Chapter 9

Addressing Accessibility of MOOCs for Blind Users
Hearing Aid for Screen Orientation

Teresita de Jesús Álvarez Robles
Universidad Veracruzana, México

Alma Rosa García Gaona
Universidad Veracruzana, México

Alfredo Mendoza González
Universidad Juárez Autónoma de Tabasco, México

Francisco Alvarez Rodríguez
Universidad Autónoma de Aguascalientes, México

ABSTRACT

The concept of universal access to information society stands for the guaranteed access for all people in the world to internet services, online learning including. Blind users have been benefited by accessible tools such as screen readers, auditory interfaces, etc., nevertheless this kind of external software would not be required if the blind user's requirements were taking into account since the design process. This chapter presents a set of guidelines for designing hearing messages that help blind students to navigate in a MOOC's interface.

INTRODUCTION

The advantages of e-learning have been widely documented in literature. Nowadays more and more institutions have extended their programs to distance and online education, changing the tradition way things in education were doing. MOOCs have enhanced e-learning by giving the opportunity to students to have official certificates, high-qualified instructors in renowned institution. Nevertheless, the pedagogic protocols have to be transformed away from the traditional in-classroom perspective.

Universal Access to Information Society is a whole philosophy that encourages efforts to assure equal access to digital services such as internet, e-learning, cloud services and mobile technology to all people in the world. Equal access has a wide meaning, including ease of use and delightful user experience, goals that only can be achieved when the technology includes all users' requirements and goals in its design. On this point, blind users' needs of computer based technology has limited satisfied.

Accessibility tools like screen readers generally requires third party software; implying that users, besides learning the way the main software works, also have to learn to use this accessibility tool (and expend additional money to purchase it).

This situation in MOOCs' field makes the student required a double learning effort: learn the academic content (the main objective of the course) and learn how the user interface (menus, tools, and all interactive elements) works with this third party software. Accessibility in MOOCs must include ways to attend blind people's requirements, with tools that do not require additional cognitive load.

This chapter is focused in presenting a interface navigation tool that facilitates the interaction of blind users with all the element of a graphical user interface of an online course, converting the mouse in a cane.

BACKGROUND

E-Learning Introduction

The concept of e-learning is defined to many ways, from the perspective of conception and development as a learning tool; the e-learning systems have a pedagogical and technological duality. The first because in these systems must not be containers of digital information, but it must be transmitted according to models and pedagogical patterns defined to meet the challenges of these new context. Technology, because the whole process of teaching and learning is based on applications software, mainly developed in web environments, this is known as training platforms.

The e-learning, in its broadest sense may comprise any educational activity using electronic means to carry out all or part of the training process.

There are definitions that open the spectrum of e-learning in any process related to education and technology, such as the definition of the American Society of Training and Development: "term that covers a wide range of applications and processes, such as web-based learning, computer-based, virtual classrooms and digital collaboration learning, including delivery of content via Internet, intranet / extranet, audio and video recordings, satellite transmissions, interactive TV, CD-ROM and more." (Alwi & Fan, 2010).

E-learning, as Marc Rosenberg defined in (Rosenberg, 2001), is the use of Internet technologies to deliver a range of solutions that enhance knowledge and performance. The author also pointed three key criteria for e-learning:

1. It is based on networking: making it able to be instantly updated, stored, retrieved, distributed and shared.
2. It is delivered to the end user through the use of computers using Internet technology.
3. It is focused on broadest view of learning: learning that breaks traditional methods and techniques

Paul Henry indicates that a comprehensive e-learning solution involves three key elements: the technology (platforms, virtual campus, etc.), the content (quality and mentions structuring thereof are taken as capital elements for the success of e-training initiative) and the services (actions of teachers, management elements, communication elements, elements of evaluation, etc.). By varying the weight of these three components, are obtained different models of e-learning.

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