Title:
Determining the just-noticeable difference of room acoustical parameters for autophonous noise sources.

Context:
The perceptual thresholds of common room acoustical parameters have been a popular subject of research, generally determining the thresholds for a passive listener (ie, a listener who does not contribute sound to the tested room acoustics). The preferences of musicians towards certain acoustic features have also been observed. However, studies focused on musicians' perception of room acoustics have historically been limited by the temporal or spatial displacements (ie, collecting opinions during a large musical tour, which may stretch for weeks). Furthermore, the question of the just-noticeable differences in room acoustic parameters have not been fully explored for a user of a space who is making noise within the room. The state of the arts in interactive virtual acoustics allows the expansion of previous research on perceptual thresholds to include the possibility of autophonous sources within the test.

The intern will identify one or more relevant acoustical parameters or phenomena to perform perceptual tests for such as room colouration, center time, reverberation time, etc., using study participants who act as the sound source within the assessment.

The intern should have a familiarity with key concepts of room acoustics and with using MatLab and MaxMSP.

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