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**ITU Regional Workshop on ICT Accessibility for Persons  
with Disabilities for the Africa Region**

*Lusaka (Zambia), 15 and 16 July 2008*



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**A Web Without Barriers**

**Cynthia D. Waddell, Juris Doctor  
International Center for Disability Resources on the Internet**



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***Committed to connecting the world***

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# **ITU REGIONAL WORKSHOP ON ICT ACCESSIBILITY FOR PERSONS WITH DISABILITIES FOR AFRICA REGION**

## **A Web Without Barriers**

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# Overview- Web Without Barriers

- Technology Crossroad
- The Problem- Barriers & Solutions
- Resources

## Technology Crossroad

- Explosive Growth of Electronic Commerce
- Shift from Web Content Publishing to Interactive Web Applications
- Web Evolution to Multi-Modality Architecture
- Global Human Rights Alignment

# Accessibility or Universal Design

- Accessibility is the Accessible Design of Products, Services and the Environment where the user interface is flexible enough to accommodate the widest range of user needs, preferences and abilities.

## The Problem

- Disability Law & Public Policy  
Historically has Reflected the Medical Model
- Focus on Diagnosis & Disability Rather than Ability & Equal Opportunity
- Leads to Isolation & Segregation due to Ignorance, Neglect, Superstition or Fear

# The Problem

- Web Design Historically Has Not Included Accessible Design for People with Disabilities
- Web Developers have Lacked Training, Tools and Resources to Design Accessibly; Web Tools Would Break Accessibility
- Governments & Businesses Had No Incentive to Address Accessible or Universal Design

## The Problem

- People with Disabilities are being locked out from participation on the Web
- Why? The Design of the Web Site is Not Addressing Accessibility or Universal Design

# The Problem

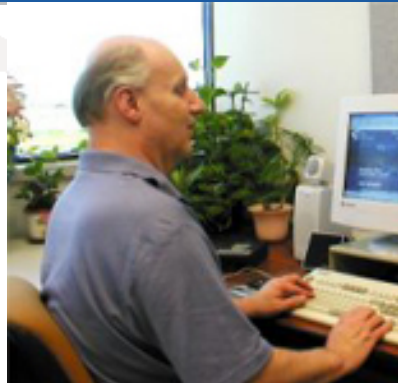
## An Inaccessible Web:

- People who are Blind or have Specific Learning Disabilities Cannot Use Screen-reading Software that Audibly Reads the Web Page Out Loud
- Can be a Barrier for People with Busy Eyes, Or Work in a Dark Room Or Have a Slow Modem

# Demonstration of Screen Reader

Six Minute Video Clip of Neal Ewers, a  
Blind Software Engineer, Using a Screen  
Reader

<http://www.doit.wisc.edu/accessibility/video/intro.asp>



# Inaccessible Content

## Examples:

- Images that Contain Content:  
Pictures, Charts, Graphs
- PDF Documents
- Online Forms Missing Labels

## The Solution

- Images-Pictures: Add "Alt" attributes or Alternative Text
- Images-Charts/Graphs: Add Link that Describes the Chart/Graph
- PDF Documents: Tag the PDF for Structure OR Also Post an Accessible Format
- Online Forms: Techniques for W3C Web Content Accessibility Guidelines 1.0

[www.w3.org/TR/WAI-WEBCONTENT-TECHS/](http://www.w3.org/TR/WAI-WEBCONTENT-TECHS/)

# The Problem

## An Inaccessible Web:

- People with Mobility Disabilities Need Keyboard Access when They Cannot Use a Mouse
- People who have Busy Hands, Or Limited Dexterity Or No Hands Available



## The Solution

### An Accessible Web:

- Provides Logical Linear Tab Order
- Provides Device Independence so that Mouse is Not Required for Operation
- Exposes Content for All Devices
- Implements Techniques for W3C WCAG 1.0

# The Problem

## An Inaccessible Web:

- People Using Speech Technology Input Cannot Access Web Content
- People with Low Vision Cannot Increase Web Text Size



## The Solution

### An Accessible Web:

- Implements Accessibility Standards W3C WCAG 1.0
- Uses Relative Rather than Absolute Units in Markup so that Text can be Resized by User without Breaking Layout

# The Problem

## An Inaccessible Web:

- People who are Deaf Cannot Access Audio-Streaming or Multi-Media that are not Captioned
- People who Cannot Hear in a Noisy Room or Place Cannot Understand without Captioning



## The Solution



### An Accessible Web:

- Provides Captioning for Audio in Multi-media
- Try MAGpie (Media Access Generator) to Create Captions and Audio Description for Rich Media-Free Software at [ncam.wgbh.org/webaccess/magpie/](http://ncam.wgbh.org/webaccess/magpie/)

# Resource

## Web Accessibility: Web Standards and Regulatory Compliance

By Jim Thatcher, Cynthia Waddell et al

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