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Localizing Accessibility of Text Alternatives for Visual Content in Multilingual Websites

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Abstract

Best practices in accessibility are usually implemented, both on a technical and linguistic level, during the preliminary phases of the web development cycle. However, when a web site needs to be made multilingual, the transfer of textual accessibility becomes an imperative task during the localization (i.e. translation and adaptation) process. This research focuses on how localizers can obtain a degree of linguistic accessibility in the target-language web site comparable to that achieved in the source one, especially regarding text alternatives for visual content. Our ultimate goal is to develop a methodology through which expert and automated evaluation practices are merged by means of a controlled-language checker for Spanish and English web content.

Introduction

The World Wide Web Consortium (W3C) launched the "Web Accessibility Initiative (WAI) in 1997 to promote and achieve Web functionality for people with disabilities. They published the seminal Web Content Accessibility Guidelines (WCAG) as a Recommendation in 1999, and version 2.0 in 2008, with significant additions and redefinitions [2]. This key document is structured around four principles of accessibility (webs must be Perceivable, Operable, Understandable and Robust –the POUR principles), twelve guidelines to help implement these principles, and 61 different *testable* success criteria, in order to determine the degree to which each guideline is met (<http://www.w3.org/TR/WCAG/>).

In this context, what happens when a website needs to be made multilingual? Are internationalization standards enough to achieve the same degree of accessibility in both source and target web products? Internationalization aims at making a product ready to work in a different environment with different users, a definition that also applies to accessibility, where an "original" product should be made to work properly on any assistive technologies, for functionally diverse users. However, "as a language" or "culture" [5], accessibility also needs to be transferred (the content must also be adequately accessible on the target side), and accommodated not only to the local variants, but also to the local (social, legal...) context and reality. At the same time, accessibility approaches have proved to help with localizability [3], since that "language" that needs to be translated, particularly the more cultural and linguistic (communicative) aspects of it, appears more transparent and better structured to the localization professional, thus facilitating the process.

Current Scenario

The first conclusions drawn from one of the studies conducted by Ultan Ó Broin [5] place emphasis on the existence of common interests between localization and accessibility, such as the linguistic and extra-linguistic processing of images and multimedia content, or the production of clear and understandable text for all. Similarly, Gutiérrez y Restrepo and Martínez Normand [1] presented the WACG 2.0 requirements that, on the basis of their extensive work experience with web accessibility and technical translation, they believed to be most relevant for web content localization. However, no further information is given regarding how localizers can achieve the correct level of accessibility in the target product and how to assess the degree of success obtained.

From a linguistic point of view, the vagueness of language-related accessibility techniques has influenced their evaluation, including the definition of linguistic patterns to be recommended or avoided. Consequently, web evaluation tools present important limitations concerning language accessibility, not only in terms of the depth and completeness of the analysis carried out, but also regarding the transparency of the results, since the production of error messages by the accessibility checking software often prevents the evaluator to know whether an important aspect has been omitted in the process. Current accessibility checkers mainly focus on making sure alternative or simpler representations exist for components that can only be perceived, operated upon and understood by means of particular sensory capacities or intellectual conditions [6]; for instance, they look for the presence of text alternatives for visual-only content such as images. During the localization process, images are given special attention, as they complement or substitute information conveyed in the text [7], and often need to be adapted to the target audience. However, localization in general and localizers in particular have shown little awareness of accessibility matters, and lack of specialized knowledge could result in undesired loss of accessibility. We believe, therefore, that further research is needed in order to help localizers identify not only the existence of text alternatives, but also its correctness, based on accessibility-based and language-specific lexical, syntactic and pragmatic formalizable rules [4].

Solutions Proposed

Broadly, our research aims at complementing current Translation-Oriented Localization Studies with an innovative accessibility-based localization approach, by means of an evaluation methodology based on controlled-language rules integrated in a content authoring tool.

General objectives

- Development of a new theoretical proposal based on the concept of “intercommunity translation” and its specific application in the context of new technologies.
- Implementation of a new linguistic approach based on semiotics and communicative value [8] to help localizers to analyze the accessibility needs of web content.
- Creation of an automated testing model of web verbal content in a multilingual context.

Specific objectives

- Study of language as an accessibility barrier in web design and localization.
- Presentation of web localization as a form of accessibility and mediation between user communities.
- Definition of existing techniques for developing accessible web verbal content.
- Improvement of current linguistic accessibility techniques and formalization of accessible linguistic patterns in Spanish and English.
- Development of Human-Oriented Controlled Language (HOCL)-based rules to automatically validate linguistic accessibility of textual alternatives for images in multilingual EN-ES websites.
- Establishment of the level of manipulation executed by the localizer in order to make web pages accessible (study of the role of the translator specialized in localization as an author and a web content developer).

Expected Results and Future Impact

Theoretical Contribution

On one hand, the results of this piece of research would allow us to establish a new methodological approach in the teaching of localization techniques. Knowledge on accessibility would offer the localizer a perspective which is more akin to translation concerns, as it deals more with the way communication (and interaction) can be adjusted so that particular users can make the best use of it. By incorporating accessibility into the localization curriculum, we are improving the chances for a broader participation of the localizer in the whole development cycle too, and given the similarities between both activities, knowledge and awareness of each one of them would certainly benefit the other.

On the other hand, our research findings would also benefit the industry of localization, both current and potential professionals, since they would be able to combine different linguistic, cultural, social and technical approaches in their jobs. These would contribute to optimize localization services, reduce costs of adaptation and adjustment of linguistic and extra-linguistic content in translation and web accessibility projects, and achieve greater efficiency and effectiveness.

Practical Contribution

From a web accessibility evaluation perspective, the development of a linguistic accessibility validator through different NLP modules would bridge the current gap faced by accessibility human and automated evaluators when dealing with language-related issues, particularly in the case of text alternatives for visual content. This would contribute to the improvement of current automated techniques, as well as benefit both experts and non-experts on linguistic accessibility during the web assessment process, since our proposed solution not only would identify inexistent or successfully implemented accessible linguistic patterns, but also provide hints on the communicative value embedded in those patterns and the images they describe.

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About the Author:



Silvia Rodríguez Vázquez works as a professional translator for different UN agencies and, at the same time, is pursuing a Joint Doctoral Degree in Multilingual Information Processing and Translation and Intercultural Mediation at the University of Geneva, Switzerland, and the University of Salamanca, Spain, respectively, advised by Dr. Pierrette Bouillon and Dr. Jesús Torres del Rey. With a background in localization and translation technologies, Silvia's PhD aims at providing a new localization strategy based on the use of linguistic software to help improving the transfer of textual accessibility during the localization process.