

“USING INTELLIGENT TEXT RECOGNITION TO CREATE AUDIOBOOKS FOR BLIND PEOPLE”

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The modern information environment is extremely difficult for blind people. It is now extremely important to implement projects aimed at inclusion, so that everyone has the opportunity to spend their leisure time or study in a way that is convenient for them.

Reading is an important tool for the socialisation and adaptation of people with visual impairments. It is extremely difficult for a visually impaired person to “survive” in a modern digital state: to use the services of government websites, portals and applications.

Exploring the possibilities of using multimedia technologies for Braille publications is important for improving the accessibility of information for visually impaired people. Multimedia technologies can provide new ways of disseminating and perceiving textual and audiovisual information for this audience.

Books in Braille require special equipment and software to be available at the enterprise, so they are quite expensive. This is the reason for the small production of such books. Therefore, it is important to study technologies for developing audiobooks, which are a complement to braille books. They can also be used separately when a person is unable to buy a paper version of a book.

For the study, two variants of audio data were developed for the children’s Braille book “Kvasko and Katrusia”, which is intended for visually impaired and blind children of primary school age. The first one uses specialised software to create an audiobook and voice-over narration, while the second one uses text recognition of the prepared original layout and intelligent computer generation of an audio file.

To determine a more effective technology for producing audio applications, an expert evaluation of these applications was conducted and recommendations for the use of multimedia technologies for inclusive publications were developed. The study uses an analysis of the profiles of the developed projects.

Based on the results of the expert evaluation, the second project was selected. This technology is proposed for further use. This is largely due to both the financial component and the simpler and faster technology for making an audio application. It is possible that for children's books, voice-over narration will remain more attractive, but for mass production of cheaper books, intelligent computer-generated audio file generation can be recommended.

The research conducted and the results obtained can be used for the further production of similar projects. This is very relevant for publishers who produce books in Braille and have already prepared layouts of these publications. The software package and technology developed can be recommended as standard.