

Novel Communication Technology for Individuals with Deaf/Blind Deficiencies

S. Mil'shtein., J. Asokakumar.

Advanced Electronic Technology Center, ECE Dept. UMass
Lowell MA, 01854 USA

The technology in consideration [1] is an alternative communication/interaction methodology and modified operation of hardware devices like smartphones, for people with visual, hearing and/or speech disabilities. Sizable population of deaf and blind individuals as well as the growing elderly population, whose partial loss of sight or hearing could be defined as legally deaf or legally blind, experience difficulties using these marvelous technologies. Current invention describes a novel communication apparatus and method of usage by handicapped individuals equipped with the necessary supporting software to help the deaf/blind people in their long distance communications, enhancing their ability to understand TV/Radio programs to understand and react to educational lectures. For all communication purposes the handicapped person will need only one piece of equipment, i.e. a smartphone, operating in a different mode. The touchscreen interface of the phone will be divided into 2 halves to facilitate a more intuitive communication interface for visually challenged individuals, as opposed to the traditional smartphone communication interface with intricate buttons and complicated navigation controls and menus which can be difficult for disabled individuals. Unmistaken sense of Morse code vibration from the incoming message by the person holding the smartphone, is a clear indicator and helps people with disabilities to decode the information faster and easier. The software allows the message to be presented in vibrations, audio and text simultaneously or separately depending on the preference of the user. Thus the new method allows to handle three simultaneous flows of information by one device, i.e. Morse code, translation of the Morse code messages into the speech (MtoS), translation of Morse code into the text (MtoT).

1. S. Mil'shtein, J. Asokakumar "Universal Method for Communication Between Individuals With/Without Visual, Hearing or Speech Impairment, Using Haptic Feedback Devices" Patent applic. #62/762,558, 2018.