Challenges and Solutions Towards Accessible MOOC Content: The ACT MOOC

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Abstract

Designing a MOOC on accessibility poses many challenges. It is also a great platform to test what the MOOC preaches: media accessibility. This article presents the challenges and solutions taken when an accessible MOOC for Coursera was designed and launched.

1   Introduction

Designing an accessible MOOC is a challenge (Iniesto et al. 2014; Pascual et al. 2014; Seale 2014). Accessibility requirements (Sánchez-Gordón and Luján-Mora 2016) should be met in terms of the platform services, user interface, learning content and resources, and learning assessment activities. While much literature focuses on the platform interaction (Iniesto and Rodrigo 2016) and user interface requirements (Ngubane-Mokiwa 2016) little is dedicated to the content or assessments (Sánchez-Gordón and Luján-Mora 2014) and user experience (Sánchez-Gordon and Luján-Mora 2015). This difference is probably due to the nature, field of knowledge, and format of the learning content (Orero and Tor-Carroggio 2018). It is not the same to access mathematical formulae or statistics as it is to read a music score or follow any of these as a PowerPoint presentation or a movie. A multiplicity of topics and formats defy unified solutions or guidelines following a mainstreamed Universal Design approach (Ngubane-Mokiwa 2016). The following sections describe the challenges and solutions posed when designing MOOC on accessibility

for Coursera at the Universitat Autònoma de Barcelona (UAB). The objective of the course is to make cultural venues and cultural content or production accessible to all citizens, and especially to persons with disabilities, with the idea of mainstreaming accessibility so all people have equal access to culture.

2   Challenges

The first challenge was very early on in the development of the MOOC, which presented itself in the first meeting with Coursera representatives at UAB, the university which would host the course on Accessibility to the Scenic Arts[50]. This MOOC was the outcome of the ERASMUS + EU funded project ACT[51] led by UAB. Taking the course accessibility requirements to the UAB Coursera team before starting to design the course content made us realise that our expectations were far too demanding for the Coursera platform. The list of specifications started with a multilanguage option, since course content could be developed in any of the four languages of the ACT project (Catalan, Dutch/Flemish, English, and German). The second request was to implement the three most common media accessibility services: subtitling, audio description and sign language interpretation. The last request was to have accessibility in the student/platform interaction. While we had their full attention with regards to our accessibility requirements, the UAB Coursera team was unable to offer any solutions beyond machine transcribed subtitles — irrespective of their quality.

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[50] https://www.coursera.org/learn/accessibility-scenic-arts

[51] http://pagines.uab.cat/act/

3　Solutions

Given the fact the course was on accessibility, it followed the United Nations Convention on the Rights of Persons with Disabilities[52] (CRPD) "nothing about us without us". To this aim persons with disabilities were part of the project from design to testing both the content and its accessibility.

For the first issue of multilingualism Coursera offered a monolingual approach. There was always the possibility of generating four identical courses in the four languages. Moreover, this possibility was reduced to two, since Coursera does not support either Catalan or Dutch/Flemish. This is an interesting situation since UAB has to offer courses in. The solution in this case was to use subtitles. Part of the aim of ERASMUS+ is to promote the wealth of EU languages, and reducing a course to English worked against this EU identified strength: multilingualism and multiculturalism. The ACT MOOC promoted the use of the different languages for instruction, with the use of quality purpose made subtitles in English.

The second challenge was the use of accessibility services, or at least the three most popular: subtitling, audio description and sign language interpreting. While the option of automatic same language automatic subtitling is offered by default, this was the only service available, Coursera being partial to quality. The possibility of adding audio description or sign language meant changes in the player. A petition was addressed to Coursera, and at the time of writing this paper we have had no reply.[53]

Offering sign language through a different but complementary platform was dismissed. Issues regarding parallel platforms with signed content was a choice, dismissed due to issues such as synchronisation of the signed content in one platform i.e. YouTube or Vimeo, and the course content in Coursera.

The other accessibility service is audio description. Audio description offers visual and audio information as a complementary audio narrative (Matamala and Orero 2016). From the interaction with UAB Coursera representatives it was clear that this service was not high in the list of implementations to the course platform. The inclusion of audio description would affect the player, and would also require the production of both the audio description and its delivery either by a human recorded voice or by text to speech technology (Fernández-Torné and Matamala 2015). The solution found was to apply Romero-Fresco's (2012) concept of Accessible Filmmaking "as a potential way to integrate AVT and accessibility during the filmmaking process through collaboration between filmmakers and translators." To this aim it was decided that all course material would integrate the audio description as part of the course content itself.

The MOOC structure was developed with a view to replicating the chronological order of a cultural event: pre-production, production, and post-production. Based on existing literature on MOOC design (Yousef and Wosnitza 2014; Salmon et al. 2016), it was decided to deliver the content by means of videos supported by PowerPoint presentations, tasks and assignments. Videos were presented by one of the instructors, who shared the screen as a talking head with a power point presentation. The audio description strategy was to create a self-audio description resembling an audio introduction (Fryer and Romero Fresco 2014). Regarding the PowerPoint content, it was agreed it would always be read by the instructor during the video. In this way the MOOC was not fully accessible, but it did offer at least two of the principal accessibility services: subtitling and audio description.

4　Conclusion

Designing an accessible MOOC poses many challenges. Access and interaction with the platform is of the greatest interest in academia (Bohnsack and Puhl 2014). The issue of accessibility to the content itself has rarely been studied (Orero and Tor-Carroggio 2018).

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[52] https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html

[53] It should be noted that Coursera was chosen as it is the official platform used by the leading partner – UAB – and since no other university partner in the project had produced MOOCs or used a platform. Moreover, at

present no MOOC platform offers the technology for the many accessibility services needed, such as sign language interpretation, audio description, or multilanguage options. In fact, the only accessibility service provided by most platforms is (automatic) transcription transformed into subtitles.

Adding accessibility services to any MOOC platform has direct implications in terms of the platform interaction, since new icons and player distribution will need to be designed and implemented. For this reason, adopting Romero Fresco's (2012) Accessible Filmmaking principles is a cheap and easy solution. Taking accessibility into consideration as a requirement from the very beginning of the MOOC design process allows for the requirements to be identified as the content is being designed. It helps to identify barriers at the same time as allowing for creative solutions.

Credits

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