This Word document contains the text only from David Berman’s keynote PowerPoint presentation from November 2013. There is a one-to-one correlation between slides and pages (for example page 20 contains the content from slide 20).

This document does not yet fully comply with all applicable PDF/UA and WCAG 2.0 Level A and Level AA guidelines for accessible digital documents. For alternative formats, please contact David Berman Communications at info@davidberman.com or 1-613-728-6777.

## Slide 1:

## The new standard for Web accessibility. Steps for including our entire audience

## Slide 2:

## Expert Speaker David Berman, R.G.D., FGDC

**Topics (available publicly or at your location)**

* Perfecting Your Web Strategy 2.0
* Management of Web Projects + Accessible Documents
* Effective Web Interface Design
* Design and Social Responsibility

**Links and books:**

http://www.davidberman.com/accessibility#resources

facebook: David Berman

linkedin.com/in/bermandavid

twitter.com/davidberman

## Slide 3:

## Our Agenda

* Why should we care?
* Difficulties and technologies
* Common standards
* Testing and quality assurance
* Strategies beyond AA

## Slide 4:

## Why should we care?

“Everyone deserves the opportunity to fulfill their potential.” David C. Onley, Lieutenant Governor of Ontario

**“**Over the next 10 to 15 years, technology has the capacity to virtually eliminate barriersfaced by people with disabilities...**”** Steve Ballmer, Microsoft

## Slide 5:

## 5 reasons to care about accessibility

## Slide 6:

## 2013: legal expectations are shifting

Organizations with lawsuits brought against them recently:

* America Online
* Bank of America
* BMI
* Connecticut Attorney General
* Government of Canada
* Netflix
* Penn State University
* Priceline
* Ramada
* Southwest Airlines
* Target
* United Airlines

## Slide 7:

## Leadership challenges for govt. e-learning for all

* the accessibility roadmaps for commercial design and testing tools don’t match our regulatory deadlines … especially when combined with govt. varied, lagging browser versions
* development tools that *do* claim accessibility are mainly set up for aging U.S. standards
* we need strategies for existing courses, courses in development, and future courses
* we need the knowledge to avoid trade-offs, keeping learning activities delightful for all
* departments vary greatly in their tools, procedures and templates

## Slide 8:

## Leadership: Canada Webindex.org

## Slide 9:

## November 29, 2010: blind justice

## Slide 10:

## July 1, 2011: Ontario leaps ahead Ontario’s precise Integrated Accessibility Standards Regulation 191/11 (IASR) kicks in, objectifying the 2005 *Accessibility for Ontarians With Disabilities Act (AODA)*:

* Information and Communications Standards
* Employment Standards
* Transportation Standards
* Design of Public Spaces Standards (regulation 413/12)

“making the province accessible for everyone by 2025”

## Slide 11:

## January 1, 2014 deadlines take hold across Ontario

## Slide 12:

## 1876: an American improves learning for the deaf

## patent 174,465

## 1938: hearing aid innovation

# **Slide 13:**

## 1947: Bell Labs + quantum physics

## Slide 14:

## 1953: $25,000 …“1 person, 1 radio”

Akio Morita triggers the revolution in commercial radio.

## Slide 15:

## We are all affected

What proportion of computer users are likely to benefit from accessible technology because of some level of difficulty or impairment?\*

1. 11%?
2. 39%?
3. 57%?
4. 100%?

## Slide 16:

## colourblind = life + death

## Slide 17:

## Colour + shape + how many

## Slide 18:

## Accessibility: the news is good

* Our world has never been so **accessible**
* Information technology (especially the **Web**) is where improvement is most prevalent
* The accessibility quest drives **innovation**
* By helping build a more accessible Web, you are part of arguably the largest liberation in human history

## Slide 19:

## DIFFICULTIES AND TECHNOLOGIES: AVOIDING TRADEOFFS

## Slide 20:

## Kinds of disabilities and challenges

Examples:

1. **Permanent**: face blindness since birth
2. **Episodic**: arm in a cast, driving, eye drops, tipsy, flu, PTSD, smoke-filled room, pregnant, distance
3. **Acquired**: ageing-related
4. **Societal**: left-handedness

Impairments

* Visual…
* Dexterity (mobility)…
* Hearing…
* Language and speech…
* Cognitive…
* Social…

## Slide 21:

## Visual difficulties

Conditions:

* Low or constrained vision
* Colourblindness
* Blindness

Assistive technologies:

* Screen **magnifier** utilities, features (and huge monitors)
* Screen **readers** (JAWS, NVDA, Thunder, Window-Eyes…)
* Navigable **audiobooks** (e.g. DAISY digital talking books)
* Macros and **synthesizers** (e.g. ALT, talking word processors)
* Refreshable **braille** displays, braille embossers
* Voice **recognition** software (e.g., Dragon)
* Colour **detectors** (e.g., Colorino, Cobolt)

## Slide 22:

## Dexterity/mobility difficulties

* Loss of limb
* Risk or loss of feeling or control
* Limited reach, strength, manipulation
* Arms full, hand in a cast, pain

## Assistive technologies:

* Keyboard **filtering** software
* Alternative **input** devices (keyboards, sip-and-puff, wands, sticks, joysticks, trackballs, specialized mice)
* Eye-gaze systems
* **On-screen** keyboard programs, accesskey attributes
* **Touch screen** hardware or software (e.g. Swype)
* **Speech recognition** software (including mouse grids)

## Slide 23:

## Hearing difficulties

From slight hearing loss to complete deafness

Assistive technologies:

* **Sound** alternatives (visualizations or vibrations)
* **Text** alternatives (transcripts and captions)

## Slide 24:

## Language and speech difficulties

* Aphasia
* Delayed speech
* Lack of knowledge/skills (e.g. illiteracy)

## Assistive technologies:

* Word **prediction** software
* Spell checkers and translation engines
* Natural language engines
* Speech **synthesizers**, reviewers (talks what you type)
* **Handwriting** recognition software

## Slide 25:

## Cognitive and learning difficulties

* Dyslexia, dysgraphia, distraction, ADD, ADHD
* Developmental disabilities
* Being a search engine rather than a human!

Assistive technologies:

* Word **prediction** software
* **Simultaneous** hear/see (Kurzweil 3000, Texthelp)
* Non-Web alternatives (e.g., include **phone number**)
* Navigable audiobooks (e.g. Darwin DAISY reader graphical mode or Bookshare’s Read2GO for iOS)
* Special typeface

## Slide 26:

## Cognitive and learning difficulties: dyslexia

How to play:

## Full engagement is the result of years of scientific fact-finding mixed with the study of distance learners

## Slide 27:

## Social Difficulties

* Doubt
* Ignorance
* Stigma

By **removing barriers** to understanding, and **equalizing** access:

1. we’ll **share** our best knowledge more broadly
2. we show how the World is better when **no one gets left behind**

## Slide 28:

## Assistive technologies

An **assistive technology** is a tool that assists with a disability or impairment:

* specialized (e.g. wheelchair)
* mainstream (e.g. Adobe Reader, Skype)

An electronic assistive technology helps access documents:

* hardware alternatives
* software assists

In a world that assumes all faculties are available, **swapping and extending** senses is the creative response…

## Slide 29:

## Instead of reading… listen

* Screen readers (e.g., JAWS, NVDA, Window-Eyes)
* Screen reader plug-ins (e.g. Browsealoud, Chromevox)
* Reading-aware applications (e.g. Adobe Reader)
* TTS programs (e.g. Kurzweil, Texthelp Read&Write)
* Keyboard echoers (Microsoft Narrator)

## Slide 30:

## Instead of reading small… magnify

* Magnifier software (e.g. ZoomText)
* Large print software
* Large print keyboard
* Text size commands

## Slide 31:

## Instead of reading… feel

Dynamic braille displays raise or lower dot patterns on command … typically 12 to 80 cells.

Braille embossers print braille.

## Slide 32:

## Instead of typing… talk

* Voice recognition commands the device through voice (for example, Dragon Naturally Speaking, Siri, Google Now)
* …or augment challenged typing by hearing what you have just typed

## Slide 33:

## Instead of typing… click, sip, puff, tap

* Alternative keyboards, input devices
* Software can assist typed input through anticipation and filtering
* Scalable objects help too

## Slide 34:

## Instead of mousing… point nose and blink!

NRC’s Nouse scans head movements and eye blinks

## Slide 35:

## Instead of listening and speaking…see, gesture, type

Augment or replace audio with:

* video of signing
* Internet text streaming
* voice relay captioning
* text chat
* visual feedback of volume levels and indicators

## Slide 36:

## Instead of translating… adapt

Have technology help us express naturally …as well as in our preferred language

## Slide 37:

## The ideal accessible digital world

Usable by **everyone**

on any **user agent** (e.g. browser, PDF/eBook reader)

on any kind of device

with any kind of connection

in any kind of environment

## Slide 38:

## When to plan for accessible publishing

* process orientation
* strategy
* technical discovery
* content outline
* information architecture design
* estimating (project planning)
* graphic design
* production (programming, testing, maintenance)
* evaluation