Expression of Interest in Participating in the Workshop : Rich User Experience through Web-based Signage

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Participant's Interest

Our group has focused on researching a user interface of a digital signage to improve advertising effects of the digital signage. Since most digital signage systems today are designed to only show their static advertising contents to viewers, it is less effective in delivering detailed information. We believe that future the digital signage should provide the users with rich user experience.

Web-based digital signage technology takes center stage as a key methodology to distribute signage contents and maintain the signage systems. Web-based solutions for digital signage only require standard operating systems and web browsers to be operated so that a high-cost problem for maintaining the digital signage manually can be solved. Some businesses are already providing browser-based digital signage solutions as a type of Software as a Service (SaaS) model[1,2].

From the aspects of web-based digital signage, we have featured out technical requirements for extensions to exiting markup language to support web-based signage, especially on providing rich user experiences.

Point of View

Our research point of view is to support content designers to make signage contents rich in user experience. There are two main features: one that the designer can design the signage contents differently in accordance with the environmental conditions and the other one that makes ease of providing detailed information of advertising products and collecting the viewers' feedbacks.

The digital signage system can be installed to a variety of places, including indoors and outdoors. The content designers might want to show the contents with the best quality according to the different surrounding circumstances. By providing a tag that specifies display attributes such as contents, brightness, colors, fonts, and sizes for different circumstances, we allow the content designers to control displaying contents adaptively to the circumstances of a digital signage for enhancing signage effects. For instance, as shown in Figure 1, the signage contents can be diverse by controlling the brightness or color of the display with the existence of the viewers or the lightness which comes from the surroundings. Content designers might want to display the contents very bright with high color temperature during the day time while to display with low color temperature at night for the best display quality to the viewers and use the electrical energy efficiently. Adaptive web content transformation between devices such as desktop and mobile has been discussed before[3], but the transformation according to the different surroundings is not yet discussed actively. Hence, we think that it is worth to discuss this issue in the web-based digital signage workshop.

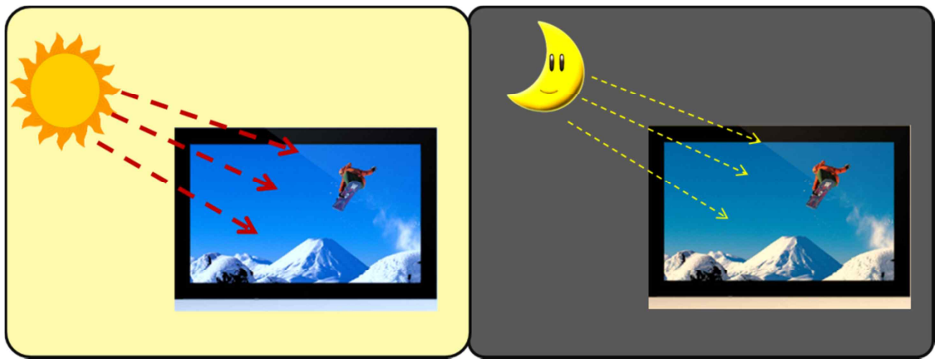

Figure 1. Allow a content designer to control the lightness of display

To improve the effects of digital signage, it is required for the viewers to interact with the signage for more specific information about each object shown in the signage display. Providing a standard tag that describes properties of an object can make signage contents contain more meaningful information. As we consider the product advertisement, a content designer can provide more diverse and specific information of each product to the viewers by using a standard tag that can describe the product details.

It is also required for designers to identify an area of each object so that the signage can provide further information of the object when it is touched. Even though the map tags are already defined for similar functions[4], it would be better to provide an easy method for an

identification of the area for each object in signage contents. For instance, as shown in Figure 2, a displayed content has detailed information of each product that shown in itself. When a viewer touches a product shown in the display, the signage recognizes the product and shows further information. Provided with the functions, the advertiser also can collect advertising popularity for each product considering the geological location and time.

Figure 2. Enhance viewer accessibility to information for each product shown in the displayed content.

Concluding Remark

This research is currently funded by the Korea Communications Commission under grant number 12912-03001 (Development of Context-Aware Tele-Screen System Technology). We are currently researching on enriching user experiences of digital signage and identifying technical requirements on standardization to realize such user experiences. To share our research results and realize them, we want to participate in the workshop and discuss possible standardization of markup language.

References

[1] http://www.ezdigisign.com/

[2] http://www.icatsignage.com

[3] http://www.w3.org/TR/ct-guidelines/

[4] http://www.w3.org/TR/2012/WD-html5-20120329/image-maps.html#attr-hyperlink-usemap