

AT

AT lines up sound design pros behind hit titles *Portal 2* and *Limbo* to talk about spending days breaking glass, using an antique wire recorder and 'video games as art'.

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▶ Not many do it, but some videogames have gone from lightweight distraction, to 'fabric of life' status. Valve's original version of *Portal* is one that's transcended mere 'game' status – stamping geek culture with unique catch-phrases – such as “the cake is a lie” – and blended original game play with a strong script and unusually powerful characterisation.

In other hands, the game could have stayed stuck as a simple problem solver. But literary references and a murderously personal antagonist created a product that was described by *Wired* magazine as one of the most significant games of the 21st century. It also caught the attention of academic sociologists and has been exhibited at a contemporary art exhibition at the Smithsonian Institute.

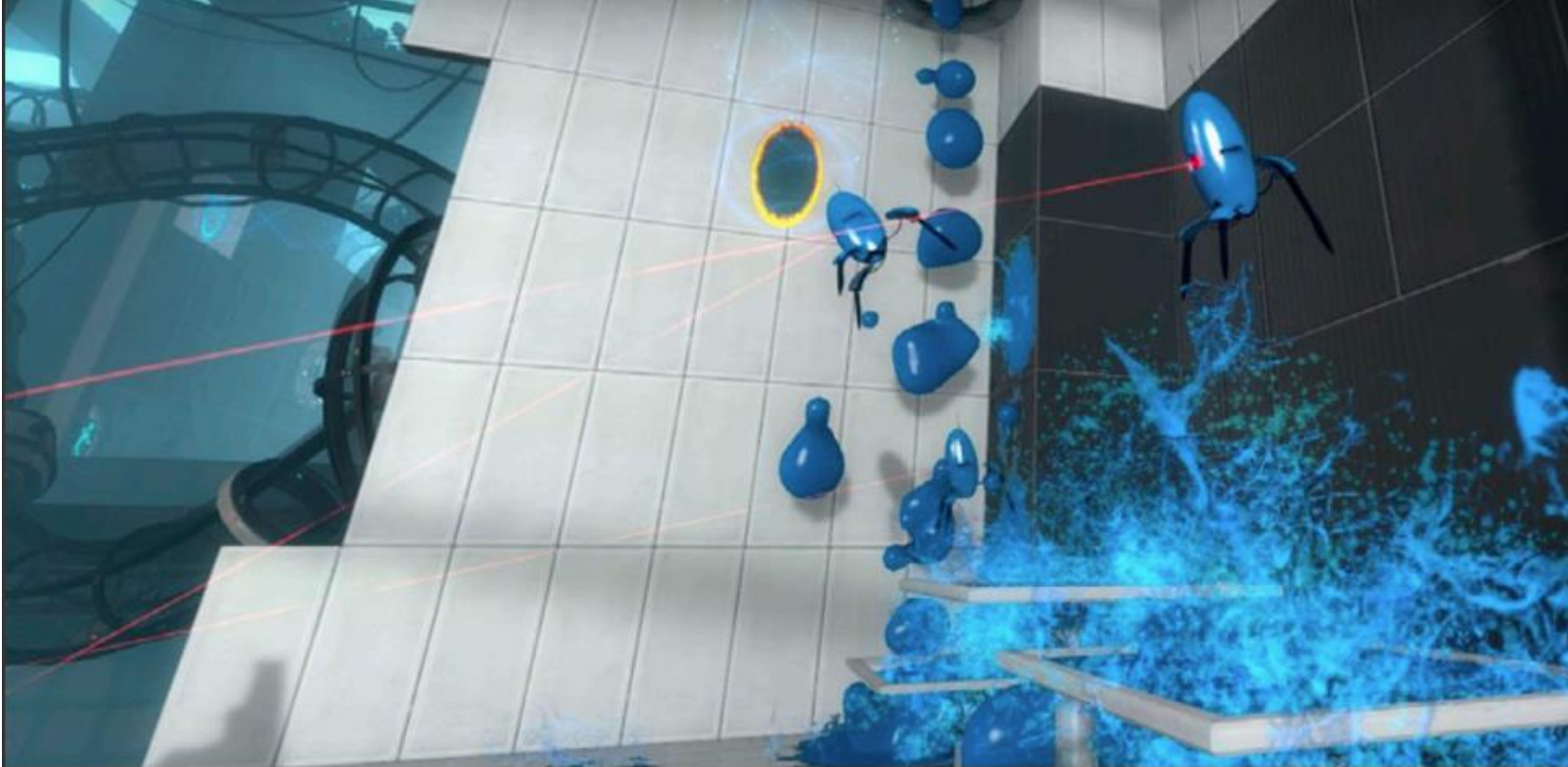
With this kind of enviable reputation to live up to, the sequel was widely anticipated. So how did Valve go about creating *Portal 2*, and enhancing the strong sound design of the original?

Mike Morasky, whose other credits include visual effects supervision on *Lord of the Rings* and the *Matrix* series, has been working as an in-house composer at Valve since 2003. He took some time to talk to AT about tools, technology, and Valve's unusual creative workflow.

IN THE FLOW

As Mike explains: “Valve's production methodology may be unique. We don't have managers, and we don't have hard boundaries between disciplines. So it's a very organic, and very adaptive work environment. When a sound designer decides a particular sound is needed, they can create it, refine it, and then submit it to the database used by the rest of the team, and by the testers. So we're all free to develop new ideas and get them in front of other people very quickly.”

This flat hierarchy makes it easy to fold in the best ideas, wherever they're from. “Everyone is encouraged to participate in all aspects of the game design. As sound



(Below) Each artist at Valve has his own audio suite in the building, fitted out to their own specs. Two of the studios have isolation booths for tracking temp dialogue and recording Foley.



designers and composers we create the sounds. But we also get feedback and input from anyone interested in each part of the game. And the opposite is true; we provide input into the entire process and comment on other parts of the workflow. So sometimes we'll push to add more audio opportunities in the main game design." The result isn't just original sound design, but quirky, creative set pieces. As Mike says, some of the interactive music, like the Faith Plate fling cues or the Lazer Catcher ensembles are particularly unique to *Portal 2*. "There's also a Turret Opera at the end of the game, with an auditorium full of killer turrets singing an Italian aria. That came about slowly and in a roundabout way. In fact, it only really came together right at the end of production."

BANG ON A CAN

A quick tour of the Valve studios shows that rocks, rubble, wood, glass, and old cans are often used for instant Foley. Is Foley done in-house? Mike explains. "Mostly, yes. For example, we had an all-day glass-breaking field recording session. We must have destroyed a few hundred pounds of large panes of various different types of glass. The results were fantastic. There are some critical narrative moments that really pop because of what we captured that day."

If the workflow is unusually organic, the technology used is mostly off-the-shelf. "The signature synthetic voiceovers – especially the one by opera singer Ellen McLain, who voices the GLaDOS character – were done in Melodyne. But we also worked hard to achieve the various styles and spaces that the dialogue is presented in. GLaDOS and the new Wheatley character are mixed as if they're in your head. But they're also affected by the reverb of the space you happen to be in, which is pretty unique to *Portal*. We deliberately change the depth and detail of the

locations, and the immersive quality of the game.

"Otherwise, the tools are mostly standard. Each artist makes their own selection, but it's the usual list of names – Avid, Nuendo, Live, Altiverb, Waves, iZotope, Sound Forge. For me personally, Native Instruments Reaktor played a big part in the music."

PUTTING IT TOGETHER

A key problem for any game company is performance and assembly. The sound and the music have to be cued, sometimes modified, and pre-selected by context. Games companies have developed various solutions, but there's no single off-the-shelf answer.

Valve has created an in-house assembly system that combines elements of play-out and automation. Is this a key part of the Valve success story? Mike: "For *Portal 2* we developed an open, scalable sound operator system that allowed us to tailor and customise our interactive audio and music to match the in-game circumstance. It's actually a patchwork of systems. Many were usable across much of the game without changes. But when a unique problem appeared, the fact it's an open system meant we could adapt or add features without needing to get help from our engineers. And when we do need core technology, it's neatly modularised so that we can add new features quickly while minimising the risk of ripple-out bugs. The source engine also has a large audio feature set, all controllable via the new system." The result has been enthusiastically received but it's going to be a while before there's another sequel. "We've just finished another game called *Meet the Medic*, which was released in June and is part of our uber-update of *Team Fortress 2*." And as for rumours of a *Portal 2* sequel? We can neither confirm nor deny.