Chapter 3
HCI4D Guidelines for Interactive Content

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ABSTRACT
Fraunhofer AICOS, a research and development institute, and University of Porto made a joint venture with Mandela Metropolitan University and Eduardo Mondlane University in order to establish a set of guidelines based on an extensive research and experimental fieldwork to answer more efficiently to a user-centered design approach and focus on different users and different usage contexts. Those guidelines and this chapter provide recommendations to cope with cultural diversity, illiteracy, oral-based cultures, ergonomic factors, digital interface design, and social and environmental constraints, helping to understand problems and define strategic design actions in order to develop more user-centered solutions, focus on users’ needs and expectations regarding their cultural, environmental, and technical contexts.

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INTRODUCTION

1. Guidelines for Coping With Cultural Diversity

Following Chen et al. (1999), the concept of culture is dependent on the field of study due to the subjective value of the same and as a result, the anthropology perspective of culture focuses on behavioral customs, mannerisms and societal interests. On the other hand, sociologists describe culture as methods of thinking and acting that are acquired by an individual belonging to a particular cultural group. In practice, culture consists in knowing the proper channels of communication and the types of information people from a particular environment require as a means to communicate in an effective manner (Julie Khaslavsky, 1998).

Regarding to Human-Computer Interaction, cultural diversity is a concern due to the fact that globalization and the liberation of services and goods are leading to a cultural standardization, despite the fact that the barriers delimiting a specific culture prove to be difficult to determine (UNESCO, 2009).

1.1 Language Barriers

The existence of guidelines for multilingual environments is evident in developed regions but not all nations have specific guidelines regarding the use of languages in their territory and this is particularly difficult when a language is not officially recognized in the territory.

**Multilingual Countries Usually Have Public Policies Regarding Official Regional Languages.** Normand and his colleagues (2014) state ICT solutions must adopt to the mandate public policies regarding the use of those official languages and this obligation has a significant influence on the design of bilingual systems.

**The Implementation of Local Languages Increases User’s Adoption of a System.** The use of official languages in ICT solutions signifies only the periphery of the Information Society is being considered. Donald Osborn (2006) notes three reasons that favor the use of African languages in a system. First, Osborn states the assumption that so long as a language is spoken and used in several spheres of activity, the opportunity to utilize these languages in new technologies should be considered. The second reason is the fact that African languages are important vehicles of expression and generation of knowledge, but there is little organizational activity beyond small-scale programs for adult basic literacy and a limited amount of first language instruction at the primary school level (Osborn 2006). Consequently, ICT in African languages could be important in post-literacy and in the generation and dissemination of knowledge. The third reason provided by Osborn is the notion that relying solely on English, Portuguese and French for the transmission of information
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