



ATscale

GLOBAL PARTNERSHIP FOR
ASSISTIVE TECHNOLOGY

Hosted by

 UNOPS



Text-to-speech (TTS) technology

- Technology that automatically converts electronic text into human speech.
- Enables real-time listening to any electronic text without prior recording.
- Widely used globally to assist individuals with visual impairments in using electronic devices such as computers and smartphones.

Main advantages of the project

- Expands educational opportunities for citizens of Turkmenistan through digital and innovative methods.
- Strengthens the technological foundation for the phased development of inclusive education in Turkmenistan.
- Promotes the adoption of international experience in assistive technologies in Turkmenistan.

Expected results

- Thousands of visually impaired people in Turkmenistan and around the world who cannot read or speak due to health reasons will be able to work with texts in the Turkmen language on smartphones and computers.
- Information, e-books, and other texts in the Turkmen language can be listened to on the Internet and electronic devices.
- Provides the ability for children with visual impairments to read textbooks.

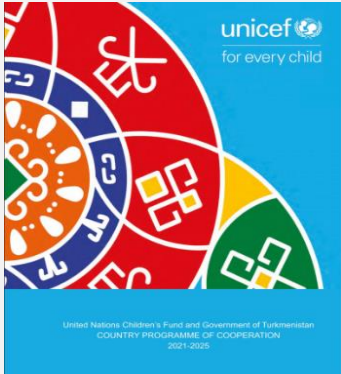
Background

Today, the primary methods for reading texts for people with visual impairments include Braille printing, Braille display readers, and audio recordings of texts in a studio. All three methods require significant time and resources. Special software is needed to enable people with visual impairments to read information provided through digital technologies on the Internet, computers, and smartphones.

A screen reader is software that allows users to listen to on-screen text, menus, and buttons on computers. For proper operation, the device must have a built-in text-to-speech (TTS) module to convert text into speech in a given language. Text-to-speech technology is beneficial not only for people with visual impairments but also for those with speech impairments, dyslexia, and eye strain. Thus, TTS serves as an important tool for people to participate in various areas of society, including education, work, creativity, and cultural recreation. Given the importance of this technology, the Ministry of Education of Turkmenistan and the United Nations Children's Fund in Turkmenistan are collaborating with the ATscale global partnership on assistive technologies within the framework of a joint work plan.

Development of inclusive education in Turkmenistan

Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for the citizens of Turkmenistan is a primary goal of the national education policy. The phased introduction of assistive technologies into the education system is a key priority in the cooperation between the Ministry of Education of Turkmenistan and UNICEF. During the UN Education Transformation Summit in 2022, the Ministry of Education of Turkmenistan emphasized its national commitment to transforming education, with a special focus on the education of children with disabilities. Additionally, the event "Implementation of Effective Assistive Technologies for Children with Developmental Disabilities with a Focus on Alternative/Agentive Communication" is included in the National Action Plan for the Implementation of Children's Rights in Turkmenistan for 2023-2028.



UNICEF Country Programme:

The long-term vision of the quality and inclusive education component in UNICEF country programme is that by 2025, all boys and girls in Turkmenistan, including those with disabilities, enjoy quality inclusive education and learning opportunities that develop their competencies and foster their well-being, resilience, and integration, enabling them to fully participate in and contribute to a modern economy.

A moment from life

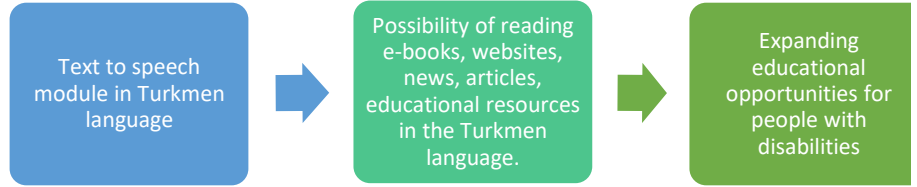


The photo shows a young blind individual using a phone with text-to-speech technology.

UNICEF Point of contact:

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TTS technology and education



About the software

The software will be available for free download and installation. It is compatible with Windows, Linux, and Android platforms. Additionally, it can be used as a special add-on for JAWS and NVDA screen readers. The Android version will be available on the PlayMarket platform.

After installation, users can adjust the pitch, volume, and reading speed of the voice, allowing for personalized listening preferences. Other applications that utilize the text-to-speech function enable consistent reading of e-books, the use of alternative/augmentative communication programs, and the recording of text audio files.

The program converts text into Turkmen when users click on specific text using a computer mouse or keyboard. Users can access all functions available in the computer system by navigating through buttons and menus.

Project activities

The software was developed by LouderPages technical experts with the support of the global partnership for assistive technologies, ATscale.

In the initial stage of development, a module featuring a female voice was created. This module, named "Dunya" (a common name in Turkmenistan), enhances access to electronic information for people with visual impairments. The test version was evaluated for usability by visually impaired individuals using screen readers.

Following preliminary testing, partners will be introduced to the software. In 2023, short-term training sessions on the software's use are planned. Future improvements will focus on enhancing voice quality, word recognition, and providing additional training.

Partners

Ministry of Education of Turkmenistan, United Nations Children's Fund Representative Office in Turkmenistan, Global Partnership on Assistive Technologies "ATscale", Society of the Blind and Deaf of Turkmenistan.