Gravity Sketch is the first pro-level VR app for artists

Gravity Sketch isn't the first artist's tool for VR. That honour went to Google's Tilt Brush, the VR painting app that the greatest number of us will have tried – which allowed us to roughly paint with strokes and sparkles in three-dimensional space like a toddler with their first art set and no canvas.

Oculus itself followed its own 3D modelling app, Medium. This has a simple toolset – at least compared to traditional modelling and sculpting software – though it hasn't prevented some artists from creating some very high quality work (check out these models by ex-ILM/Valve character artist, now-in-house Oculus employee Giovanni Nakpil.

Gravity Sketch is a different class of application. Starting out as a VR sculpting tool for car and shoe designers, there's a potential for grace and solidity to the models you create that's lacking from Google and Oculus' tools.

You can draw freehand in 3D space using smooth curves, then extrude surfaces into 3D space – or extrude as you draw around a centra access. You can grab and move points to adjust splines.

And you can use both controllers together to create a surface like pulling a ribbon through the air.

While the startup behind the app is based in south London, I first encountered Gravity Sketch at the launch of the iMac Pro in New York in December. Apple was demoing the software to show the VR capabilities of its new all-in-one workstation when connected to an HTC Vive (on Windows the app works with both the Vive and Oculus Rift).

Back in London I spoke to Gravity Sketch co-founder Oluwaseyi Sosanya and ILM senior concept artist Jama Jurabaev about why the former wanted to create it, and what the latter's been using it for.

Oluwaseyi – Seyi for short, pronounced 'Shay' – comes from a background in manufacturing, working at Taiwanese white-label electronics manufacturer Pegatron that produces items like PlayStation and Xbox controllers. Seyi came to London for a joint masters course at what's now the Dyson School of Design Engineering at Imperial College, where he met Mexican industrial designer Daniela Paredes Fuentes. The two decided to create a tool that could bridge the gap between sketching in two dimensions and 3D output.

“Sketching [objects] in 2D is a three-dimensional idea represented through the laws and principles of perspective,” says Seyi. “The clearest, easiest way to navigate any kind of three-dimensional idea is to actually see it in 3D. And that’s what virtual reality and augmented reality offer.”

This was in the early days of VR – before the Vive let us get off our chairs and walk around in virtual space. While waiting for VR technology to catch-up – and to fund the development of Gravity Sketch beyond a modest grant from the James Dyson Foundation – Seyi and Daniela worked at Jaguar Land Rover.

With this beginning, it’s no surprise that Gravity Sketch was initially aimed at car designers (as well as footwear design, which has similarities in its creative process to that of car chassis). Its tools draw on the traditions of automotive design – tapping into long-standing techniques including the tape drawing that underpins ribbon-like dual-controller sculpting process.

However, the tool has also proved popular with artists and designers working in the industries Digital Arts covers, creating models that will stay digital forever in films, games, TV shows, ads and animations. Jama Jurabaev is a concept artist at ILM London, where he’s worked on *Avengers* and the forthcoming *Ready Player One* and *Jurassic Park 2*. He’s also created tutorials about creating art in VR, which you can purchase from his website.

In the video *below*, Jama takes you through the creation of a mech in VR.

[embedded content]

Jama first heard about Gravity Sketch through a friend.

“I was immediately intrigued,” he says, “as it looked very promising and close to the workflow I wanted to have [for creating models in VR].

“It was super easy to learn. The interface is clean and very intuitive. On top of that, the Gravity Sketch team is very quick at responding to any requests or improvements.

“Having a strong 2D and 3D background, it was very easy for me to pick it up – and having some VR experience helped me too.”

Jama has a strong belief in the use of VR in general as a modeling environment, saying “VR is definitely the next step in the evolution of concept art.”

For him, VR – and Gravity Sketch in particular – combines the benefits of creating concept art in 2D and 3D: the swiftness of sketching using pencil and paper (or tablet and stylus) and the ability to create your work in 3D space and look at it from any angle.

Jama also notes that working in VR, you can experience the model at the same scale as real-life, something not possible on screen unless you're working exclusively on models smaller than a shoebox.

"It allows you to sketch in VR space and to be fully immersed in the scene experiencing the scale," he says. "This is something that will dramatically reduce the cost and the time of prototyping any kind of designs such as movie sets, prop designs and etc."

You'll still need to zoom in and out on models to sculpt anything larger than the reach of your arms, notes Seyi – aware that the tool has to be as "capable for *Jurassic Park* dinosaurs as for cars" if they want the broader creative

market to embrace it.

Of course I asked Jama if he'd been using Gravity Sketch at ILM for any film projects, but he was unable to say.

Looking to the future, Seyi wants to refine Gravity Sketch's creative tools further, enhancing it to the point where it's easy to attain what he calls 'creative fidelity' – the point at which what you create indistinguishably matches what you had in your head originally.

He's also very interested in augmented reality using the headsets that follow on from the Microsoft HoloLens (above, modelled by me). Right now Gravity Sketch exists as a VR app and a mobile app for the iPad– which is a creative tool using

the Pencil but also allows people without VR headsets can view models and scenes. Part of the appeal of Gravity Sketch to the car industry is that unlike clay models, VR sketches can be easily viewed from any angle from anywhere in the world.

Augmented reality – or as some call it, mixed reality – would let you see the world both inside and outside of the space you're creating in. This some different possibilities to VR – and Seyi says you'd use them in different ways.

"If I'm creating a new world, planet or scenario, I don't really want to be in AR," he says, "I want to be in VR because I have a blank canvas that I can just do whatever I want in without distraction.

"If I'm meeting with the engineering team and I have the chassis of a vehicle sitting in front of me, AR is completely necessary there because then I can just sketch right on top – and everyone can see exactly what's happening."

Seyi's example is automotive focussed, but you can see the possibilities in other areas of creativity – drawing in 3D space on top of an actor to create a monster or sketching props live on set. And that would be the first true mixed-reality creative process.

Gravity Sketch costs US$24.99 for a limited version, $29.99 per month for the Pro version, or $99.99 per month for the Studio version that adds the ability to import environments and export files to Rhino.

https://www.digitalartsonline.co.uk/news/creative-software/gravity-sketch-is-first-pro-level-vr-app-for-artists/