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WEB ACCESSIBILITY STANDARDS… …FOR *TELEVISION?!*

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Just a list of what's coming up

- Context: convergence
- The web way
- W3C Recommendations and guidelines
    - Navigation and application accessibility
    - Media accessibility
    - New, ongoing and future areas of work
- Implications
- For implementers
- For content providers
- For consumers
- For regulators

Context: convergence

Web standards are getting everywhere

- Web standards are becoming part of television standards
  - DVB
  - HbbTV and derivatives such as Freeview Play in the UK
  - ATSC 3
- Are television standards becoming part of the web?
  - Not so much
- User interfaces on televisions are now web applications
- Televisions often implement only a subset of web standards, as well as all the broadcast standards they also have to support.
- Consumers expect to transition between devices and have the same content available.
- The ecosystem is much more than the television and the content though:
  - Everyone involved needs their tools to be accessible and to be able to create accessible content
  - They need to know what constitutes accessible content.

The web way

Highly layered architecture where each layer has its own specification(s)

Can we characterize the “web approach” to accessibility?

- Provide semantic data and separate presentation rules
  - e.g. HTML / XML and CSS / XSL-FO
- Enable multiple modes of presentation
  - Often primarily visual with support for screen readers
  - Allow users to customize presentation for their own needs
- Specify presentation accessibility requirements
  - e.g. MAUR, WCAG
- Specify delivery formats, APIs and “user agent” behaviour
- Patent free to implement and use, open standards

A quick dash through the state of web standards and guidelines

W3C Recommendations and guidelines

Navigation and application accessibility

Macro guides to make every layer accessible

- Web Content Accessibility Guidelines: WCAG 2.1
  - How to make content accessible
  - Perceivable, Understandable, Operable and Robust
  - Also guideline documents for how to meet the WCAG requirements
- Accessible Rich Internet Applications: WAI-ARIA
  - How to make dynamic content and applications accessible
  - Mappings and semantic markup
- User Agent Accessibility Guidelines: UAAG 2.0
  - How to make user agents themselves accessible, i.e. the software and devices used to present web content
- Authoring Tools Accessibility Guidelines: ATAG 2.0
  - How to make the tools used for authoring content accessible;
  - How to help authors make more accessible web content

Media accessibility

Mixed levels of support for media accessibility

- Media Accessibility User Requirements: MAUR
  - “presents the accessibility requirements users with disabilities have with respect to audio and video on the web”
- HTML <video> element
  - Can include text tracks (<track> element) with labelling of “kind”, “label” and language
  - “kind” can be subtitles, captions, or descriptions as well as metadata and chapters
  - Controls and UI can be customized by the content provider
- Text track formats
  - WebVTT – the HTML specification points to WebVTT; in reality today few if any implementations support all the features needed.
  - TTML and its profiles such as IMSC – even less support in browsers, but more and growing support in other specifications such as DVB, HbbTV, ATSC, IMF and in polyfill implementations.
- Audio description
  - Additional or alternate audio tracks, or separate versions of videos altogether
  - No implementations support presentation of audio descriptions in non-audio forms

New, ongoing and future areas of work

Recognition that there's more to do!

- Improvements to requirements for text track synchronization and other features, from the Media and Entertainment Interest Group.
- Audio Description standard support, being incubated in the Audio Description Community Group prior to transfer to the Recommendation track in the Timed Text Working Group
- Live subtitle contribution in the Timed Text Working Group based on prior EBU work and in IETF (TTML over RTP)
- 360º AR/VR presentation of subtitles in various groups
- Subtitle presentation mechanisms
  - One thing many people agree on is that the situation is Not Good.
  - API support, customization, privacy, implementations all need work.
  - Different constituencies have different goals and interests; nobody is winning.

What action should be taken?

Implications

For implementers

It's hard to implement, but it's important

An increasingly deep stack of standards and technology is difficult to implement and maintain. This leads to convergence on a small number of implementations such as blink (Chrome) that are shipped with devices.

Some suggestions:

- Follow the User Agent Accessibility Guidelines
- Support screen readers natively
- Support content providers in making their accessible content work
- Be present at, and contribute to, standards work at all levels of the stack – there is little point in pushing back against one aspect of a W3C standard in a DVB or an HbbTV standards meeting: it is too late!

For content providers

If the content isn't accessible, you'll lose audience share

- Make sure your applications and web pages are perceivable, operable, understandable and robust!
- Provide accessible subtitles and captions
  - Think about the whole experience for the user, not just the subtitles in isolation – position, background contrast etc are *really* important
  - Author for all devices
- Provide audio description and signed versions
- Be present at, and contribute to, standards work on the web – the features you need to make accessible content must be in web standards or you will not be able to use them
- Use common profiles such as MPEG CMAF to make it easier and cheaper to create content that works across a broad range of devices

For consumers

Be vocal about your needs and use what is available

- Be aware of the accessibility features in the devices and user agents that are available to you and vote with your money
- Ask content providers to make sure their applications and media are accessible – provide specific feedback that is can lead to action, be it missing content or missing features
- Explore the interfaces; screen reader users may have more navigation options than they realise

For regulators, ITU, EU…

Support leads to economic and moral benefits

- Recognize the social model of disability: there are many more *users* of accessible technology and media than there are people with vision, hearing and motor impairments.
  - This changes the *economic* case for accessibility, not the *moral* case
- Support research
  - There are many things we don't understand, like how to make media more cognitively accessible.
- Support implementers
  - Sponsor open source projects that add accessibility features
- Support content providers
  - Encourage use of standards that lower costs
  - Information about the economic benefits of accessibility, e.g. reaching bigger audiences
  - And if that doesn't work, maybe apply some pressure to encourage those lagging behind to catch up with the leaders…
- Support consumers
  - Product testing and certification

QUESTIONS?

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