

Paper ID: 203

Paper Title: Reka: Vocabulary suggestions for Augmentative and Alternative Communication devices

Abstract: A number of Canadians face challenges communicating every day due to communication disabilities or temporary speech impairments. Any method which is used to facilitate communication for individuals who face challenges communicating using speech is known as Augmentative and Alternative Communication (AAC). Based on the computer technology available, an AAC user has access to a “limitless” word selection, which can be programmed and organized according to the user’s preference. There are several flaws with current products on the market. Users are limited by the number of words that can be shown on the screen at one time. This results in nested menus, which increase the time and cognitive load required by the user to communicate. The impact on AAC users is a speech output rate of 10 words per minute, which is poor compared to the average communication speed of 120 words per minute for natural speech. Additionally, the vocabulary present on these devices is typically insufficient to fully meet users’ communication needs. Reka leverages data from sensors, such as GPS, Bluetooth and camera, and uses real-time information to provide relevant word suggestions to the user based on their personal interests and surrounding environment. By using social and environmental information to automatically customize device vocabulary, the technology will support the improvement of speed and quality of AAC output delivery. Users will no longer be hindered by a static set of words, and instead will have access to a vocabulary that will grow with them and the world around them.

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