

# **Standards, Tools and Procedures in Accessible eBook Production**

# Standards, Tools and Procedures in Accessible eBook Production

## Introduction to the Special Thematic Session

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**Abstract.** This Special Thematic Session (STS) on Standards, Tools and Procedures in Accessible eBook Productions intends to give insight into the State-of-the-Art procedures and tools in Accessible eBook Production and also to get to present some best-practice examples first hand. Fields that are tackled by this Special Thematic Session are: Audiobook Production, Accessible Graphics and Figures, Mathematics and automated Braille production, workflow and concrete production tools and practices.

**Keywords:** Accessible ebooks · Tools · Procedures · Accessible documents · Mathematics · Graphics · Figures · TTS

## 1 Introduction

The accessible eBook production process is a very diverse process which requires many different steps and procedures:

- The source: from which the production starts vary from an actual printed book to a file from a common word-processing application or a PDF, up to a file in a Desk-top Publishing Tool (DTP), such as InDesign or Quark Xpress.
- The conversion: Addressing complexity e.g. linear access of non-linear materials (vision) and better readability (cognition). Books may consist of different levels of complexity, beginning from novels to complex structures of workbooks with many graphics, mathematical formulas or scientific symbols for school pupils or students, including also books with multilingual text.
- The Presentation: Personalized access including issues like haptic or audio presentation.
- The workflow: Efficient production of accessible and personalized materials, including standards (e.g. DAISY, EPUB), legislation, involving publishers and authors, management, user involvement and delivery services.

- All the above mentioned steps demand more and intense R&D to make the process of eBook production more efficient and the products better accessible and usable.

## 2 Session Goal

In this Session we will get to see very interesting results of research done in the field of accessible eBook Production. The goal is to get insight into the State-of-the-Art procedures and tools and also to get to know some best-practice examples first hand

## 3 Session Overview

Collins et al. describe in their paper a complete workflow developed and created with-in the Reading Involves Shared Experience (RISE) project. This joint venture project between Swarthmore College and Gallaudet University aimed at developing a workflow to create and produce children's eBooks with text and sign language videos. The workflow implemented, uses commercial software tools as well as open source soft-ware and free web based services. The project also implemented a content delivery framework in which the RISE eBooks are shared.

Pino et al. are presenting a Web-based Information System for the Workflow Management and Delivery of Accessible eBooks. With the implementation of this Information System at the University of Athens, the whole process of providing study materials for disabled students with was transformed from a mostly offline/manual workflow to an Information System driven online process. This includes the following steps: Users and Requests Management, Digital Content Management and Delivery System. As a result, the time between a student requesting material and the delivery of it could be reduced dramatically. The system also supports a wide range of document formats.

In their presentation, Takaira et al. from the Ibaraki University, they will present a Unified Production System for Various Types of Accessible Textbooks, namely multimodal Textbooks, Sound-Embedded PDF Textbooks and Audio Textbooks with augmented reality Technology. These book types were developed for use in ordinary classrooms hence their appearance is almost similar to regular books or PDFs. Also the effectiveness of the production process itself has been increase with this tool by a considerable amount.

Fume et al. have developed a Text To Speech (TTS) based DAISY content creation Tool called DaisyRings. This web application provides a transliteration system that can convert plain text to DAISY content including formatted HTML and audio data using TTS technology. In over two years this tool has been used by over 1000 individuals and nearly 50 different groups including public library staff. In their paper, Fume et al. present the practical evaluation of this tool, e.g. like how the system has been used, and they will also show the effectiveness of their proposed method for the creation of TTS based DAISY books.

Murillo-Morales et al. will present the upgrade of their LaTeX to Braille conversion System used for educational materials in Austria. This revamped version makes use of state-of-the-art technologies and techniques for automatic Braille document generation, including math and other non-linear information widely used in educational materials especially school books in primary and secondary education in Austria.

John Gardner will give an overview on the new version of the ViewPlus IVEO audio/touch technology tackling the issue of access to figures for blind persons. In practice figures are potentially very accessible to a wide variety of students with print disabilities through a combination of tactile and audio description, but audio-tactile technology has been labour-intensive and often difficult to use. The ViewPlus IVEO software could be a major step in the evolution of audio/touch toward a future in which figures can be universally accessible to everybody.

## 4 Conclusion

Within this session very interesting research results and tools have been introduced for the production of accessible eBooks. We saw, that through information systems be it desktop software or web based systems and through automatization not only the process of creating accessible eBooks but also the quality of those books can be improved. Many organizations have implemented their own production process workflow. This Session gave insight in detail in some of them. This insight can be the base for further development of a universal accessible eBook production process or for specific organizations to extend or adapt their production process using some of the best practices/tools presented in this session.