

e-Accessible Service System: Calibrator and Communicator

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Abstract. Augmentative and Alternative Communication (AAC) includes various communication methods used by people with speech and language impairments, and is often aided by electronic devices such as smartphones or tablets. Since skills and limitations vary for each user, it is possible to create an interface on these electronic devices that would adjust to user's needs in ways that would significantly improve usability and ease of use. Paper describes e-Accessible service system containing Calibrator and Communicator services. Calibrator measures user's preferences and limitations regarding user interface through calibration process and calculates UI parameters adapted to the particular user. The parameters are forwarded to the Communicator service, whose main purpose is to supplement speech or writing for people with complex communication needs.

Keywords: alternative and augmentative communication, symbols, automatic interface adaptation, calibrator, communicator.

1 Introduction

Augmentative and Alternative Communication (AAC) includes various methods of communication used by people with complex communication needs. Depending on whether AAC uses any external tools, it can be divided into two categories: unaided and aided. While unaided AAC relies solely on messages transmitted by user's body, aided AAC uses additional electric or non-electric devices to facilitate communication for people with speech and language impairments. Low-tech aids are usually very simple communication boards, while high-tech ones (e.g. dedicated devices designed solely for AAC or non-dedicated devices like personal computers, tablets, smartphones, etc.) offer many opportunities to ease application of AAC. They are able to send/ retrieve electronic messages, store large amount of information and present it in a way that will help users communicate faster and more efficiently [1].

AAC methods are based on the use of graphic and textual symbols (rather than written words alone) to represent certain objects, actions, or concepts. Besides the communication, symbols are beneficial for learning and development of complex expressions [2].