Veesus

Newcastle University student creates innovative, immersive heritage experience with Arena4D

Challenge	Solution	Results
▶ Needed a way of combining multiple data types to visualise an innovative masters thesis ▶ Needed to animate the data set to create a highly engaging presentation	▶ Veesus Arena4D point cloud editing and animation software ▶ Enables users to combine point clouds, photogrammetry, images, and audio into a single project	▶ A Masters degree in Architecture culminating in a refreshing and highly engaging presentation ▶ High-quality animations offer even greater value to clients

About Newcastle University

Founded in 1871, Newcastle University is a Russell Group university in the UK offering higher education courses to over 28,000 students. With a particular focus on areas including cities, culture and creative arts, data, and the planet, Newcastle University prides itself on advancing human knowledge through creative solutions to global problems.

The Challenge
Showcasing the history and potential of a building in one installation

Architecture can be a window through time. Not only can architects create visions of future buildings; they have the capacity to delve into the past, uncovering the hidden stories, details and secrets which enrich the architectural value of the building in the present. It was this philosophy that made Sophie Collins, Masters student at Newcastle University, endeavour to create a unique experience for her final thesis – and to represent the work in an unconventional medium. She chose to focus on a misrepresented Grade II listed train station in Sunderland, Monkwearmouth Railway Station, contextualising in the current setting how it could be transformed into an interactive archive with a constantly changing programme of exhibits that kept visitors engaged with the history of the building and the city.

Sophie explains, "I wanted to push what was possible – to create a space that added value to the community once again in a novel way that embraced the past rather than displacing it."

Sophie had previously been a part of a research area of enquiry focusing on forming a stronger understanding of the complexity of spatial imagination and memory in architecture – through the technical lens of the 'machine' (Leica BLK360).
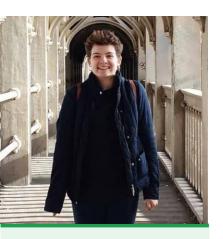
"I was very taken with the idea of displacing architectural convention," says Sophie, "not only with the subject matter but the method of execution. Alternative technology such as LiDAR has so much creative potential within the architectural realm – so it felt like the perfect foundation for my thesis."

Sophie used Arena4D to layer designs for her interactive archive over the existing point cloud data.

Arena4D's animation features have enabled Sophie to strip away the exterior of the building in the animation, revealing the structure within.

The Solution
Veesus Arena4D

As the project progressed, Sophie needed a tool that could facilitate the combination of point cloud data and photogrammetry that she had captured to create the immersive experience her thesis demanded. Veesus Arena 4D was the perfect software to handle such complex data.

Sophie found Arena4D very helpful in assembling the various elements of her project, and quickly taught herself to create more and more complex animations. "The online tutorial videos Veesus provide are really great: short and to the point."

The project pushed Sophie and Arena4D to the limit as the animations became more complex and the data types even more diverse. Sophie added sound effects, archive footage, hand drawn elements, and meshed photogrammetry data to her project, along with animations. "Arena4D is the perfect software to take all this very complex data and combine it with hand-drawn elements to create a highly detailed final output."

The Results
A stunning project and a bright future

Sophie's thesis is now finished. It's a fly-through of the structure, showing the possibility for interactive installations that prospective visitors could engage with showing the history of the area and the building, and represents an intriguing take on archives. "Archives are traditionally static spaces," Sophie expands, "and I wanted to challenge that concept here. Why shouldn't they be living, breathing spaces that give back knowledge as well as accumulate it?"

Sophie was pleased with her results, and the university must have been too – we're delighted to share that Sophie graduated with a distinction in Master of Architecture. "I'm thrilled with that result," Sophie says, "and I'm glad I chose Arena4D to bring my thesis to life. Often in architecture the outputs require further explanation – but Arena4D changes that."

Sophie has already started working with a new firm, who are also interested in her use of software. "I used Arena4D as part of my application to the firm," she explains, "I'm looking forward to putting my work into practice and seeing where it takes me!"

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Sophie Collins, MArch
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For more information:
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