



Elluminate *Live!* Accessibility Whitepaper

No User Left Behind™

September 2005

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Background

Elluminate, Inc. provides proven solutions for real-time online learning and collaboration, regardless of platform or Internet connection speed. Elluminate features high-quality VoIP, robust interactive functionality for participants and moderators, and unique No User Left Behind™ technology. Headquartered in Calgary, Alberta, Canada and Fort Lauderdale, Fla., Elluminate is used by prominent corporate and academic organizations such as T-Mobile, PA Department of Education, ADP, Georgia State University, Sun Microsystems, Johns Hopkins University and many more.

Elluminate customer, the University of California College Prep online, received the WCET Outstanding Work (WOW) award for their use of Elluminate *Live!* For more information, visit www.elluminate.com.

No User Left Behind™

Most web-conferencing products are built with the corporate mass market in mind. This typically means:

- Windows users
- Using Broadband Internet
- Available phone lines for talking in addition to the web-conference
- Non-disabled participants

Elluminate has decided on a markedly different course. With its No User Left Behind philosophy, Elluminate has decided on the following:

- **Completely cross platform** – Elluminate participants can be on a Windows PC, a Mac, a Linux or a Solaris workstation and fully participate in their online sessions.
- **Optimized for low bandwidth** – Elluminate sessions often include participants from remote, rural areas or third world countries where Internet infrastructure is not optimal. Often times, these locations may have a single dialup phone line. Elluminate has optimized its sessions such that all the high priority content such as Audio, Text Messaging and Whiteboard interactions can be comfortably sustained in a 28.8kbps dialup connection.
- **Unprecedented Moderator Awareness** – Moderators in Elluminate *Live!* know at all times what the participants are seeing and hearing allowing an optimal learning and collaboration environment for all users.
- **Accommodation for Disabilities** – Elluminate has created numerous product features to ensure that participants with vision or hearing impairment can participate as fully as possible in the sessions. The rest of this whitepaper will discuss the details of these features.



Accessibility Guidelines

There are two main resources that are currently available to software organizations to ensure that their products are usable by individuals with disabilities.

- 1) **W3C:** The World Wide Web Consortium (W3C) has a working group called the Web Accessibility Initiative (WAI). The WAI has produced a set of guidelines called User Agent Accessibility Guidelines “for designing [user agents](#) that lower barriers to Web accessibility for people with disabilities (visual, hearing, physical, cognitive, and neurological)”. These guidelines can be reviewed at <http://www.w3.org/TR/WAI-USERAGENT/>.
- 2) **US Federal Government’s Section 508c:** In 1998, Congress amended the Rehabilitation Act to require Federal agencies to make their electronic and information technology accessible to people with disabilities. Inaccessible technology interferes with an individual's ability to obtain and use information quickly and easily. Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. ‘ 794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others. More information for Section 508c is available at <http://www.usdoj.gov/crt/508/508home.html>

W3C Conformance

The W3C defines several checkpoints that a product must pass in order to be accessible. Each of these checkpoints have a certain Priority Level defined as below (More details at <http://www.w3.org/TR/WAI-USERAGENT/guidelines.html#Priorities>)

Priority 1 (P1)

If the user agent does not satisfy this checkpoint, one or more groups of users with disabilities will find it impossible to access the Web. Satisfying this checkpoint is a basic requirement for enabling some people to access the Web.

Priority 2 (P2)

If the user agent does not satisfy this checkpoint, one or more groups of users with disabilities will find it difficult to access the Web. Satisfying this checkpoint will remove significant barriers to Web access for some people.

Priority 3 (P3)

If the user agent satisfies this checkpoint, one or more groups of users with disabilities will find it easier to access the Web.

The Priorities and checkpoints above have been looked at extensively while producing the Elluminate software and we believe that Elluminate has met all Priority 1 checkpoints. Extensive work has also gone into achieving Priority 2 and Priority 3 conformance by the addition of several features. These include the following:

- 1) **Support for Screen Readers:** Elluminate allows an easy install version of the Java Accessibility Bridge to be downloaded from our Support site (<http://www.illuminate.com/support>). This software allows screen readers such as JAWS to read the interface and provide auditory cues about the software functionality to visually impaired participants. All menus and dialog boxes are readable by the screen reader.



- 2) **Keyboard access to menus and dialogs:** For visually impaired participants who might have difficulty using the mouse pointer, most menus and dialogs can be activated using the keyboard either using pre-defined shortcut keys or using the Tab key for traversal.
- 3) **Support for Closed Captioning:** Elluminate has written a special utility which allows all audio content to be closed captioned for hearing impaired participants. The Elluminate Closed Captioning utility allows for the captioning to be provided by multiple providers which allows for Priority 3 features such as captioning the same session in multiple languages allowing participants to subscribe to their preferred captioning provider.
- 4) **Ability to select the content that a participant wants to receive:** Elluminate provides participants ultimate flexibility in receiving only the content that they would like to obtain. This allows both visually and hearing impaired participants to unsubscribe to content which would otherwise interfere with their best use of the software. For example, any user can choose to put away the text messaging component, or the live webcam video component or mute the audio.
- 5) **Support for inheriting user-defined color schemes from the Operating System:** If a participant has a specially designed color scheme (such as High Contrast for visually impaired participants), Elluminate has the ability to automatically use the same color scheme in rendering the Elluminate application as well.
- 6) **Ability for a participant to scale visual content:** Elluminate allows participants to scale almost all visual content up or down to meet the needs of that individual. This includes:
 - a. Ability to increase/decrease the font size for Text Messaging
 - b. Ability to scale all content on the Whiteboard to the extent that a participant's display allows
 - c. Ability to scale all content in the Application Sharing facility to the extent that a participant's display allows.
 - d. Ability to double the size of the live video window to see the live video in an enlarged view
- 7) **Ability for users to turn on auditory notification for certain events:** These include the ability to announce a new user joining the session with an audible tone in addition to their name appearing in the Participant Information window.
- 8) **Ensuring User Control of user interface behavior:** Elluminate is one of the very few real-time collaboration which allows participants to control their own user interface rather than the interface being dictated by the presenter/moderator. Each participant can layout their different Elluminate utilities (audio, video, application sharing, whiteboard, text messaging etc.) to fit exactly their needs. These settings are retained across sessions, such that whenever a user attends another session after customizing their display, all their user interface will look exactly as they had customize.
- 9) **Capture and replaying of sessions in their entirety:** Elluminate allows for live sessions to be recorded including every interaction that happened in the live session including:
 - a. All Audio
 - b. All Video
 - c. All Whiteboard Interactions
 - d. All Public Text Messages
 - e. All Application Sharing
 - f. All Multimedia files
 - g. All Web Tours



h. All Closed Captioning streams

These recordings can be played back using the same interface that is used to join the live sessions and all of the above functionality explained in this document is also available during the recording playback. All user control of user interface as well as the ability to rewind and replay any content allows participants to review and replay content till they are fully comfortable with it.

10) **Availability of Software Development Kit:** Elluminate provides an Open API for integration into other Learning Management Systems and web applications. This allows users and other developers to interface external systems that they are already used to interoperate with Elluminate including the ability to:

- a. Create Elluminate sessions
- b. Register users for Elluminate sessions
- c. Inform registered users of time/URL to join Elluminate sessions
- d. Authenticate users
- e. Initiate Elluminate sessions
- f. Access recordings of Elluminate sessions



Section 508c Compliance

Section 508c allows software product vendors to fill out a Voluntary Product Accessibility Template to inform all constituents of the extent of their product's compliance and conformance to the 508c standards.

Voluntary Product Accessibility Template

The purpose of the Voluntary Product Accessibility Template is to assist Federal contracting officials in making preliminary assessments regarding the availability of commercial Electronic and Information Technology products and services with features that support accessibility. It is assumed that officials will provide additional contact information to facilitate more detailed inquiries.

The first table of the Template provides a summary view of the Section 508 Standards. The subsequent tables provide more detailed views of each subsection. There are three columns in each table:

- Column One of the Summary Table describes the subsections of subparts B and C of the Standards.
- Column Two describes the supporting features of the product or refers you to the corresponding detailed table, "e.g., equivalent facilitation."
- Column Three contains any additional remarks and explanations regarding the product.

In the subsequent tables, the first column contains the lettered paragraphs of the subsections. The second column describes the supporting features of the product with regard to that paragraph. The third column contains any additional remarks and explanations regarding the product.

Compliance and Remediation Statement for Section 508 of the Rehabilitation Act

This statement describes the compliance of version 6.0 of Elluminate *Live!*, a software product from Elluminate with the United States Rehabilitation Act Section 508.

Date: Expected release date of 6.5 is Sept. 2005
Name of Product: Elluminate *Live!* Version 6.5
Contact for more Information: <http://www.illuminate.com>



Summary Table

Voluntary Product Accessibility Template

Criteria	Supporting Features	Remarks and explanations
Section 1194.21 Software Applications and Operating Systems	Applies to Elluminate <i>Live!</i> application	Please see more details on page 9.
Section 1194.22 Web-based Internet Information and Applications	Applies to Elluminate's Web page, www.illuminate.com	Please see more details on page 11.
Section 1194.23 Telecommunications Products	Not Applicable	Elluminate <i>Live!</i> is not considered a telecommunications product.
Section 1194.24 Video and Multi-media Products	Not Applicable	Elluminate <i>Live!</i> does not use video or multimedia.
Section 1194.25 Self-Contained, Closed Products	Not Applicable	Elluminate <i>Live!</i> is not a self-contained product.
Section 1194.26 Desktop and Portable Computers	Not Applicable	Elluminate <i>Live!</i> is not considered a telecommunications product.
Section 1194.31 Functional Performance Criteria	Applicable	Please see more details on page 13.
Section 1194.41 Information, Documentation and Support	Applicable	Please see more details on page 15.



Section 1194.21 Software Applications and Operating Systems

**Detail
Voluntary Product Accessibility Template**

Criteria	Supporting Features	Remarks and explanations
(a) When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.	Supports With Exceptions	Most menu functions are accessible using keyboard shortcuts.
(b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.	Supports	Does not interfere with Mouse, Keyboard and Magnification accessibility features.
(c) A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that Assistive Technology can track focus and focus changes.	Supports With Exceptions	A well defined on-screen indication of current focus is available in Elluminate <i>Live!</i> . However, there is no programmatic exposure of focus changes.
(d) Sufficient information about a user interface element including the identity, operation and state of the element shall be available to Assistive Technology. When an image represents a program element, the information conveyed by the image must also be available in text.	Supported	All information available through icons and graphical user interface elements in Elluminate <i>Live!</i> is also available as text through a tool tip. Assistive Technology such as a Screen Reader may make this information available through speech synthesization or via a Braille output device.



<p>(e) When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.</p>	<p>Supported</p>	<p>Bitmap images, such as icons and tool buttons, are used in a consistent manner throughout <i>Elluminate Live!</i></p>
<p>(f) Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.</p>	<p>Supported</p>	<p>Standard operating system functions are used to output text by <i>Elluminate Live!</i> Output is available as plain ASCII text and may easily be accepted by Assistive Technology, such as a Screen Reader. Text input location at the text input caret is set and available using standard operating system functions.</p>
<p>(g) Applications shall not override user selected contrast and color selections and other individual display attributes.</p>	<p>Supported</p>	<p><i>Elluminate Live!</i> allows users to use the look and feel settings of the operating system on which it runs and does not interfere with non-magnification display accessibility features such as High Contrast.</p>
<p>(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.</p>	<p>Not Applicable</p>	<p><i>Elluminate Live!</i> does not use animated presentation modes.</p>
<p>(i) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.</p>	<p>Supported</p>	<p><i>Elluminate Live!</i> does not convey information through color alone anywhere in the interface.</p>
<p>(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.</p>	<p>Supported</p>	<p><i>Elluminate Live!</i> allows users to use the look and feel settings of the operating system on which it runs and does not interfere with non-magnification display accessibility features such as High Contrast.</p>
<p>(k) Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.</p>	<p>Supported</p>	<p>All flashing objects have a blink frequency greater than 2 Hz and lower than 55 Hz.</p>
<p>(l) When electronic forms are used, 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.</p>	<p>Supports</p>	<p><i>Elluminate Live!</i> forms have been designed with this in mind.</p>



Section 1194.22 Web-based Internet information and applications

Detail Voluntary Product Accessibility Template

<i>Criteria</i>	Supporting Features	Remarks and explanations
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).	Supported with Exceptions	Some non-text elements do not have a text element.
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	Not Applicable	No multimedia presentations on Elluminate's Web page.
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	Supported	Elluminate does not convey information through color alone anywhere on its Web page.
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	Supported with Exceptions	Some documents may require an associated style sheet.
(e) Redundant text links shall be provided for each active region of a server-side image map.	Not Applicable	Elluminate <i>Live!</i> does not use server side image maps
(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.	Not Applicable	Elluminate <i>Live!</i> does not use client side image maps
(g) Row and column headers shall be identified for data tables.	Supported	Elluminate identifies row and column headers of tables that display data.
(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.	Supported	Elluminate identifies the association of data cells and header cells of tables that display data.
(i) Frames shall be titled with text that facilitates frame identification and navigation	Not Applicable	Elluminate's Web page does not use frames.
(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	Supported	All flashing objects have a blink frequency greater than 2 Hz and lower than 55 Hz.

<p>(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.</p>	<p>Does Not Support</p>	
<p>(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.</p>	<p>Supported</p>	<p>Assistive Technology such as a Screen Reader may make information available through speech synthesization or via a Braille output device.</p>
<p>(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).</p>	<p>Not applicable</p>	
<p>(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.</p>	<p>Supported</p>	<p>Elluminate <i>Live!</i> forms have been designed with this in mind</p>
<p>(o) A method shall be provided that permits users to skip repetitive navigation links.</p>	<p>Supported</p>	<p>Elluminate provides methods to skip repetitive navigation links.</p>
<p>(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.</p>	<p>Not Applicable</p>	<p>Elluminate <i>Live!</i> does not require timed responses.</p>



Section 1194.31 Functional Performance Criteria

Detail

Voluntary Product Accessibility Template

Criteria	Supporting Features	Remarks and explanations
(a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for Assistive Technology used by people who are blind or visually impaired shall be provided.	Supported	Elluminate <i>Live!</i> allows user to communicate through Voice over the Internet. Access to voice communication for explanation of on-screen typed and graphical content by a facilitator. Readily available assistive technologies may be used with Elluminate <i>Live!</i> . Users of assistive technology should contact their assistive technology vendor to assess the compatibility of specific assistive technology with Web browsers and to learn how to adjust their settings to achieve optimal results.
(b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for Assistive Technology used by people who are visually impaired shall be provided.	Supported	Elluminate <i>Live!</i> supports the use of screen magnifiers to access user interface information. Elluminate <i>Live!</i> also supports system large fonts on the direct messaging, closed captioning and whiteboard windows and scaling of the whiteboard area.
(c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for Assistive Technology used by people who are deaf or hard of hearing shall be provided	Supported	Elluminate <i>Live!</i> has a fully functional whiteboard which can be used for information dissemination. Readily available assistive technologies may also be used with Elluminate <i>Live!</i> . Elluminate <i>Live!</i> also provides a closed captioning feature which allows user to provide multiple closed captioning streams to capture all audio content and each attendee may choose which stream to view.
(d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.	Supported	Within Elluminate <i>Live!</i> , individual users can control their own computer microphone and speaker volumes to suit their needs.



<p>(e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for Assistive Technology used by people with disabilities shall be provided.</p>	<p>Supported</p>	<p>Elluminate <i>Live!</i> does not rely on audio. Users can interact through text messaging and a shared interactive whiteboard. Readily available assistive technologies may also be used with Elluminate <i>Live!</i>. Elluminate <i>Live!</i> also provides a closed captioning feature which allows user to provide multiple closed captioning streams to capture all audio content and each attendee may choose which stream to view.</p>
<p>(f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.</p>	<p>Supported</p>	<p>Elluminate <i>Live!</i> interoperates with Assistive Technology to allow input of commands and retrieval of results via such methods as speech synthesis, speech interpretation and any other assistive technology method that may submit plain text commands and present plain text results.</p>



Section 1194.41 Information, Documentation and Support

Detail

Voluntary Product Accessibility Template

Criteria	Supporting Features	Remarks and explanations
(a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge	Supported	Documentation on Elluminate <i>Live!</i> is provided in HTML, PDF, MS Word format for customers. Documentation is available online or can be printed.
(b) End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge.	Supported	Documentation on Elluminate <i>Live!</i> including any accessibility and compatibility features is provided in HTML, PDF, MS Word format for customers. Documentation is available online or can be printed.
(c) Support services for products shall accommodate the communication needs of end-users with disabilities.	Supported	Support services for all of Elluminate's products is available in many formats: Elluminate's Support website, direct phone support and direct email support. Individuals who are hearing impaired may request access via a TTY relay service.

