Standardization of Timed Text (TT) Formats

Adding Captions to Online Video - A Case Study

Timed Text (TT) is a presentation of a synchronized text display of the audiovisual feature. The application of timed text to online video is for the benefit of viewers that have a hearing disability, besides it is also useful for people watching a foreign language film and needing sub-titles to be in their native language. The other use of timed text is for adding scrolling text to news features or Teleprompter applications.

The need for a standardized Synchronized Multimedia Integration Language (SMIL) arose, because there are customized applications that are used for adding timed text to video features and these were functional only when that particular playback device was used by the viewer, therefore multiple applications were required at enormous cost for embedding captions for the feature to function in Microsoft's Window Media Player, Apple's Quick Time Player and Real Networks RealPlayer, Mplayer each of these players had their own proprietary text formats such as SAMI, QText and RealText and MPsub.

The multimedia authors had very little options and had to write the synchronized text file in multiple formats for them to support more than one player, and the authoring tool used for adding captions to audiovisuals was MAGpie custom made for the purpose by the National Center for Accessible Media (NCAM).

The W3C has developed a specification of a Timed Text (TT) format which is standard and interoperable with all playback devices on the World Wide Web, this will benefit caption content producers, web browser companies and representatives of different accessibility communities etc.

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The W3C's initiative at standardizing the TT formats

The W3C in an effort to use a universally common text format has specified a language that includes HTML and XHTML along with XHTML + Time. The other alternative considered by the W3C is using Time Text in a software format that can be widely used by all audiovisual applications. The Time Text in the HTML format will make it easier for all audiovisual applications to adapt, and the standard tool for adding text with time will simplify the process of vendors that render the service of adding captions or sub-titles to online audiovisuals in the MPEG, MP3 and MP4 formats.

The utility of adding TT to audiovisuals on the web

The primary advantage of adding timed text is for enabling the hearing impaired to access audiovisual content on the web, besides allowing viewers an opportunity to view foreign films with sub-titles in their native language. The commercial advantage businesses will have by adding captions to the presentations is that they will be able to target foreign customers more intensely, with the audio in the presentations included with synchronized text in a choice of languages preferred by overseas clients. The other end use of timed text applications is for karaoke, the scrolling news and credit rolls, tickertape, marquee, crawls, text overlays and Teleprompters.

The simple to author XML format for Timed Text

The XML format for timed text makes it possible for embedding captions or mixed language text to streaming media, this also includes real-time captions to streaming media. The format also supports adding parallel languages in different documents or adding parallel languages into the same document. It also allows options for adding hyperlink through an HTML "a" tag, a markup distinguishes one speaker from another one. The SMIL animate element used will enable animation, for complex font displays SVG, MathML, XHTML and other languages can be used.

The TT format will enable captions or sub-titles to be added in styled text or display bi-directional characters. The text in different languages can also be appropriately styled or highlighted.

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The display options will enable text to pop-on, roll-up, paint-on or crawl and unique symbols such as musical notes can be supported. The TT format will allow display of multiple captions simultaneously, assuming if more than one person speaks in a scenario.

The timing feature will allow text to appear or disappear as required, the text and the timing information will be available together. The markup of text and timing will be defined in two separate modules.

The beneficiaries of the Standardization of TT formats

The main beneficiaries of the standardization of TT formats will be web browser companies, vendors of streaming multimedia technology, the accessibility community, producers of television and motion picture, DVD companies, mobile companies, caption content producers and consumer electronic companies.

Conclusion:

The standardization of the TT format will simplify embedding captions or subtitles to audiovisual features on the net, and save time for service providers, besides allowing access of audiovisual content on the web to people with hearing disabilities and multilingual communities.

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