

## Team Pennsylvania Career Link - Accessibility Task Group

### Accessibility Guidelines for Effective Communication for People with Disabilities

#### OBJECTIVE:

That effective communication of information about all programs, services, and resources will occur through a method that is appropriate to the individual's needs.

#### CRITERIA:

Under the provision of Title II of the Americans with Disabilities Act of 1990, public entities must take appropriate steps to ensure that communications with persons with disabilities are as effective as communications with others. The issue is not whether the individual is merely provided access, but the issue is rather the extent to which the communication is actually as effective as that provided to others. In construing the conditions under which communication is "as effective as" that provided to non-disabled persons, on several occasions the Office of Civil Rights has held that the three basic components of effectiveness are "timeliness of delivery, accuracy of the translation, and provision in a manner and medium appropriate to the significance of the message and the abilities of the individual with the disability". One of the most important aims in choosing the method of communication should be to foster independence and autonomy in the person with a disability. Access to information technology should offer the same spontaneous flexibility and qualified support that is enjoyed by other non-disabled computer users.

#### GUIDELINES FOR ACCESS TO COMPUTERS:

Overview: It is impossible to foresee all the computer access needs that may be encountered at the Career Link Centers. Sophisticated technology such as voice input, complicated access through Braille or more advanced screen readers, onscreen keyboards or headpointing systems are not feasible due to the level of required technical support and the time involved in training a user to be proficient in their use. For individuals requiring these types of adaptive hardware and software the reasonable alternative is to provide personal assistance. With some basic accommodations, however, access can be offered to the vast majority of users.

Key to Successful Access to electronic information: Effective technical support and personal assistance should be available at all times. Career Link Center support staff must be trained in the use of all adaptive hardware and adaptive software located at each site. They must also be trained in basic positioning for functional and ergonomic access to the computers. They must be knowledgeable about accessibility features available through Windows 95 and 98.

All electronic information/forms on the computer should be accessible through keyboard strokes such as the tab key, as an alternative to using a pointing device.

Whenever possible software applications should be web enabled -- accessible through a Web browser. This would afford individuals with disabilities who already utilize individualized, adapted computer technology the ability to access Career Link Center information through personal internet access on their own specialized equipment.

#### Hardware and Software:

To accommodate individuals with physical disabilities, supply 20% of computers at the Career Link Centers with:

Adjustable height tables \$350-\$400 (depends on size) Available through:

Smith Systems  
PO Box 860415  
Plano, TX 75086  
800-328-1062

Adjustable height chairs with adjustable height arm rests -- \$150-\$200. Available at local office supply stores, also on state contract.

Alternate mini keyboard - \$40 This is available at most computer supply stores, also mail order from:

MISCO  
One MISCO Plaza  
Holmdel, NJ 07733  
800-333-5640

Alternate track ball with programmable functions including drag lock, double click and speed adjustment capabilities - about \$100(Kensington Expert Mouse 5.0)

Foam wrist rests - about \$10.

To accommodate individuals with visual disabilities, provide at least one computer with:

21" (or larger) Monitor - about \$1000.

Monitor arms for positioning the monitor - about \$200.

A standard text enlargement program such as ZoomText Xtra - \$395.

For access to "text only" content on the Internet, the popular and free LYNX browser .

For auditory access to Web content, a Web reader or "talking browser"

Three options to consider include: pwWebSpeak, IBM Home Page Reader, and the VIP Browser from JBliss Imaging Systems. All are relatively inexpensive (\$150 - \$200), less difficult to use than more sophisticated screen readers, and utilize the sound card of the PC.

They are beneficial not only to persons with visual disabilities, but can also benefit people that, for various reasons, have difficulty reading English. All are effectively supported by current Department of Labor and Industry hardware standards. After further review, a single product standard should be adopted to facilitate more effective support and implementation.

For quick access to printed materials:

One Closed Circuit TV (CCTV) for electronic enlargement of written materials. One source for CCTVs is Telesensory. See [http://www.telesensory.com/lvd/sales/price\\_list.html](http://www.telesensory.com/lvd/sales/price_list.html) for pricing. Color CCTVs - \$3000. Black and White CCTVs -around \$1,500-\$2,500.

For software applications that are not accessible through a Web browser, it is recommended a pilot study at one Career Link Center be initiated to evaluate the effective application of screen reader and voice synthesis technology in the Career Link Center environment. Individuals with little or no vision that utilize screen readers use a variety of software products. Individual preferences and knowledge of a particular adaptive software can vary considerably among users. Likewise, products vary in design and methodology. For these reasons, it is very difficult to adopt a single standard. However, after consulting knowledgeable members of the Task Group and other technical experts, members of the task group believe that perhaps a generic approach using a single screen reader with "scaled back", simplified functions could provide most individuals with visual disabilities access to most of the information they need. The effectiveness of this approach within the context of a Career Link Center should be well established before general application. This approach must first be tested with specific Career Link Center applications with real customers at a Career Link Center, using available Center support to determine its practical benefit.

#### GUIDELINES FOR ACCESS TO WEB CONTENT:

HTML, or Hypertext Markup Language, the program code that drives the Web, provides the versatility needed to make Web content fully accessible to people with disabilities. HTML delivers all the textual information plus the instructions for how the text should be displayed on a page. Image files are referenced in the text and retrieved when called for by the user.

A truly "accessible" information service stores its data in a "neutral" structure that can be converted by the end user into whatever form is preferred. There are many people with a disability who can benefit from a highly graphical interface. A person who cannot comfortably type commands from the keyboard will find one-step pointing or clicking easier to master. People who have limited language skills will most likely find the more intuitive symbols of the Graphic User Interface (GUI) very helpful. On the other hand, the blind or visually impaired user whose access software cannot translate graphical screens into meaningful output, requires a command-driven, text-based interface. HTML, when properly applied in conjunction with universal design requirements, can deliver both.

#### Web Content Accessibility Guidelines:

The World Wide Web Consortium, or W3C, was founded in October 1994 to lead the World Wide Web to its full potential by developing common protocols that promote its evolution and

ensure its interoperability. Its hundreds of members include AT&T, America Online, IBM, and Microsoft. Their Web Content Accessibility Guidelines were developed as part of the consortium's Web Accessibility Initiative and are aimed at creating greater awareness in the Web community of users who operate in contexts different from the average Web user.

Services provided by the consortium include: a repository of information about the World Wide Web for developers and users; reference code implementations to embody and promote standards; and various prototype and sample applications to demonstrate use of new technology. The Web and the Internet are constantly changing. That is why the consortium intends to regularly update and revise these guidelines and provide examples of "best practices".

Developed in collaboration with the Trace Research and Development Center at the University of Wisconsin, these development guidelines are the widely accepted standard for Universal Web Design. Written primarily for Web designers familiar with HTML code, they provide specific direction and coding examples for Web authors. The guidelines and related documents can be easily referenced on the World Wide Web.

Web Content Accessibility Guidelines 1.0  
W3C Proposed Recommendation 24-Mar-1999  
<http://www.w3.org/TR/WAI-WEBCONTENT/>

Techniques for Web Content Accessibility Guidelines  
W3C Working Draft 24-Mar-1999  
<http://www.w3.org/TR/WAI-WEBCONTENT-TECHS/>

List of Checkpoints for the Web Content Accessibility Guidelines 1.0  
W3C Proposed Recommendation 24-Mar-1999  
<http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990324/full-checklist.html>

Recommendations for Web Accessibility:

All Department of Labor & Industry Web sites must continue to adhere to existing Commonwealth of Pennsylvania and Department of Labor & Industry guidelines and restrictions regarding Internet/Intranets as required. In addition, it is recommended the following Web accessibility guidelines be established by Career Link Centers:

1. Web authors should consult and adhere to the Web Content Accessibility Guidelines 1.0 established by the World Wide Web Consortium. Skilled Web designers can adhere to these guidelines and still develop aesthetically appealing and highly functional Web sites.
2. Portable document formats, such as Adobe Acrobat, should not be used as the primary format unless converting the material to HTML is not feasible due to the size of the document, etc. Although it is easier in many instances to create PDF than HTML, there are drawbacks: the contents of PDF files are not included in site-wide full-text search indexes, PDF viewers are not embedded in all WWW browsers, and PDF viewers require more powerful hardware for on-line viewing than a WWW browser alone. Adobe does provide a service to convert PDF documents

to HTML (see <http://access.adobe.com/>); however, it must be noted that the document must have text content. If it has been scanned and not converted to text, the end result will not be readable. If a document is posted in Adobe Portable Document Format (PDF), then a second version should be posted in an accessible format utilizing ASCII text or HTML. However, those PDF documents depicting information which by its very nature is graphical, such as street maps, building plan drawings, pictorial diagrams, and official forms would be exempt from this accessibility requirement. Also exempt are PDF documents that are of such a legal nature that when altered in any fashion the meaning of the document would be unacceptably altered.

3. Every graphic image shall have an "Alt" tag (HTML Markup Language) with a short description of that graphic image. If the graphic image is being used as a hyperlink, it should also include a description of the information at the hyperlink.

4. Photographs or charts that contribute to the content of the page shall be linked by a "D." The "D" will be a selectable hyperlink to a description of the image. In addition, a "Return" hyperlink will be located at the end of the description so that the user can return to the photograph. To view an example of this, visit: <http://www.cast.org/bobby/approved.html>

5. All audio and video clips shall have text transcriptions or descriptions. The graphic page will have a closed-captioned (CC) link button.

6. An alternate mechanism for on-line forms should be provided since forms are not supported by all browsers. For example, the page could provide a phone number or e-mail address for obtaining the form or personal assistance.

7. Avoid using frames. Screen readers don't recognize when an individual frame has changed and needs to be read. Frames create an additional navigation hurdle for those who use screen readers.

8. Tables should be avoided since tables are not supported by all browsers and cannot be read intelligently by screen readers. For example, newspaper style layouts with text wrapping from one column to the next are not accessible. The text should be able to be read clearly from left to right.

9. Make sure that pages have adequate contrast. An example would be black on white or white on black. Black on yellow provides the highest degree of contrast.

10. Make sure navigation buttons are large enough. Small buttons are both hard to read and hard to select for people with motor impairments.

11. Validate accessibility with automatic tools and human review. Automated methods are generally rapid and convenient but cannot identify all accessibility issues. Human review can help ensure clarity of language and ease of navigation.

Several FREE automated validation services are available on the Web. Note: The Universal Accessibility Advisory Committee cannot maintain stability for any of the following references outside of its control. These references are included for convenience:

Bobby is a web-based public service offered by CAST that analyzes web pages for their accessibility to people with disabilities as well as their compatibility with various browsers.  
<http://www.cast.org/bobby/>

Use an HTML validation service such as the W3C HTML Validation Service.  
<http://validator.w3.org/>

Use a style sheets validation service such as the W3C CSS Validation Service.  
<http://jigsaw.w3.org/css-validator/>

The Lynx Viewer service allows Web authors to see what their pages will look like when viewed with Lynx, a text only Web browser. <http://www.delorie.com/web/lynxview.html>

The text only Lynx browser is also available as a FREE download.  
<http://www.slcc.edu/lynx/release/>

Test your Web content using multiple graphic browsers, with: sounds and graphics loaded, graphics not loaded, sounds not loaded, no mouse, frames, scripts, style sheets, and applets not loaded

Use several browsers, old and new, on as many different monitors and systems as possible to determine how well the content renders on different equipment.

If, after completing these tests and adjusting your design accordingly, you find that your Web page is still not accessible, you must create an alternative page that is accessible. Links to alternative pages should be clearly identified.

#### GUIDELINES FOR ACCOMMODATING REQUESTS FOR ALTERNATE FORMATS:

In order to ensure that Career Link Centers utilize methods of communication which are as effective for individuals with disabilities (including individuals with visual impairments) as are communication methods for individuals without disabilities, the following guidelines regarding the use of alternative formats are proposed:

1. Career Link Centers should communicate information in a manner which does not disadvantage those persons requiring alternate formats. This includes devising timelines for information dissemination which will not result in persons with disabilities being disadvantaged, in any way, by the use of alternate formats of communication. Commonly used forms, brochures, announcements, etc. should be prepared in alternate formats in advance.
2. The intent of providing alternate formats is to ensure that communication with individuals with disabilities is as effective as that provided to individuals without disabilities. Career Link Centers should use an individualized approach to respond to requests for alternate formats which may include the need for additional information or clarification. Career Link Centers, in

cooperation with individuals requiring alternate formats, will identify the most appropriate format. Primary consideration will be given to the individual's preferred format.

3. All persons contacting the Career Link Center should be informed, verbally or through posted notification, of their right to receive information in a manner which is accessible to them, and the availability of alternative formats.

4. Official informational material posted in Career Link Centers will be made available to persons with visual impairments through oral presentation. Typically this means staff at the office site will be designated as "reader attendants" to assist persons with visual impairments upon request.

5. The Career Link Center should establish a procedure for resolving disputes that may arise between an individual and the Center over the provision of an alternate format. The procedure will include:

A. Ensuring that the individual is informed that s/he is protected from harassment or retaliation for asserting his/her right to an alternate format.

B. Enlisting the assistance of an agency ADA Coordinator to facilitate resolution of the dispute.

C. Specific timelines for resolution.

D. Informing the individual of the agency ADA grievance process.

Disputes will be resolved quickly and will not interfere with the prompt delivery of services.

6. Alternative Format Information:

It is recommended Career Link Centers establish a centralized resource for the preparation and dissemination of alternate format materials. This resource should have access to Braille transcription equipment, copiers capable of magnification and enlargement, audio dubbing capability, and hardware and software capable of converting scanned text to audio for recording. As an alternative, these services can also be contracted out.

Large Print (defined by point-size, font, thickness, contrast, etc.). Large print requests will be handled by agencies through the use of personal computers. If for some reason it is not possible for agencies to produce a large print document, the agency will utilize the centralized resource described above.

Computer Disks. Some persons with disabilities requiring alternate formats may have computers which can read information directly from a computer disk and will ask for information in this format. Agencies should provide the material on a disk in either DOS or Mac format as requested.

Braille. Career Link Centers should have access to a centralized resource for obtaining Braille transcriptions.

Audio Tape. Career Link Centers should have access to a centralized resource for obtaining this alternate format.

Oral Presentation. In some instances it may be more cost effective and time efficient for the material being provided to be read over the telephone or face-to-face.

## EFFECTIVE COMMUNICATION FOR CUSTOMERS WHO ARE DEAF AND HARD OF HEARING:

prepared by:  
PA Office of the Deaf and Hard of Hearing (PA ODHH)

(1) A Management Directive was sent to all the state agencies regarding what constitutes a qualified interpreter for persons that utilize a sign language interpreter. Call ODHH for any clarifications.

(2) Assistive Listening Devices should be available at each site. Things to consider when purchasing an ALD are: Making sure it has a transmitter and several receivers, neck loops, headphones and microphones. This will allow for flexibility for when a person may/may not have hearing aids. ODHH can be contacted for further information. Price is about \$1,100 for a Comtek Unit.

(3) Make sure any aural/oral information is in printed format.

(4) The phone system must be accessible by TTY. This would require making sure that if the system being set up to answer voice calls utilizes voice mail that a separate line be made available for TTY's as voice mail cannot be accessed by TTY's nor through the PA Relay Service. Every Job Center has a TTY, but if needed, it costs \$480 on State contract.

(5) Any videotapes shown at the Career Link site should be open captioned and/or closed captioned if television sets are equipped with captioning.

## THE FACILITATION OF EFFECTIVE COMMUNICATION THROUGH QUALIFIED STAFF SUPPORT AND PERSONAL ASSISTANCE:

Advanced technology alone is not enough. Staff members (or volunteers) from the Career Link Center must be readily available to provide personal assistance and answer questions. These individuals should be sensitive to cultural diversity and disability issues. Likewise, they should be adequately trained and familiar with all the specialized hardware and software within the Career Link Center. To ensure the timely delivery of information and effective support it will be essential to have multiple individuals trained and available to provide this level of personal assistance. It is anticipated that these staff members would engage in variety of activities:

Whenever possible communication should foster independence and autonomy in the person with a disability. However, in some instances it may be necessary for staff members to function as a "reader attendant" for individuals who cannot read or "see" the information they are seeking.

One aim of the Career Link Center is to enable customers to serve themselves at their own pace. However, some customers will require more instruction than others with regard to effectively using the tools available at the Career Link Center. In these instances, staff members will need to function as computer trainers or proctors.

With several customers using the same hardware and software, computer settings and configurations are apt to need adjustment. Staff members will need to have basic PC troubleshooting and technical support skills to provide timely assistance to users confronted with computer problems.