Cloud Computing
Leveling The Access Field

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Overview

Accessibility Challenge Speech Opportunity Google Conclusion

Accessibility
Challenge
Speech
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Conclusion
What Does Accessible Mean?
Access Goals

Retain present level of access to functionality

Increase reach by enabling wider access

Wider access:

- Bring within reach of more users
- Enable access in more user contexts
- Improve user effectiveness by enabling rapid task completion

Important to go beyond the status-quo
Together determine overall user experience

Content — Capture adequate semantics

UA — Degrade gracefully

AT — Bridge the gap
The Access Challenge
Hosted Web applications enable:

- Easy deployment
- Light-weight user interaction
- Ubiquitous access to data
- Easy upgrades

Desktop access technologies do not fit this model.
Major shift in application deployment model

- Web Apps — The document is the interface
- Light-weight UI hosted in Web pages
- Current adaptive technologies assume desktop application model

App model shift requires shift in AT.
When Web Apps And Desktop Screen-readers Collide

- Adaptive technology installed on client workstation
  - All of the disadvantages,
  - And none of the advantages!
The Access Challenge

- Web promises anytime, anywhere access
- Equal access for users with special needs:
  - Email access at airport?
  - Edit/share information from a borrowed laptop?
Building Spoken Feedback
- Identify *what* to speak
- Determine *how* to speak it
- Decide *when* to speak
■ Rich markup for Web content
■ Separate content from presentation
■ Structure content to reflect its intent
■ Add content annotations to provide smart navigation
■ Identify role of content particles
■ Expose current state via DOM properties

Accessible Content = Clean Markup annotated with ARIA.
- Enable rich spoken feedback
- Provide Web developers direct access to speech layer
- Enable rich auditory presentations of content

Treat spoken output as a first-class citizen.
Speech is silver, but silence is golden!

- Event handlers implement web interaction
- Eventing determines *when* things change
- Attach handlers that produce relevant output
The Access Opportunity
- Data resides on the network
- Interaction resides on the client
- Network operations to synchronize data
- Browser widgets to create UI

**Shift away from monolithic applications**
Adaptive technologies embrace, extend Web model

- AT dynamics no different from mainstream
- Web applications fulfill new needs
- Web AT access enables Web-based tools

Evolve today’s AT to meet tomorrow’s needs
Separation of interaction from data:

- Go beyond *one size fits all* access
- Specialize user interaction to user’s needs
- Multiple UIs can collaborate

*One size no longer need fit everyone*
New opportunities for AT:

■ A new market for consumer applications
■ Custom services tailored to end-user needs
■ Task-driven access tools

This generation of AT will be user-driven.
Google Platform Access
- Chrome OS — Built-in access
- Android — Platform access present on all devices
- ChromeVox — Web Accessibility for desktop and mobile
Chrome OS

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- C-A-z activates accessibility on the login screen
- Built-in ChromeVox provides complete Web Access
- Downloadable ChromeVis provides low-vision support
- Access technologies update with the rest of the platform!
- Built-in TalkBack screenreader provides complete access
- Touch exploration on ICS enables complete access
- Open platform encourages innovation from third-party developers
- Open platform empowers user choice
ChromeVox enables Android Web access
Activated when accessibility is enabled
Supports modern Web standards including ARIA
Conclusion
■ Web applications force separation of user-interface from core application

■ Makes development of multiple user interfaces affordable

■ Opens up new opportunities for meeting user needs
Watch Computing Take Off!

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Leveraging The Cloud For Universal Access