

Web-portal to convert math formulae into Braille

The open-source software 'Universal Maths Conversion Library' (UMCL) was developed into a web-based tool to convert all kinds of documents containing mathematical formulae into Braille.

«MathInBraille is an important contribution to reducing the digital divide and an innovative step towards inclusive education.» (Klaus HÖCKNER)

MathInBraille

Organisation:	Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs JKU Universität Linz
Country/region of origin:	Austria
Beneficiaries targeted:	Persons with visual impairments
Approach/model/solution:	Online tool to convert mathematics into Braille

FACTS & FIGURES

- Web-based; does not require software installation
- Used by 20 users throughout Austria

PROBLEMS TARGETED

60 years since the invention of the computer and after 30 years of successful use of Braille display and speech output, there are still difficulties for blind and visually impaired persons in accessing scientific documents containing mathematical formulae. The main reason lies in the visual 2-D character of the mathematical presentation that is in conflict with the linear nature of Braille and speech output.

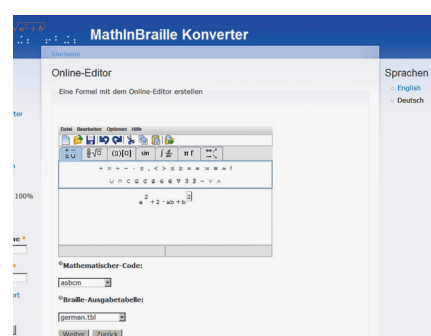
PROJECT

MathInBraille further improved the open source software 'Universal Maths Conversion Library' (UMCL) and developed a web portal as an interface. This means the tool can be used online without users having to install specific software on their PC. With the web-based conversion tool the user can convert different document formats into accessible versions.

CURRENT SITUATION & OUTLOOK

It is planned to double the number of regular users by 2015. Another goal is to improve the quality of Braille and electronic textbooks and convert complex course material into more simplified, easy and accessible language for teaching visually impaired and blind students. The functionality of the web portal is intended to be extended by the following:

- MathInAudio: Converts mathematical content into structured audio format
- MathInRepository: Provides a collection of formulae in Braille and audio
- MathInCommunity: Provides an interactive discussion forum in which ideas and problems concerning mathematical content for persons with visual impairments can be exchanged and discussed



Screenshot of the web-based MathInBraille tool and its online editor. Mathematical formulae are converted to accessible formats.

CONTACT Mr. Klaus HÖCKNER
 Hilfsgemeinschaft der Blinden & Sehschwachen
 Jägerstraße 36, 1200 Wien, Austria
 +43-1-330 35 45-24
 hoeckner@hilfsgemeinschaft.at
 www.mathinbraille.at

EXPERT VOTING Top marks for:

- Access to ICT



Nominated by: JKU University Linz