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Accessible Interface for Multimedia Presentation in Inclusive Education

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ABSTRACT

Among the technological solutions to achieve an inclusive education, the educative electronic accessible resources providing content adaptability is an alternative which reduces discrimination. It also favors the inclusion with right equalities which can be used by students regardless of their specific need and use contexts. Following this line of adaptability of contents on the web, a practical case [1] has been launched: an accessible interface of a multimedia resource with caption and audio description that offers the user the control over the decision of which sound and/or visual alternatives he wants to be introduced to. This resource has been designed with Universal Design criteria which are found in the Inclusive Design methodological framework.

Categories and Subject Descriptors

H.5.2 User Interfaces, H.5.1 Multimedia Information Systems.

General Terms

Experimentation, Human Factors, Standardization.

Keywords

Inclusion, accessibility, special needs, multimedia. Interface.

1. PRACTICAL CASE. ACCESSIBLE INTERFACE WITH MULTIMEDIA CONTENTS

The approach presented here is the use of tools in the education that provides adaptation to each student according to the access and learning characteristics that they possess. The multi-modal interaction makes possible the access to multimedia educational resources by students with disabilities. A User Centered-Design has been followed in design and development, i.e. the framework of Inclusive Design that considers all types of users and special needs.

The resource was done for The Spanish Centre of Captioning and Audio description (CESyA) [1] that works towards the accessibility in audiovisual media using captioning and audio description services.

The origin of this work is an investigation studying the best way to integrate a multimedia resource in Internet in an accessible way [2]. A multimedia content is accessible when a user can access that content, regardless access characteristics and context of use. It is indispensable to provide alternative synchronized contents (captions, audio description, etc.) WCAG 1.0, but it is important too to provide accessibility to the resource.

The interface allows the user to activate and/or deactivate the different sound and textual alternatives within the multimedia information. It has been developed by SMIL 2.0 and the reproduction of the multimedia content is associated to an external player which has permitted:

- To add hypermedia elements associated to events, that has provided adaptability and allowing the user to control the different means (audio description, caption, both or none) in order to emphasize that the characteristic of adaptability is interactive.

- To follow the philosophy of SMIL, as well as synchronizing means which makes the multimedia content accessible, accessibility is provided allowing the access to the interface and its use by means of different access devices such as the mouse, keyboard and now voice synthesis.

We have worked on the trial task with real users of the interface to revise usability and accessibility aspects. We have also obtained good results in the validation and some suggestion of users who this considering in a redesign.

CONCLUSIONS

Here is presented an accessible interface implemented with XML technologies, as SMIL, to reproduce multimedia educational contents with a universal design which favours the inclusion, interactively offering personalization of the alternative contents such as caption and audio description.

2. REFERENCES

- [1] The Spanish Centre of Captioning and Audio description (CESyA), <http://www.cesya.es>, 2005.
- [2] Moreno L., Iglesias A., Martínez P., Accessibility of Multimedia Resources in Web, WEBIST 2007. Barcelona, España. Marzo 2007.