

Press Release

15/02/2016

Hearing is believing - virtual reality brings a new vision to acoustics design

Cundall launched its new Virtual Acoustic Reality™ (Cundall VAR) system in the UK on 10th February 2016. Cundall VAR is a unique and cutting-edge tool for both clients and design teams and is set to transform building and infrastructure design with a combination of audio-prediction modelling and gaming-quality graphics.

Eschewing the flat graphic interface of traditional acoustics computer modelling, the Cundall team has combined the Oculus Rift virtual reality headset with a gaming engine and high-quality audio to take clients and project design team members on an immersive audio and visual tour of a building - before it is built. The ability to hear how sound actually changes as users move through different spaces will enable valued decisions to be made based on experiential factors rather than numbers on a page.

"We've evolved from a very boring static numerical prediction through to something which is based on an audio visual experience, is now dynamic, immersive and can be taken around the world to clients," says Andrew Parkin, Cundall's Acoustics Partner.

The user sees a 3D representation of the inside of the building, including furniture, partitions, etc., simultaneously hearing whatever noise sources are input into the model. This could be a teacher within a model of a classroom, assessing the clarity of sound reaching a student; a piano within a recital hall, to judge the level of clarity and listen to the effects of reverberation and echoes within the room; or various sound sources within a restaurant, allowing an operator to appreciate the benefits of providing specific acoustic treatments within the dining room. Any development which has neighbouring sources of noise (airports, railways, motorways etc.) can use Cundall VAR to give peace of mind to the client, designer and end user.

Fully portable inside its sturdy flight case, Cundall VAR can be set up on site or in colleagues' offices, improving communication between the different members of the design team by giving each equal access to the design, in an understandable and relatable format. Proposals can be evaluated, potential problem areas identified and alternative solutions tested – all whilst the building is still at the design stage.

Explains Andrew: *"At Cundall, we believe the more people that can be engaged in the design and decision process, the better the end result of a project will be. Creating buildings that have better acoustics and have a positive impact on the end user experience is one of our passions."*

Cundall VAR links a powerful 3D graphics program, Unity, with the CATT Acoustic software. Users operate an X-Box controller to move forward, backward and side to side within the 3D model. The Oculus Rift headset system changes the direction of the virtual 'head', giving 360 degree vision and altering the 3D view displayed to match the user's orientation. A pre-programmed acoustic model calculates the conditions at many locations across a grid, and the 3D walkthrough enables the user to travel across that grid, hearing – in real time - how the sound changes.



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Note to Editors:

Cundall: 40 years of clever, friendly engineering

Cundall is an international multi-disciplinary engineering consultancy with over 600 staff, operating in over 11 countries across the globe.

2016 sees Cundall (Cundall Johnston and Partners LLP) celebrating its 40th anniversary. Established in 1976, Cundall's founding partners shared a common vision that the practice would become a leading multi-disciplinary engineering consultancy built on sound ethical principles. For 40 years, Cundall's engineering expertise, coupled with creativity, innovation and a deep-rooted understanding of people and communities, has allowed the business to develop the best possible solutions for clients' projects. We are Clever, Friendly Engineers.

Harkening back to the founders' roots, sustainability is integral to our approach. We provide our clients with practical advice and solutions, which reduce the environmental impact of developments, and provide better spaces for building users and occupiers, as well as for the wider community.

Cundall is the world's first consultancy to be endorsed as a One Planet Company. As a business, Cundall has implemented a number of sustainable initiatives on projects around the world, as well as in our offices. For example, Cundall's new London office at One Carter Lane is one of the first buildings in Europe registered to pursue the WELL Building Standard, a goal intended to put the health and wellbeing of the occupants at the heart of building design.

For more information about Cundall, please go to www.cundall.com. Alternatively, you can find us on Twitter at www.twitter.com/Cundall_Global

To find out more about Cundall's One Planet Company commitments, visit <http://www.cundall.com/About-Us/Sustainability/One-Planet-Company.aspx>



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