The Braille Sleeve

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It is known that people with sensory disabilities suffer from vision and hearing impairment. That is why I have worked out a device that helps the disabled be able to communicate with people in a comfortable way. The device is based on the idea of synesthesia, the neurological phenomenon in which stimulation of one sensory or cognitive pathway leads to automatic, involuntary experiences in a second sensory or cognitive pathway. The principle of my device is in the following: the user receives a message in the Telegram messenger. The microcomputer converts the content of the message into a sequence of vibrations according to the Braille script. Later, it sends the message to the forearm with the help of six vibrators. First, I worked out a portable device and software for information processing and retrieving. After the sample model was designed there was an experiment which two individuals took part in. The first participant was visually impaired; the second one was absolutely healthy. During a week the participants tested the device to try and recognize chaotic sequences of letters. At the beginning of the week it took them from 1 to 3 seconds to recognize one letter through the device. At the end of the week the time was reduced to 1 second. Subsequently, the participants tried to recognize sensible texts of 20 words. The experiment was a success. Both participants could “read” the text without any mistakes. The fact that any person is able to master this communication method gives a wide range of possibilities. For instance, the device might be used in a military fight for sending message through command. Some can also use it at factories where it is prohibited to get distracted from work.

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