

METHOD AND APPARATUS FOR MULTI-SENSORY SPEECH ENHANCEMENT ON A MOBILE DEVICE

ABSTRACT OF THE DISCLOSURE

A mobile device is provided that includes a digit input that can be manipulated by a user's fingers or thumb, an air conduction microphone and an alternative sensor that provides an alternative sensor signal indicative of speech. Under some embodiments, the mobile device also includes a proximity sensor that provides a proximity signal indicative of the distance from the mobile device to an object. Under some embodiments, the signal from the air conduction microphone, the alternative sensor signal, and the proximity signal are used to form an estimate of a clean speech value. In further embodiments, a sound is produced through a speaker in the mobile device based on the amount of noise in the clean speech value. In other embodiments, the sound produced through the speaker is based on the proximity sensor signal.

Fig. 1