Open Speech Platform: Web-apps for Hearing Aids Research

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Abstract

Open Speech Platform (OSP) for hearing aids (HA) research comprises a realtime master hearing aid (RT-MHA); and an embedded web server (EWS) that serves web pages to any browser enabled device for monitoring and controlling RT-MHA. In this contribution, we present 4 classes of web-apps that can be combined and extended in novel ways to conduct psychophysical investigations beyond what is currently possible. (1) The Researcher apps provide access to *all* RT-MHA parameters; these settings can be saved in named files and recalled easily. (2) HA Fitting apps are written to capture audiologists' hypotheses on HA parameters and their interactions in improving performance; conversely, they can incorporate human-in-the-loop research wherein, the user is forced to select one of two HA parameters (say, A and B) used to process specific speech stimuli stored in a database on OSP; the settings A and B are successively refined based on the user's choice. (3) Ecological Momentary Assessment (EMA) apps are used to capture the user's state for a given HA settings in a given listening environment. (4) Assessment apps enable various tests (e.g. syllable and word recognition tests) in a repeatable manner using stimuli stored in a database on OSP.

Total words = 197.