

## 11. Extending a Sound Environmental Presentation System - Part 2 : System Improvement for Construction Noise Evaluation -

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Architectural sound performance and sound levels are typically indicated as numerical values (e.g., Dr-50, 50 dB) not readily understood by the lay public. In response, we developed a Sound Environment Presentation System to improve communication about the sound performances. Our system predicts and calculates building sound environments based on building design specifications and play the predict sounds the system anticipates users will experience. The system relies on mobile devices and cloud computing to achieve portability and rapid computational processing.

Several modifications of the original system have been made, including the adoption of a new microphone and headphone suitable for low frequency regions, improved user interface, addition of a detector for saturation of recorded noise, and improved data entry process.

As a result, the improved system presents construction noise and the results of countermeasures aurally, improving usability over existing systems for evaluating architectural sound environments.

**Keywords:** noise environment, construction noise, cloud-based system, mobile devices, presentation system