Web Standards and Rich Media Experiences on CE devices

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Content owners require consistent implementation of web-standards across a range of devices in order to ensure the consistent experiences. Web standards, such as HTML5, CSS3 and Widgets, form a basis for delivering rich social experiences to allow consumers to experience their media wherever they are.

The Connected Media Experience (http://connectedmediaexperience.org) is a member standards organization established to promote technical standards for creating rich, connected media experiences for music, video and more. Experiences are designed with a minimum of different profiles to allow a given release to be effectively targeted to desktop, mobile, and television platforms. Key to being able to do this is consistent implementation of web technologies across these disparate platforms. Inconsistent and incomplete implementations of core technologies force content owners to target least-common-denominator technologies.

Positions

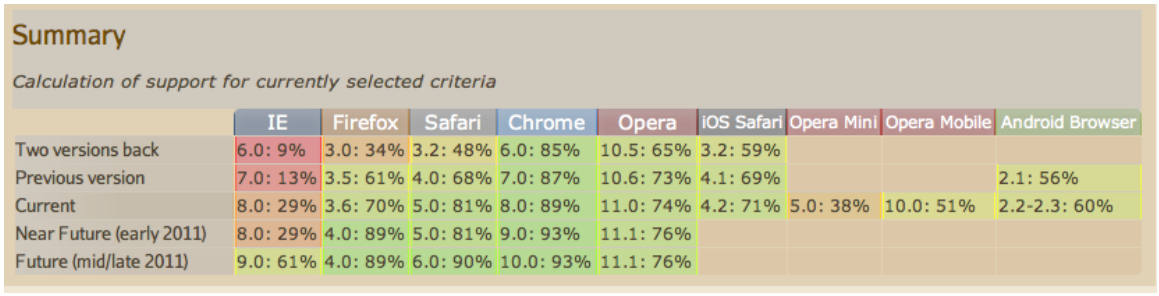
Content Owners expect that release formats will remain stable for a given level of implementation. The expectation is that of the DVD, which will reproduce a consistent experience in any conforming player. Having consistency in reproducing a web experience has long been problematic. For this to progress, key technologies must be completed along with conformance tests to encourage broad adoption. A release based on a given level of these technologies must continue to deliver a predicable and satisfying experience even as these technologies improve and mature.

The fact is, the ever-changing pace of standards has long been a fact of life for web developers, and websites must change frequently to support new devices and to continue to work properly with existing devices.

Slow Pace of Standards

CME makes use of over 50 cited standards in describing release format and packaging. Of these, most are still at the Working Draft level; some have been there for many years (e.g., CSS3 Values and Units 19 September 2006)! Others have advanced to Candidate Recommendation (e.g., CSS3 Basic User Interface Module 11 May 2004), but no further. Most of these specs are, in fact, implemented to one degree or another in modern browsers, but the fact that they are works in progress makes them inherently risky to depend on.

An examination of http://caniuse.com/ shows the relative state of browser technologies and how they are implemented across different browser implementations.



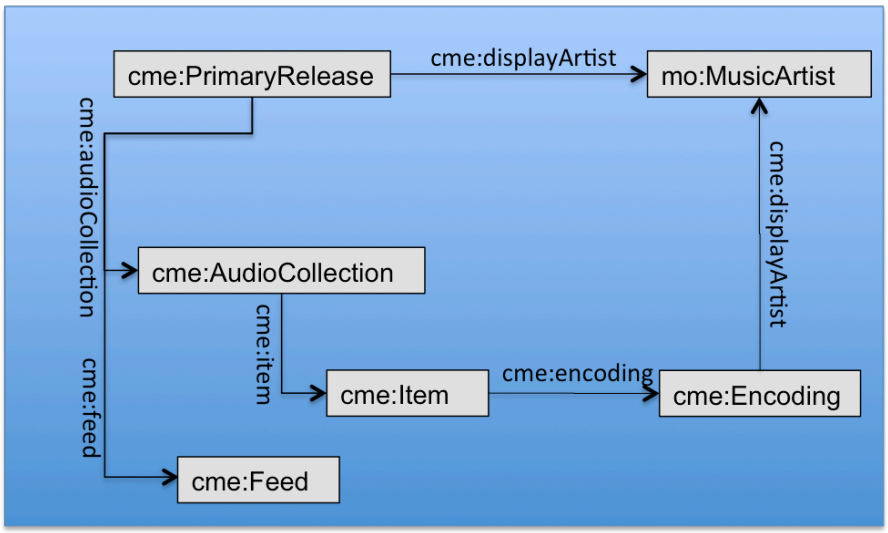
Summary

Calculation of support for currently selected criteria

	IE	Firefox	Safari	Chrome	Opera	iOS Safari	Opera Mini	Opera Mobile	Android Browser
Two versions back	6.0: 9%	3.0: 34%	3.2: 48%	6.0: 85%	10.5: 65%	3.2: 59%			
Previous version	7.0: 13%	3.5: 61%	4.0: 68%	7.0: 87%	10.6: 73%	4.1: 69%			2.1: 56%
Current	8.0: 29%	3.6: 70%	5.0: 81%	8.0: 89%	11.0: 74%	4.2: 71%	5.0: 38%	10.0: 51%	2.2-2.3: 60%
Near Future (early 2011)	8.0: 29%	4.0: 89%	5.0: 81%	9.0: 93%	11.1: 76%				
Future (mid/late 2011)	9.0: 61%	4.0: 89%	6.0: 90%	10.0: 93%	11.1: 76%				

Semantic Media Content

CME uses an RDF Ontology to describe the content of releases. CME Manifests are marked-up using XHTML+RDFa 1.1 (Last Call Working Draft as of this writing). Releases are described using concepts derived from Music Ontology, FOAF, FRBR and, of course, Dublin Core. Wherever possible, established unique identifiers are used to uniquely identify resources (e.g., ISRC, GRid, ISAN, ISNI). The practicalities of publishing, and the relative state of adoption of these technologies by content owners complicates the use of curated URIs to identify all resources, although this is encouraged through the use of owl:sameAs relationships. Publishing necessities indicate the use of release-relative URIs for naming manifested media objects, such as particular audio and video assets, however this leads to duplication across different releases.



Release Packaging and Presentation

CME Releases are identified by a release URI, which directly corresponds to an XHTML+RDFa Manifest. Release assets may either be delivered as part of an original purchase, where they are integrated into a Media Library, or downloaded or streamed through the service provider supporting the Manifest URL.

Content Owners can only provide connected service for releases for a limited time period, so self-contained releases are important. Technologies such a W3C Widgets provide a useful vehicle for packaging necessary release content and allowing access to external URLs that would otherwise break browser sandbox rules. Unfortunately, the landscape for Widgets is uncertain, as different companies have created their own technologies, and the term “Widget” is not guaranteed to have the same meaning universally.

User Interface Navigation Paradigms

Televisions often come with much more restricted user interfaces than are available on mobile and desktop platforms. In the future, Microsoft Kinect-style interfaces may allow rich user interaction with a web presentation, but for the foreseeable future, content owners will need to consider the needs of a 12-foot 5-button remote on web layout. What are the standards to detect the input characteristics associated with a given platform?

Integration with Media Libraries

The nature of media releases is that they often describe content already existing in a users media library (e.g., iTunes). Furthermore, content owners are often restricted in their ability to repeatedly download purchased content, making the use of a media library as a means of synchronizing purchased content across client devices.

To date, there are no identified technologies to allow a web experience to utilize media in a standard media library. The W3C API for Media Resource is more concerned about consistent access to different video codecs, and not so much the ability to treat media library content as a kind of web-cache for media resources.