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Snap, Crackle and Pop: How Sound Effects Help, and Hinder, How We Hear Television Speech

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Abstract

Complaints about the intelligibility of television speech have become increasingly common, both for normal hearing and hard of hearing listeners alike. The debate these complaints have sparked have stretched from angry viewers on Twitter right up to the House of Lords. Despite this, the question of how to improve the clarity and accessibility of television speech remains unanswered.

A recent BBC whitepaper highlighted that the barrier to providing more accessible broadcast audio is not technology. The barrier they highlighted is the lack of understanding of what accessible broadcast audio needs to contain to be more accessible and meaningful for hard of hearing listeners. This work begins to address this deficit.

This presentation will outline the current investigation into how different broadcast sound elements, specifically sound effects, interact with speech intelligibility for normal and hard of hearing listeners. Current results from this work show that the inclusion of relevant sound effects can significantly improve intelligibility of speech in complicated listening environments for normal hearing listeners (increasing word recognition from 35.8% to 60.7%). For hard of hearing listeners this effect is not so clear-cut, with relevant sound effects only improving for intelligibility for half of listeners. How this knowledge, along with advances in object-based broadcasting, can be leveraged to deliver more accessible and personalisable broadcast content will also be outlined.

Keywords

Hard of hearing, intelligibility, broadcast