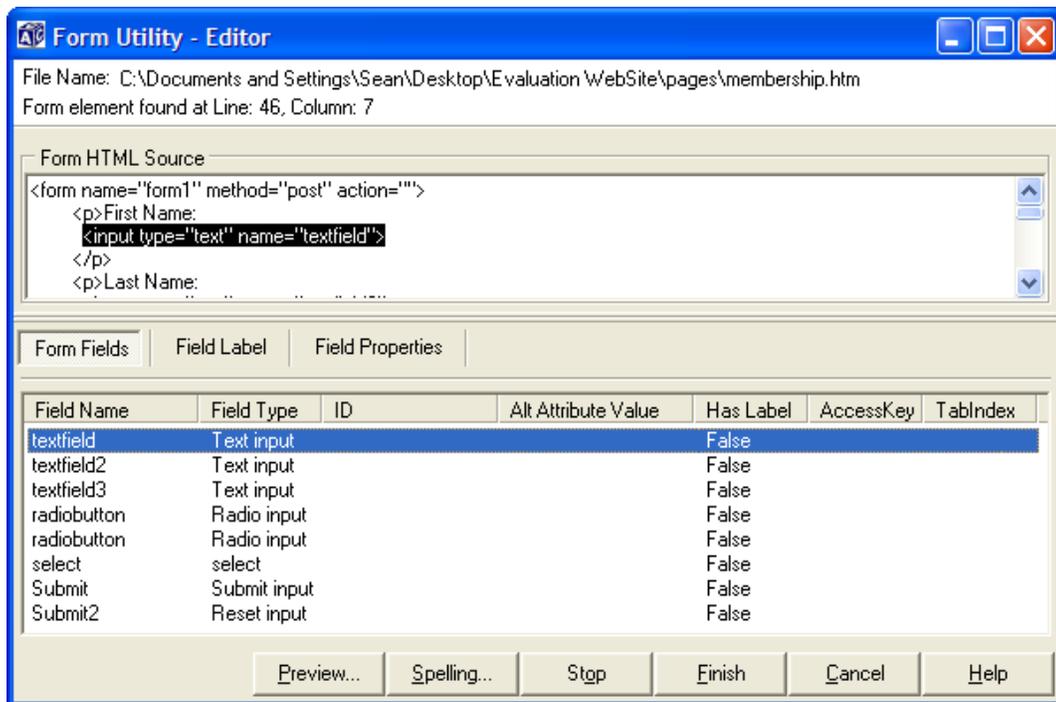
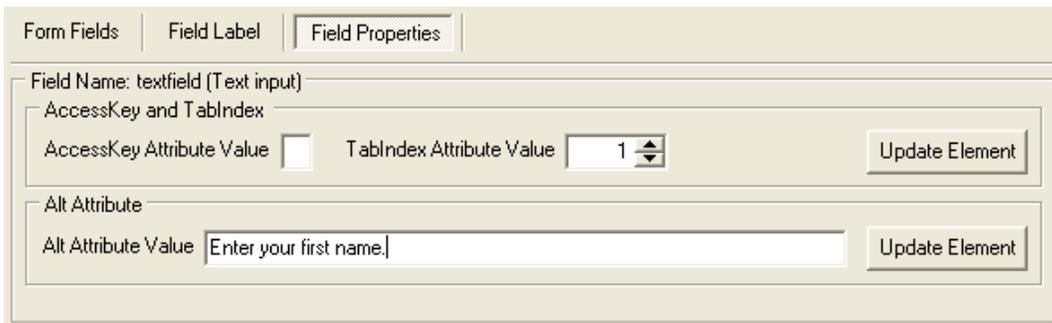4. Highlight the appropriate text content that you wish to be associated with the form field identified in step 3.

```
<form name="form1" method="post" action="">
    <p>First Name:
     <input type="|xt" name="textfield">
    </p>
    <p>Last Name:
```

5. Press the "Set Label" button to input the correct <label> tag attribute. Notice the additional HTML code that is inserted into the source code window.

```
<form name="form1" method="post" action="">
    <p><label for="AutoId1">First Name:</label>
     <input id="AutoId1" type="text" name="textfield">
    </p>
    <p>Last Name:
```

6. Select the "Field Properties" button to add information about the tabindex and access key values. You may also add alternative text to improve the user experience with some types of assistive computer technology.

```
 Form Fields     Field Label    │ Field Properties │

 ┌ Field Name: textfield (Text input) ─────────────────────
 │ ┌ AccessKey and TabIndex ─────────────────────────────
 │ │ AccessKey Attribute Value [   ]  TabIndex Attribute Value [  1 ⬍]        [ Update Element ]
 │ ┌ Alt Attribute ──────────────────────────────────────
 │ │ Alt Attribute Value [ Enter your first name.|                    ]        [ Update Element ]
```

7. Return to the "Form Fields" button and add the necessary information for another form field. Press **Finish** to save the changes and move to another form.

The Preview Options

The Preview Options are several buttons that allows a developer to quickly assess the use of images, colors, stylesheets as well as page linearization. A brief review of each function is identified below. Each function may be activated using the mouse or keyboard.

```
 Preview ───────────────────────────────────────────────
 ☑ Auto Preview │ 🖼 Images  🄰 Styles  ▤ Linearize  🎨 Colors │ 🖨 ⓘ
```

Images
The Images toggle allows the user to view the web page with the images enabled or disabled. Images that contain alternate-text will display the alternate text when the image function is enabled. If you are previewing a web page that is currently live (as opposed to content on the local system), you will not see the images in the Preview pane. Section 508 – 1194.22 (a) and Priority 1 requirement.

Styles
The Styles toggle enables or disables the stylesheets of the current web page. It is important that the information contained on a web page can be read if the stylesheets are disabled. If you are previewing a web page that is currently live, (as opposed to content on the local system), the web page will automatically disable the stylesheets. Section 508 – 1194.22 (d) and Priority 1 requirement.

Linearize
The Linearize toggle allows web page developers to view the reading order/logical flow of information on their web page. Layout tables are removed from the web page and the content is left-justified on the screen. The Linearize view is very similar to how some types of assistive computer technology will read the information; evaluating the linearized content can give developers a sense of how the web page will be presented to different users. Priority 2 requirement.

Colors
The Colors function takes the current web page and opens a new browser window with the web page presented in grayscale. It is important that color alone is not used to convey information and this function allows developers to view their web pages with color disabled. Section 508 – 1194.22 (c) and Priority 1 requirement.

Report Distribution Utility

The Report Distribution Utility allows the user to export any reports that have been verified to be exported as a fully linked HTML file. This allows the reviewer to send the report to any individual who wishes to assess the verification report and may not have the AccVerify/AccRepair program. Additionally, the report is exported in a .zip file format, making the report very portable.

1. Select **Reports** from the menu bar, and choose **Report Distribution Utility**.

2. Identify the appropriate report group from the list on the left part of the screen. Press the **Next** button.

3. Specify a location for the report file on the local computer. This can be on the desktop or other location. The Report Distribution Utility will append the file extension ".zip" to the end of the name you specify.
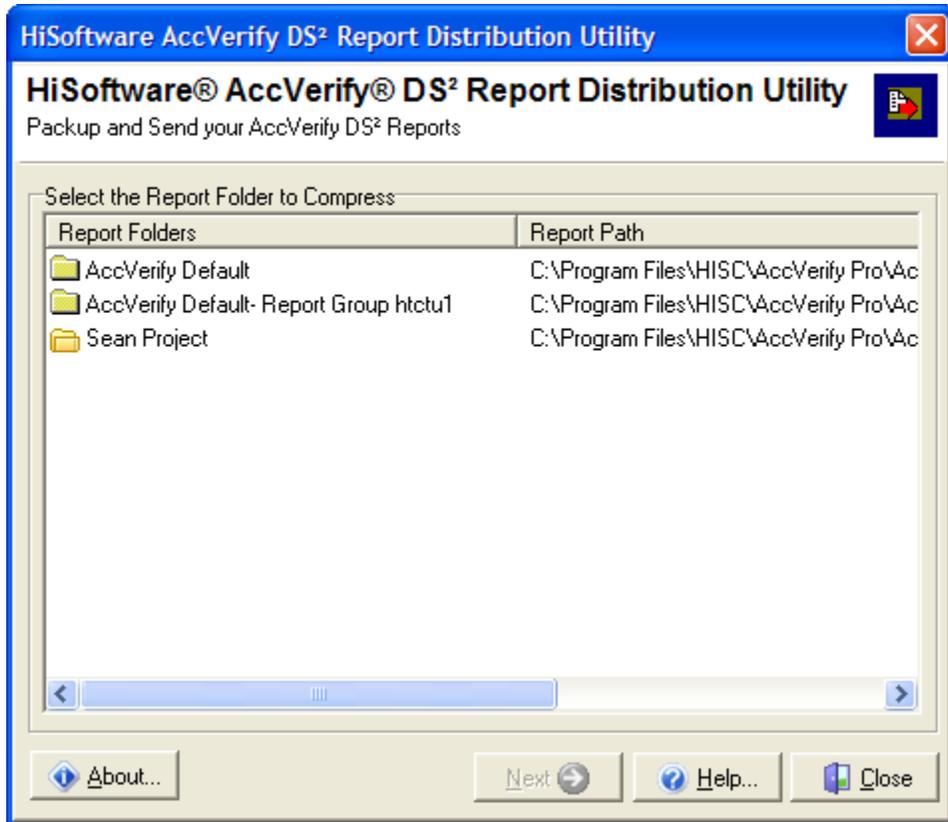
4. Press the **Finish** button. This will create a report as a zip file that contains the entire evaluation in a HTML format. The zip file may be then e-mailed or archived for later use.

5. To review the report, simply unzip the information and select the file **Report_fndx.htm** to navigate the HTML content. The entire report may be reviewed by other individuals who do not have the AccVerify/AccRepair application installed.

6. The Report Distribution Utility can also password protect the files, if necessary, for security purposes as well as e-mail the information to the desired user. Please view the **Help** menu in the Report Distribution Utility for more information about these features.
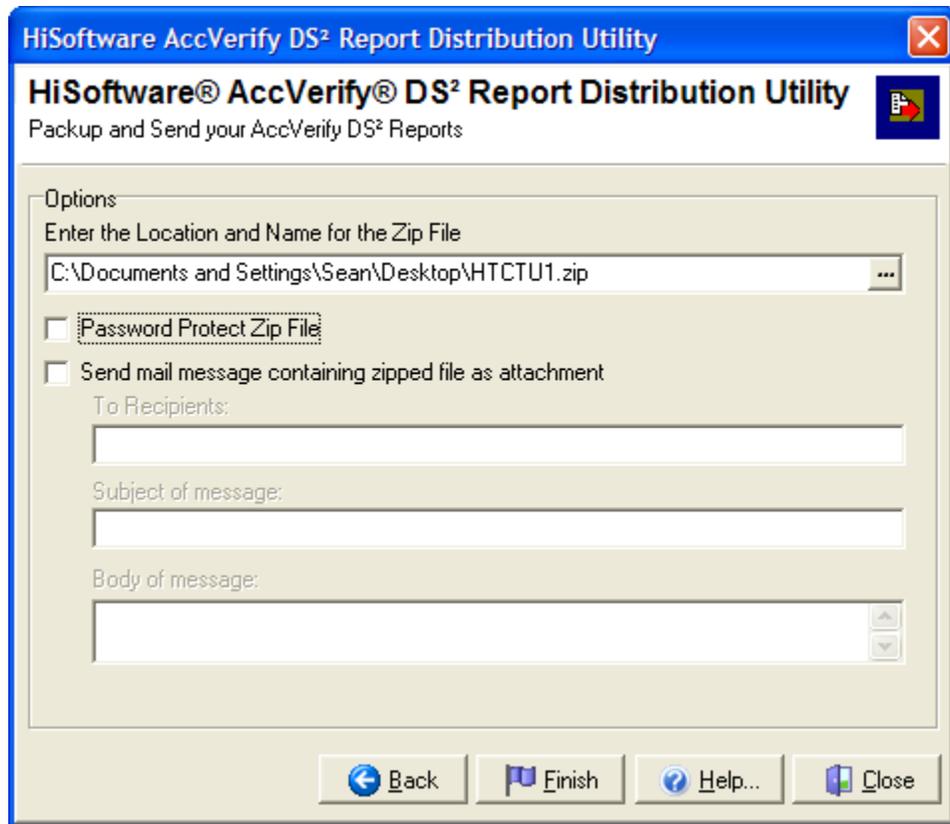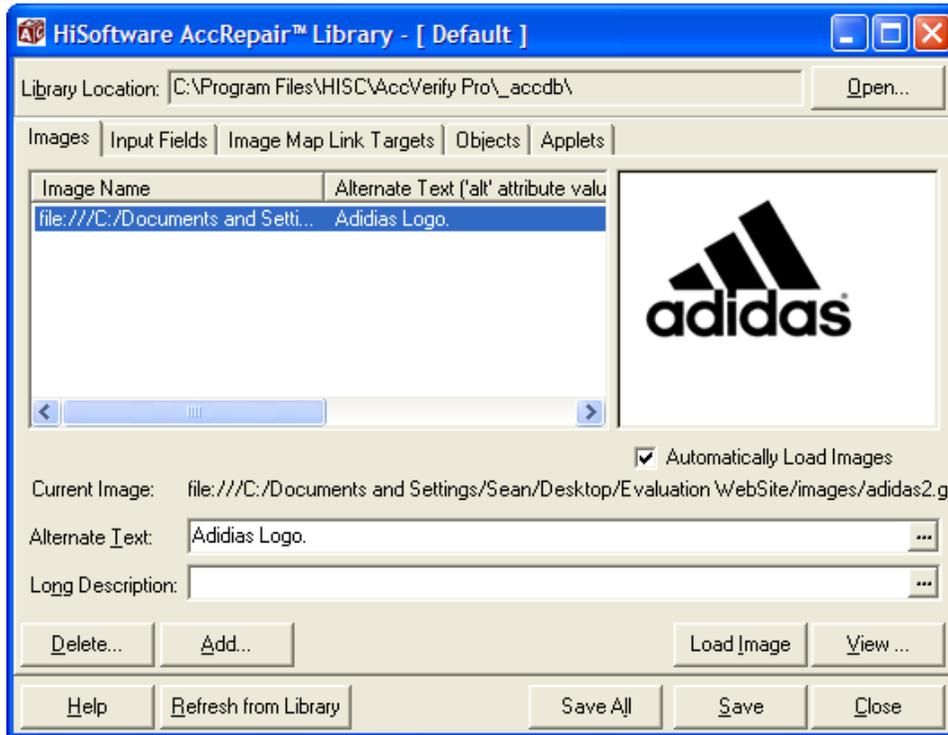
The AccRepair Library

The AccRepair Library provides a tool for developer to improve website accessibility changes if they already are aware of the inaccessible content. In other words, if the use of "spacer" images is used throughout the site, then it is possible to introduce the correct changes into the AccRepair Library before beginning an evaluation process. This provides the opportunity to "pre-load" the automatic fixes to speed the retrofit of content.

The AccRepair Library will accept fixes that reflect Images, Form Fields, Image Map Links, HTML Objects, and Applets. For each type of HTML information, you will need to know the specific attributes for each particular instance of code. This section will review the issues surrounding Images as this is the most likely scenario on large websites. It is important to note that the AccRepair Library does not go out and "replace" alternative text for images that already contain this attribute. This would be necessary using a HTML authoring tool. Additionally, it is still necessary to run the AccVerify evaluation process and choose to use the AccRepair Wizard.

1. Go to the **Start menu** and choose the HiSoftware AccVerify menu and then choose the Tools menu. Select AccRepair Library.

2. To "pre-load" image information, select **Add** in the lower left of the application.

3. Identify the path of the file name in the **Image File Name** field. Enter the appropriate amount of alternative text for the image in the **Alternative Text** field. If the image requires a longer description, enter the file name of the long description tag in the **Long Description** field.

4. Press **Save** to save the information to the AccRepair Library.

The appropriate information has now been entered into the AccRepair Library. When the web content to be evaluated is assessed and the AccRepair Wizard started, the data in the AccRepair Library will automatically repair the HTML violations.

Customizing AccVerify Reports

In addition to making repairs to Web-based materials, the AccVerify application can be set to simply perform automated evaluations of Web content and not perform any repairs. Upon performing the default installation of AccVerify/AccRepair, you will be prompted to specify either the US Section 508 Standards or World Wide Web Consortium (W3C) Web Content Accessibility Guidelines as evaluation checkpoints. These evaluation checkpoints contain the technical language originally developed by the respective entity as explanations as to why the Web page(s) may have failed - or passed - the automated verification process. Additionally, the AccVerify/AccRepair application defaults to providing the complete report to the user specifying content that passed, failed, or necessitates a manual evaluation of the content.

Some users, however, may not benefit from receiving evaluations in which the entire report is presented. Some users may not benefit from having the report present the technical language as to why the Web page did not pass a particular evaluation checkpoint. It is possible to customize the report interface such that the technical language is replaced with a simpler explanation of the error or to remove checkpoints that may not pertain to the page.

Customizing the Checkpoint Language
By customizing the checkpoint language, you can provide improved feedback for the checkpoint explanations. This may be important if working with evaluators who are not familiar with the technical language of the evaluation criteria.

1. Select "Settings" from the menu bar and choose "Report Settings".

2. Select the "Advanced" tab on the right side of the Report Settings window. Press the "Customize Report Text" button.

3. Choose either the W3C Report Mode or Section 508 Report Mode tab.

4. In the left frame, open the folders to view the specific checkpoints. The default checkpoint text is located in the upper right frame and the customizable checkpoint text is located in the lower right frame.

5. Change the text in the lower right frame to accommodate your needs. Make sure to select the "Save" button in order to save your changes.

6. If you wish to reset the checkpoint text to the default text, select the "Use Default" button. If you wish to reset the checkpoint text for ALL the checkpoints, select the "Reset All" button.

Customizing the Report Content
The AccVerify Report can be modified to include (or remove) specific details that may not pertain to your evaluation workflow. For instance, you may not wish to view all the Manual Checks when performing an evaluation if you perform Manual Checks at a separate point in your Web page evaluation process.

1. Select "Settings" from the menu bar and choose "Report Settings".

2. Select the "Report Detail" tab in the middle of the Report Settings window.

3. Under the Report Detail Options, choose the radio button "Show only checkpoints that have a failure or warning result". This will remove Manual Checks from the AccVerify Report.

4. Under the Checkpoint Detail, choose the radio button "Show only the detail items I select in the report" in order to view specific report content. Use the checkboxes to enable/disable the content you wish to include in your AccVerify Report.

5. Press "Save" in order to save your settings. The next time a report is run, you will have a different AccVerify Report view.

The Help Menu

A feature in the AccVerify/AccRepair program is the ability to view Help information about the specific topic or screen you are currently viewing. This context-specific help can make it easier to review the necessary information specific to the current task. The Help menu is primarily text delivered in an HTML format. To view the Help information in any of the current tasks, simply press **F1** or select the **Help** button.

Other Tools

The AccVerify/AccRepair application may also contain additional tools depending on the version that was purchased. For the most part, these tools are designed to improve the usability of HTML content by incorporating tools to create valid HTML information or by assessing link integrity, etc. For more information about the specific tools, please view the **Help** menu information within these applications.

TagGen
TagGen generates and supports developers by prompting for the appropriate HTML content that can identify a page on the Web. This includes keywords, metadata content, language settings, document author, etc. For more information about TagGen, please review the **Help** menu information within the application or visit:
http://www.hisoftware.com/Tent.htm

Link Validation Utility
The Link Validation Utility can identify hyperlinks that are invalid as well as the type of content that the hyperlink refers to on the Web. A primary function of the tool is to alert developers to invalid hyperlink targets and report back the functionality of the content. For more information please review the **Help** menu within the application, or visit:
http://www.hisoftware.com/linkvalidate/index.html

Hi-Caption
Hi-Caption is a separate tool that provides for the synchronization and formatting of captioning for multimedia presentations. Hi-Caption can export SAMI, SMIL, and SMIL/QuickTime text formats for additional processing. For more information, please visit: http://www.hisoftware.com/hmcc/index.html

Federal Accessibility Standards for Web-based Intranet and Internet Information and Applications

(Provided by www.usability.gov)

This page contains excerpts from Electronic and Information Technology Accessibility Standards issued by the ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD.

Shown below are:
Paragraphs from the Overview of the Standards
Subpart B — Technical Standards: Sec. 1194.22 Web-based intranet and internet information and applications.

This page only contains an excerpt of the summary and standards that directly relate to Web sites. Other parts of the standard may apply to your situation. See the complete, officially posted standards at http://www.access-board.gov/news/508-final.htm.

Electronic and Information Technology Accessibility Standards
ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD
[Published in the Federal Register on December 21, 2000]

Summary:

Web-based Intranet and Internet Information and Applications (1194.22)
The criteria for web-based technology and information are based on access guidelines developed by the Web Accessibility Initiative of the World Wide Web Consortium. Many of these provisions ensure access for people with vision impairments who rely on various assistive products to access computer-based information, such as screen readers, which translate what's on a computer screen into automated audible output, and refreshable Braille displays. Certain conventions, such as verbal tags or identification of graphics and format devices, like frames, are necessary so that these devices can "read" them for the user in a sensible way. The standards do not prohibit the use of web site graphics or animation. Instead, the standards aim to ensure that such information is also available in an accessible format. Generally, this means use of text labels or descriptors for graphics and certain format elements. (HTML code already provides an "Alt Text" tag for graphics which can serve as a verbal descriptor for graphics). This section also addresses the usability of multimedia presentations, image maps, style sheets, scripting languages, applets and plug-ins, and electronic forms.

The standards apply to Federal web sites but not to private sector web sites (unless a site is provided under contract to a Federal agency, in which case only that web site or portion covered by the contract would have to comply). Accessible sites offer significant advantages that go beyond access. For example, those with "text-only" options provide a

faster downloading alternative and can facilitate transmission of web-based data to cell phones and personal digital assistants.

§ 1194.22 Web-based intranet and internet information and applications.
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).

(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.

(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.

(d) Documents shall be organized so they are readable without requiring an associated style sheet.

(e) Redundant text links shall be provided for each active region of a server-side image map.

(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.

(g) Row and column headers shall be identified for data tables.

(h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.

(i) Frames shall be titled with text that facilitates frame identification and navigation.

(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

(k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.

(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

(m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with §1194.21**(a)** through **(l)**.

(n) When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

(o) A method shall be provided that permits users to skip repetitive navigation links.

(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

Note to §1194.22:

1. The Board interprets paragraphs **(a)** through **(k)** of this section as consistent with the following priority 1 Checkpoints of the Web Content Accessibility Guidelines 1.0 (WCAG 1.0) (May 5, 1999) published by the Web Accessibility Initiative of the World Wide Web Consortium:

Section 1194.22 Paragraph	WCAG 1.0 Checkpoint
(a)	1.1
(b)	1.4
(c)	2.1
(d)	6.1
(e)	1.2
(f)	9.1
(g)	5.1
(h)	5.2
(i)	12.1
(j)	7.1
(k)	11.4

2. Paragraphs **(l)**, **(m)**, **(n)**, **(o)**, and **(p)** of this section are different from WCAG 1.0. Web pages that conform to WCAG 1.0, level A (i.e., all priority 1 checkpoints) must also meet paragraphs **(l)**, **(m)**, **(n)**, **(o)**, and **(p)** of this section to comply with this section. WCAG 1.0 is available at http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990505.

Web Content Accessibility Guidelines (WCAG) 1.0

Introduction

The Web Content Accessibility Guidelines (WCAG), version 1.0, is a set of guidelines designed to assist web developers in designing and creating universally accessible websites. These guidelines were developed by the Web Accessibility Initiative (WAI), a subgroup of the World Wide Web Consortium (W3C). The guidelines for accessible web design are separated into various checkpoints that are assigned priority levels. The priority levels are as follows:

Priority 1:
> A Web content developer **must** satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use Web documents.

Priority 2:
> A Web content developer **should** satisfy this checkpoint. Otherwise, one or more groups will find it difficult to access information in the document. Satisfying this checkpoint will remove significant barriers to accessing Web documents.

Priority 3:
> A Web content developer **may** address this checkpoint. Otherwise, one or more groups will find it somewhat difficult to access information in the document. Satisfying this checkpoint will improve access to Web documents.

The goal of these guidelines, as outlined by the WAI, is to encourage the development and implementation of accessible on-line content for all users, not just users requiring assistive technology. Accroding to the WAI, the guidelines are "…not to discourage content developers from using images, video, etc., but rather explain how to make multimedia content more accessible to a wide audience."

The following pages separate the WCAG 1.0 guidelines into the three priority levels established by the WAI along with the corresponding accessibility checkpoint.

WAI Priority 1 Checkpoints

In General (Priority 1)

- **1.1** Provide a text equivalent for every non-text element (e.g., via "alt", "longdesc", or in element content). *This includes*: images, graphical representations of text (including symbols), image map regions, animations (e.g., animated GIFs), applets and programmatic objects, ascii art, frames, scripts, images used as list bullets, spacers, graphical buttons, sounds (played with or without user interaction), stand-alone audio files, audio tracks of video, and video.

- **2.1** Ensure that all information conveyed with color is also available without color, for example from context or markup.

- **4.1** Clearly identify changes in the natural language of a document's text and any text equivalents (e.g., captions).

- **6.1** Organize documents so they may be read without style sheets. For example, when an HTML document is rendered without associated style sheets, it must still be possible to read the document.

- **6.2** Ensure that equivalents for dynamic content are updated when the dynamic content changes.

- **7.1** Until user agents allow users to control flickering, avoid causing the screen to flicker.

- **14.1** Use the clearest and simplest language appropriate for a site's content.

And if you use images and image maps (Priority 1)

- **1.2** Provide redundant text links for each active region of a server-side image map.

- **9.1** Provide client-side image maps instead of server-side image maps except where the regions cannot be defined with an available geometric shape.

And if you use tables (Priority 1)

- [5.1](#) For data tables, identify row and column headers.

- [5.2](#) For data tables that have two or more logical levels of row or column headers, use markup to associate data cells and header cells.

And if you use frames (Priority 1)

- [12.1](#) Title each frame to facilitate frame identification and navigation.

And if you use applets and scripts (Priority 1)

- [6.3](#) Ensure that pages are usable when scripts, applets, or other programmatic objects are turned off or not supported. If this is not possible, provide equivalent information on an alternative accessible page.

And if you use multimedia (Priority 1)

- [1.3](#) Until user agents can automatically read aloud the text equivalent of a visual track, provide an auditory description of the important information of the visual track of a multimedia presentation.

- [1.4](#) For any time-based multimedia presentation (e.g., a movie or animation), synchronize equivalent alternatives (e.g., captions or auditory descriptions of the visual track) with the presentation.

And if all else fails (Priority 1)

- [11.4](#) If, after best efforts, you cannot create an accessible page, provide a link to an alternative page that uses W3C technologies, is accessible, has equivalent information (or functionality), and is updated as often as the inaccessible (original) page.

Web Resources

HiSoftware Tools

AccVerify/AccRepair Application
http://www.hisoftware.com/access/newvIndex.html

AccMonitor
http://www.hisoftware.com/access/newmonitor.html

Hi-Caption
http://www.hisoftware.com/hmcc/index.html

Accessibility Tool for Macromedia Flash
http://www.hisoftware.com/macromedia_flash/

Standards and Guidelines

Section 508 Standards
http://www.section508.org

http://www.access-board.gov

Web-based Intranet and Internet Information and Applications – Section 1194.22
http://www.access-board.gov/sec508/guide/1194.22.htm

W3C Web Accessibility Initiative (WAI) Guidelines
http://www.w3c.org/WAI/

Usability.gov
http://www.usability.gov