The Workplace Accommodation Wizard

Karen Milchus
Work RERC, Georgia Tech.

CSUN 2012

Georgia Tech | College of Architecture

Rehabilitation Engineering Research Center on Workplace Accommodations (Work RERC)

Identifies, develops and promotes new technologies that maximize independence and participation of people with disabilities, including aging workers, in the workplace

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Reasonable Accommodation

Any change in the work environment or in the way things are customarily done that enables an individual with a disability to enjoy equal employment opportunities (Source: EEOC)

Work RERC survey respondents:

- 75% could not perform all of their job duties without workplace accommodations

- 15% had been fired or laid off in the past because they had not been able to get the accommodations they needed

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Accommodation Problem

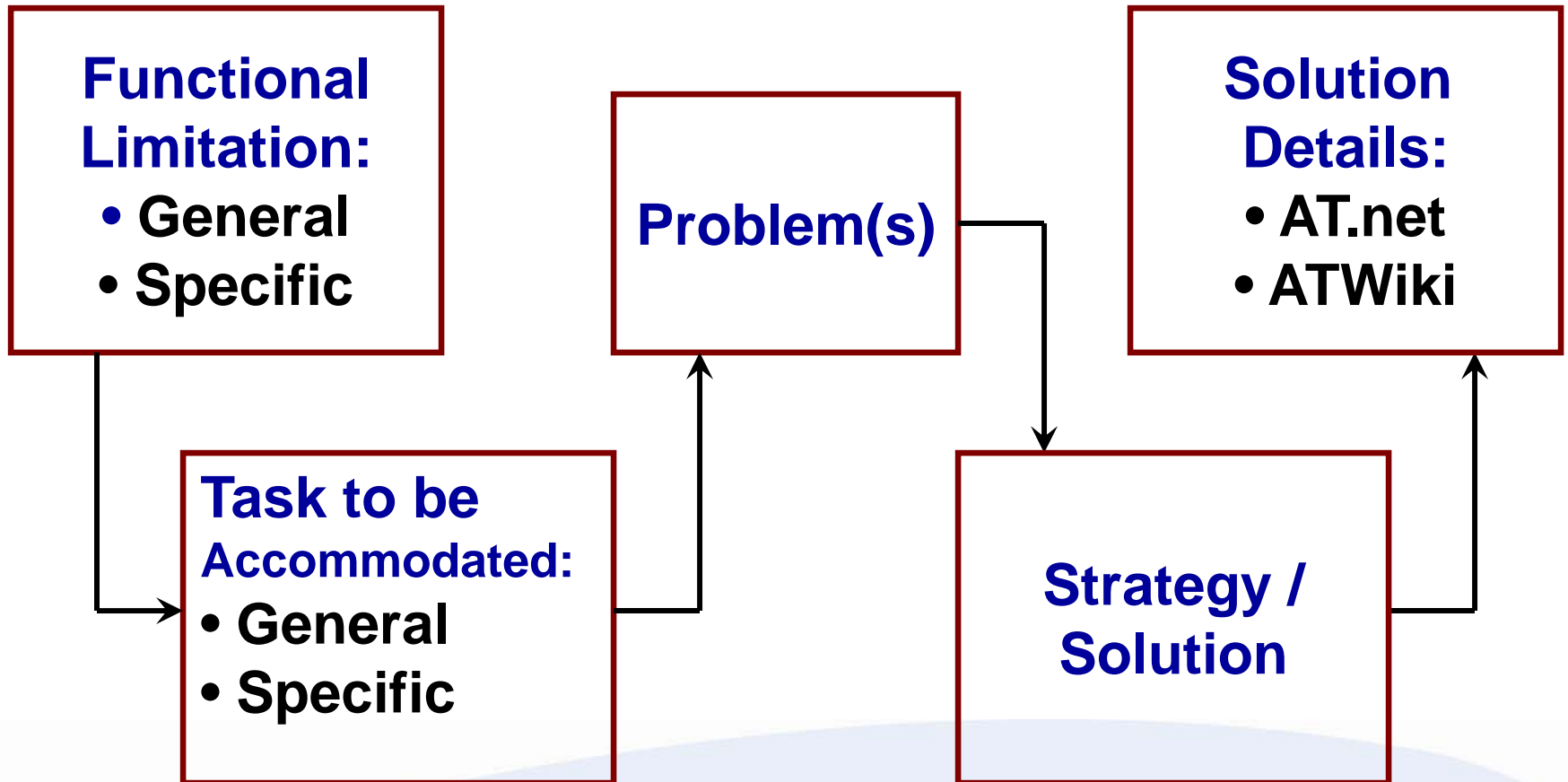*Employers and employees are making accommodation decisions, with limited knowledge about accommodations*

Provision of Accommodations

	Involved in Accommodation Decisions
Employee	83%
Employer	61%
Vocational Rehab.	27%
Medical Professional (MD, OT, PT, SLP)	20%
Family, Friends	11%
Insurance (private, workers comp)	1.5%

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Workplace Accommodation Wizard

- Develop web-based tool that will enable employers to assess employees' needs and identify solutions for workplace accommodations

- Suggest accommodations, linking users to entries in Assistivetech.net

  – Office occupations (FIP - #H133G070063)

  – Manufacturing / distribution jobs (RERC)

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System Flow

Functional Limitation:
- **General**
- **Specific**

Problem(s)

Solution Details:
- **AT.net**
- **ATWiki**

Task to be Accommodated:
- **General**
- **Specific**

Strategy / Solution

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Functional Limitations (General)

Functional Limitation → **Task** → **Problem** → **Strategy / Solution** → **Details**

Please indicate the functional difficulties or problems of the employee:

- Mobility: Difficulty with walking, climbing stairs, bending, sitting, or standing

- Dexterity: Problems reaching, grasping, pinching, or controlling hand/finger motion

- Vision: Problems with seeing even WITH glasses or contacts

- Hearing: Problems hearing when NOT using a personal assisted listening device

- Speech: Problems producing speech or thinking of the right words to say

- Cognition: Problems with remembering things, processing information, expressing thoughts or appropriate behaviors, or perceiving information

Functional Limitations (Specific)

Functional Limitation → Task → Problem → Strategy / Solution → Details

Please provide more details about these problems. The employee... (check all that apply)

Example: Vision

- Can see clearly, but is sensitive to light

- Can see clearly, but has difficulty distinguishing colors

- Is able to see somewhat, but has difficulty seeing details such as newspaper print due to problems with visual acuity, blurred vision, or limited field of vision

- Is blind or has very limited usable vision, even with the use of magnification

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Work Tasks (General - Office)

Functional Limitation → **Task** → **Problem** → **Strategy / Solution** → **Details**

FACILITY ACCESS
- Using Doors (exterior & interior)
- Moving Between Building Levels
- Moving Around the Workplace
- Using the Restroom

WORKSPACE
- Using the Workspace

COMMUNICATION
- Face-to-Face Communication

ORGANIZATION
- Remembering Work Tasks & Appointments

USING WORK TOOLS & MATERIALS
- Transporting Materials
- Accessing Print / Multimedia
- Using a Phone
- Using a Computer

Work Tasks (Specific)

Functional Limitation	→	Task	→	Problem	→	Strategy / Solution	→	Details

Which of these specific tasks are difficult to perform?

Example: Using a Computer

- Operating computer controls
- Using the keyboard
- Using the mouse
- Reading the monitor
- Using peripherals (e.g., printer, scanner)
- Using storage media
- Accessing computer alerts
- Operating software menus / controls

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Accommodation Problem

Functional Limitation	→	Task	→	Problem	→	Strategy / Solution	→	Details

Select the specific problem that requires an accommodation

- **Low Vision + Using Computer → Reading the monitor**
  – Monitor is too far away
  – Color / contrast makes information difficult to see or causes eye strain
  – Glare … difficult to see or causes eye strain
  – Small size … difficult to see or causes eye strain
  – Only part of the monitor is visible
  – Tracking / visual processing issues make it difficult to read the monitor

Strategies / Solutions

| Functional Limitation | → | Task | → | Problem | → | Strategy / Solution | → | Details |

Color / contrast … difficult to see or causes eye strain

- Change color / contrast of text & icons
  - Change the color of the font within software applications.
  - Use another color scheme by adjusting the OS settings.
  - Avoid documents and web pages with busy backgrounds.
  - Use software / websites that allows personal color preference settings to be maintained.

- Present information via auditory format
  - Use screen reader software that will read the information out loud to the person.
  - Use a talking word processing program or text-to-speech program.

Suggested Solutions - Considerations

Functional Limitation	→	Task	→	Problem	→	Strategy / Solution	→	Details

- **Personal Factors**

  Notes when accommodations may only be appropriate for an individual with a particular skill

- **Environmental Factors**

  Notes when accommodations may not be appropriate for all environments

- **Expertise Needed**

  Notes situations where an expert should be involved

- **Training Needed**

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Solution Details

Functional Limitation → Task → Problem → Strategy / Solution → Details

- ## Product Information
  Links to assistivetech.net

- ## More Detailed Descriptions, Instructions
  Links to ATWiki, other sites

assistivetech.net

Over 22,000 up-to-date products!

Not sure what you need?

Browse by Function
Find products by related functional area or disability.

Browse by Activity
Find products by related activity or task.

Browse by Vendor
Find products by company name.

More places to find Screen reader

Braille Output

Communication Devices (electronic)

General Computer

Monitor Use / Magnification

Reading

Software Applications

Typing

Vision Assists

Voice Output

Writing

Find us on **Facebook**

follow us on **twitter**

CATEA's Assistive Technology Blog

JAWS for Windows Standard

MSRP

$895.00

larger version

[Add to Compare]

Short Description

Get started today working with all your Microsoft applications using JAWS®, the world's most popular screen reader.

Function

Developed for computer users whose vision loss prevents them from seeing screen content, JAWS reads aloud what's on the PC screen.

Features

Windows Vista Home Premium, Windows Vista Home Basic, or Windows XP Home and standard Windows® applications without special configurations. Includes features for Internet Explorer : links lists, frames lists, forms mode, reading HTML tables and graphic labels. Two multi-lingual speech synthesizers included.

Options

Software Maintenance Agreement can be purchased. Special pricing for site licenses, district licenses, and enterprise licenses. Standard and Professional versions.

Considerations

64-bit and 32-bit versions for Windows Vista® are available.

Requirements

Windows Operating System.

Vendors

Interested in disability history? Check out what happened Today in AT History!

Screen reader

A **screen reader** is a software application that attempts to identify and interpret what is being displayed on the screen (or, more accurately, sent to standard output, whether a video monitor is present or not). This interpretation is then re-presented to the user with text-to-speech, sound icons, or a Braille output device. Screen readers are a form of assistive technology (AT) potentially useful to people who are blind, visually impaired, illiterate or learning disabled, often in combination with other AT, such as screen magnifiers.

A person's choice of screen reader is dictated by many factors, including platform, cost (even to upgrade a screen reader can cost hundreds of U.S. dollars), and the role of organizations like charities, schools, and employers. Screen reader choice is contentious: differing priorities and strong preferences are common.

Apple Inc. Mac OS X includes VoiceOver, a feature-rich screen reader. The console-based Oralux Linux distribution ships with three screen-reading environments: Emacspeak, Yasr and Speakup. The open source GNOME desktop environment long included Gnopernicus and now includes Orca.

There are also open source screen readers, such as the Linux Screen Reader for GNOME and NonVisual Desktop Access for Windows.

The most widely used screen readers[1] are separate commercial products: JAWS from Freedom Scientific,

Another example….

Functional Limitations (Specific)

Functional Limitation → Task → Problem → Strategy / Solution → Details

Example: Reaching, Grasping…

For the DOMINANT SIDE, choose the question that best describes the employee's ability to handle objects

- Has no difficulty on DOMINANT side

- Has difficulty with repetitive motion, strength, endurance, or pain, but otherwise can reach and control things with hands and fingers

- Has difficulty reaching / lifting

- Has difficulty controlling things with hand and fingers

- Has very limited use of dominant arm and hand (if so, check only this dominant hand/arm option)

Similar questions asked for non-dominant side.

Work Tasks (Specific)

Functional Limitation → Task → Problem → Strategy / Solution → Details

Which of the following specific tasks are difficult to perform?

Example: Using a Phone

- Recognizing Phone Ring
- **Lifting & Holding Receiver / Using Headset**
- **Dialing a Phone / Transferring Calls**
- Listening Over the Phone
- Speaking Over the Phone
- Seeing Phone Display / Lights
- **Checking Voice Mail / Answering Machine**
- **Using the Phone while Writing / Using the Computer**

Accommodation Problem

Functional Limitation → Task → **Problem** → Strategy / Solution → Details

Select the specific problem that requires an accommodation

- **Grasp (bi-lateral) + Using Phone → Dialing**
  - Remembering phone operation / call transfer processes is difficult
  - Phone is too far away to reach from work position
  - **Phone keypad buttons are difficult to operate**
  - Phone buttons are difficult to see
  - Remembering / looking up correct phone numbers is difficult

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Strategies / Solutions

Functional Limitation → **Task** → **Problem** → **Strategy / Solution** → **Details**

Keypad buttons are difficult to operate

- Use one-touch dialing:
  - Make use of programmed telephone numbers.
- Reduce the precision needed to operate buttons:
  - Use a phone with larger keys and greater spacing between keys
  - Use a keyguard to provide a barrier between keys
- Change to a "hands-free" method for dialing
  - Use a phone with voice dialing
  - Use a switch-activated environmental control system to operate the phone

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Next Steps: Testing of the Tool

- Criterion validity testing
  - determine if problems and proposed solutions identified by the Accommodation Wizard match those from a typical on-site assessment
- Usability and accessibility testing
  - participants conduct a mock assessment from case study scenarios, note problems, and report on aspects of the site that they like/dislike

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Next Steps: Expand Work Tasks for Production / Distribution

- FACILITY ACCESS …
- WORKSPACE …
- COMMUNICATION …
- ORGANIZATION …
- USING WORK TOOLS & MATERIALS
  - Accessing Print / Multimedia
  - Using a Phone
  - Using a Computer

  - Transporting Materials – EXPANDED!
  - Using Hand Tools
  - Using Production Equipment

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Thank you

Karen Milchus
karen.milchus@coa.gatech.edu