

Write an award-winning submission



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Who will read it?



What do they want?



- Easily accessible
- Answers the question

Acoustic curtains

Why is the project special?

The developers sought to create an acoustic environment that had never been achieved elsewhere. The concept was for a café bar that contains a film screening area and simultaneously achieve acoustic conditions that enable:

- Film-watchers to enjoy the film without excessive intrusion of café bar noise while benefitting from the café bar atmosphere and facilities;
- Café bar patrons to enjoy a lively atmosphere enhanced by the film screening but without excessive distraction;
- The ability to flexibly use both areas as one space.

When the project was conceived by the Tyneside Cinema, it was not known whether it was acoustically possible to achieve these requirements. The single precedent for this type of space in the UK is regularly criticised for failing on acoustic grounds. As entirely innovative acoustic conditions were sought, it was imperative that the design approach was pioneering from the outset.

Acoustic curtains

transmitted sound in the café bar, and the potential intelligibility and distraction of a speech signal. The entirely innovative approach used to assess and design the acoustic conditions involves a synthesis of established and recent research from many different areas of acoustics, including:

- Rindel's dynamic source modelling of noise in eating establishments;
- Barron's revised theory for the spatial variation of Strength;
- Bradley and Lazarus's concepts of SNR, and Clarity to correlate with for speech intelligibility;
- Apex Acoustics' research for the use of Strength and Clarity to assess the spatial variation of speech intelligibility;
- Open plan office acoustic parameters from ISO 3382-3 for distraction and acoustic privacy, including STI, r_D , r_P ;
- Measurements of the sound insulation achievable with a bespoke acoustic curtain.

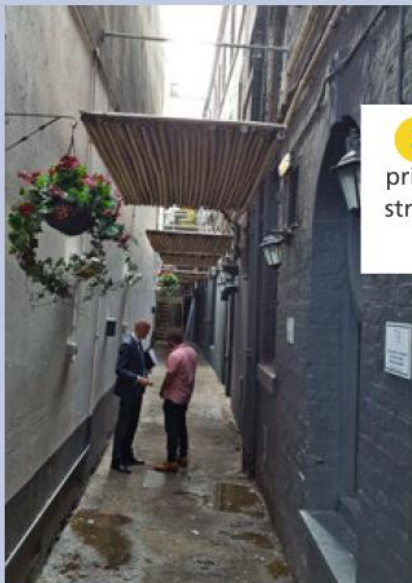


Tup Tup Palace

Summarise the project in no more than 250 words

This project illustrates a ground-breaking approach to solving the perennial problem of noise from nightclub smoking areas. Innovations include:

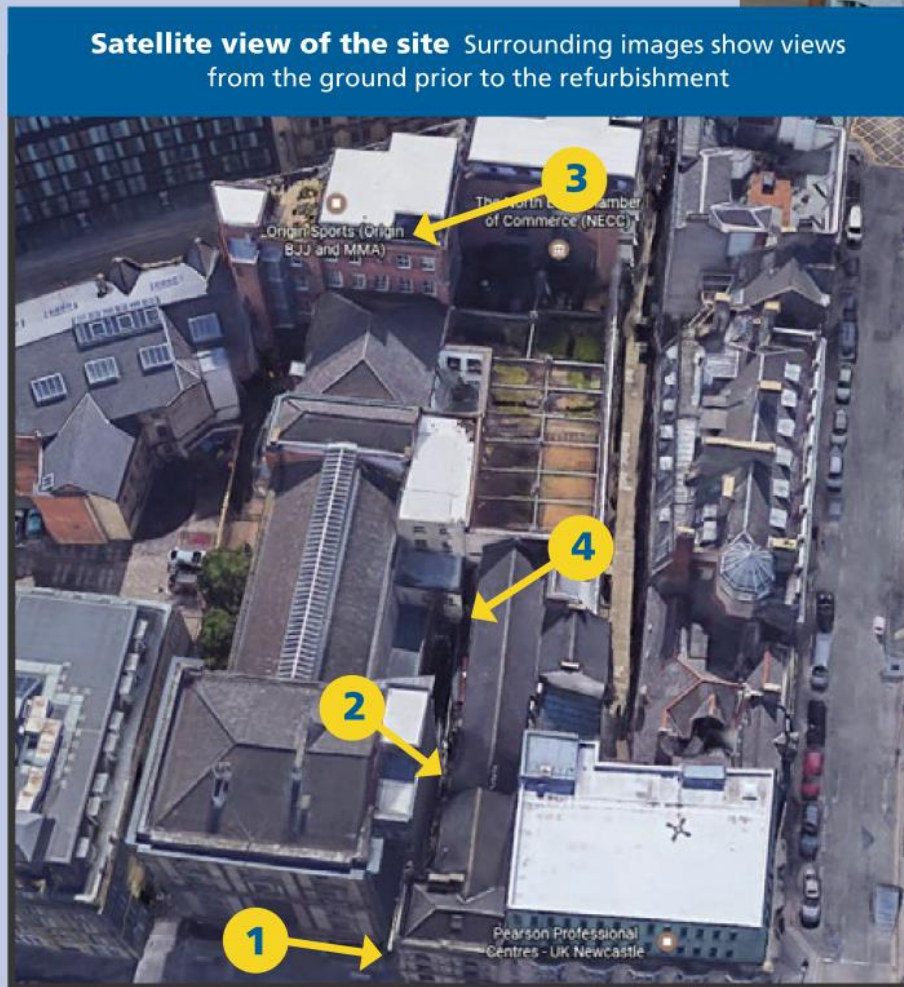
- A pioneering assessment technique, using room acoustic modelling software rather than outdoor noise propagation models, due to the semi-enclosed nature of the alley and surroundings;
- Control of music noise break out through night club doors using an innovative external “walk-through” attenuator in the alley, with materials never previously used for this application;
- Control of patron noise by partial enclosure - a novel arrangement of sound absorbing wall panels and rafts also acting as noise barriers;
- Re-evaluation of the smoking shelter regulations to enable design of compliant spaces capable of providing acoustic screening;



2 The alley used as the smoking area prior to refurbishment, looking from the street end. The bamboo-faced rafts were to keep rain off patrons



1 The alley looking from the street end.



Satellite view of the site Surrounding images show views from the ground prior to the refurbishment



3 The view towards the alley from the residents' flat



4 The alley looking from the rear towards the street.

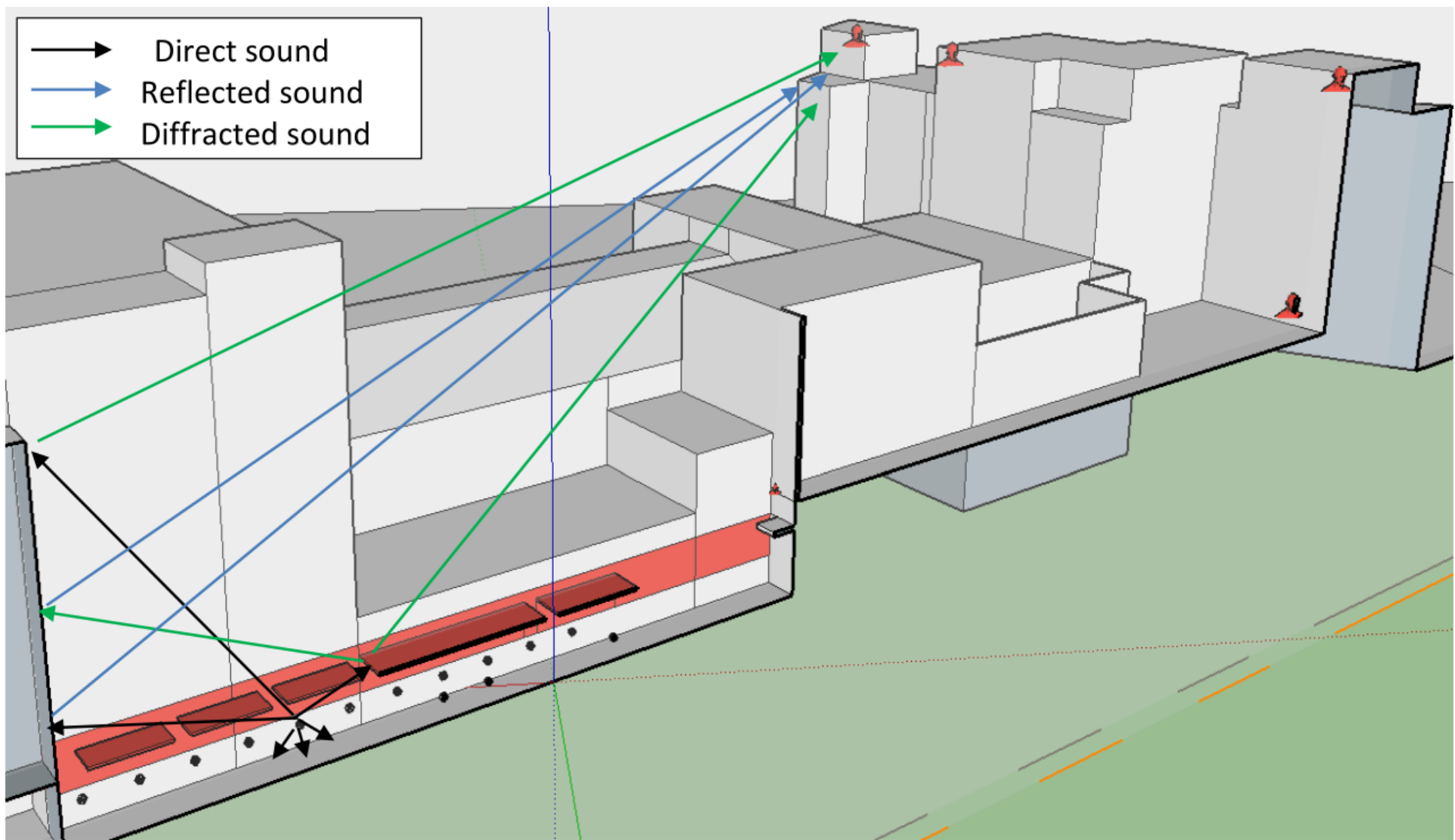


Figure 2: Advantages of full 3D modelling technique in this application

