Chapter 5
Hedonic Utility Scale (HED/UT) Modified as a User Experience Evaluation Method of Performing Talkback Tutorial for Blind People

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ABSTRACT

Hedonic utility scale is a user experience (UX) evaluation method that, through a questionnaire, collects the hedonic and utilitarian dimensions of a product by rating items belonging to each dimension. In this chapter, it is proposed to adapt this method for its application with blind users using the Google TalkBack tutorial as a case study. Based on Nielsen's heuristics, five blind users rated the tutorial after completing each of its five tasks. To ensure inclusiveness in the adaptation of the method, this could be answered verbally and with the use of cards written in Braille, while, for questions of practicality in the evaluation, the number of items was reduced as well as changed the way of scoring (scale and equations) with respect to the original HED/UT. The scale of grades was ranked from 1 (very little) to 5 (quite), getting TalkBack scores between 4 and 5. The results show that the TalkBack tutorial is generally well accepted and well rated by users in both dimensions (hedonic and utility).

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INTRODUCTION

In 2010, according to data from the World Health Organization, the estimated number of visually impaired people worldwide was close to 285 million, of whom 39 million were blind (OMS, 2017). In Latin America, 1 – 4% of population is blind (IAPB, 2014). Meanwhile in Mexico, according to figures from the same year, there were 1,292,201 people in the country with a limitation in activities to visualize, according to INEGI (INEGI).

The technological world is advancing by leaps and bounds, and human-computer interaction (HCI), *"a multidisciplinary research area focused on interaction modalities between humans and computers"* (Paolo Montuschi, 2014) is involved in everything humans do in everyday life. Although this progress is not entirely inclusive, since millions of applications are developed with any objective, from covering communication needs, to leisure or fun, without considering in equal measure, applications that can facilitate the lives of people with disabilities. This inequality can generate a digital divide, between people with access to all content (called info rich people) and people without access (called info poor people) (Villatoro & Silva, 2005). It is important to point out that as Cabero - Almenara says, "*the separation of communication technologies is becoming a reason for social exclusion and separation"*(Cabero-Almenara, 2008) therefore, actions must be taken to help minimize the digital divide (it should be clarified that there are several types of digital divide, such as access gap, gender gap, etc.).

There are important issues to mention that allow for a broader understanding of the relevance of the inclusion of people with disabilities in ICTs and fighting against digital divide:

- **Accessible technology**, that one *"that can be utilized effectively by people with disabilities, at the time they want to utilize the technology, without any modifications or accommodations"* (Lazar, Goldstein, & Taylor, 2015).
- **Digital empowerment**, "*empowerment of individuals and communities with information technology (that let people) gain new abilities and ways to participate and express themselves in a networked society"* (Mäkinen, 2006).
- **Digital competence**, *"DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe"* propose 5 competence areas which outline the key components of the digital competence, (see Table 1), (Ferrari, 2013).
- **Accessibility Acts**, for example the U.S. *"Twenty-First Century Communications and Video Accessibility Act (CVAA)"* that updates federal communications law to increase the access of persons with disabilities to modern communications (F.C.C, 2011).

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