Accessible teaching documents

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The right to higher education for everyone is declared in the *Universal Declaration of Human Rights* (article 26), as "(1) [...] higher education shall be equally accessible to all on the basis of merit". Also the current Spanish legislation (LIONDAU, Real Decreto 1494/2007 y LISI) compels digital contents in the academic environment to be accessible for people with disabilities. With the increasing use of e-learning platforms as a complement for teaching, all universities have the duty to ensure equality in the learning process for all students, provide different means to access knowledge and facilitate the complete access to digital information to students with disabilities.

"Recursos docents accessibles" —accessible teaching documents— is a small action to promote the use of accessible teaching material. It is a second step on an initiative to promote best practices in the preparation of resources by university (and also high school) professors. This initiative started with the publication of the *Digital content accessibility guidelines*, which explain basic techniques to make accessible office documents.

"Recursos docents accessibles" goes further on this initial objective, providing templates for the creation of office documents, and easy procedures to create alternate versions of them. Those alternate versions will include changes in color, fonts or other presentational attributes and also conversions to different digital formats, thus promoting inclusive education in the university by the integration of alternative formats in everyday contents.

The templates are designed for the creation of the most widespread teaching documents in the academic community (exams, exercises, tutorials, lessons or slides), and considering the document format best suited to each context (office documents, PDF documents, and LaTeX). The alternate versions consider blind, low vision and dyslexia needs, which are the most common types of disabilities among students of the university.

We present the advances of the project, which is in an intermediate state, and that consist in:

- A catalog of the most common teaching documents, with the most used format for each. Those documents were obtained from actual documents used by professors in the Department of Library and Information Science, and the Department of Mathematics in the University of Barcelona.
- A catalog of templates and models accessible of the documents selected, following the style guidelines by University of Barcelona.

- Two automatic conversions of Office documents for people with low vision.

Next steps will include:

- Conversions for people with dyslexia.
- Validation of the models with the tools and templates techniques used by people with disabilities, supported by the ONCE Foundation technical staff.
- Validation of the models by the professors of the Faculty of Library and Information Science and the Faculty of Mathematics.
- Dissemination of the materials in the university community.
- More research into including MathML into office documents.

Methodology

As a first step of the project we did a state-of-the-art research on best practices and templates for teaching documents in the literature; as a second step a survey was sent to professors in order to gather their uses of office documents and example documents common in everyday teaching practice; afterwards it followed a development phase were these documents were analyzed and model documents were created. The documents were reviewed by the Catalan Linguistic Services at the University. Then we did some interviews with experts on accessibility in ONCE to validate the appearance features to take into account for the alternate versions. In this phase also we developed some macros for automatic conversion of the document. And there will be more interviews, testing and development for the subsequent phases of the project.

Obtained results

1. Catalog of example documents.
2. Models and templates of documents in MS Word, MS PowerPoint, LibreOffice and LaTeX.
3. First macros for converting those documents to alternate versions.

Expected results

1. Validation of the models of templates by experts and professors.
2. Full range of macros for conversions.
3. Brief instructions for the use of the materials created.

The expected long term outcome is the integration of the models and templates in the creation of digital teaching document all over the University of Barcelona courses.

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