COMPANY
ONE ANIMATION

LOCATION
Singapore

SOFTWARE
Autodesk® MAYA®

When it comes to a centralized pipeline, One Animation lets Maya do the heavy lifting

Image courtesy of One Animation

"We are happy to see Maya incorporating more and more features that were part of Softimage.

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— Enrique Caballero
ONE ANIMATION
Head of CG

Image courtesy of One Animation

INTERNATIONAL EMMY® AWARD NOMINEE 2017
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Since originating in a small office space next to a loud render farm in Singapore back in 2008 with just 12 people, One Animation has grown into an award-winning 3D animation studio with content broadcast in over 180 countries. It specialises in children's programming with an emphasis on developing its own intellectual properties.

The company today has around 100 employees with a production team representing 33 nationalities, and its Singapore office is much larger than the original office space its founding members all shared. They also have another studio in Jakarta, Indonesia, and while they don't consider themselves to be a huge operation by any stretch, the team's portfolio is quite impressive. The studio's titles are broadcast across major networks like Nickelodeon, Disney, and Discovery Kids with a portfolio that includes a diverse range of highly acclaimed animation series, including the Emmy-nominated children's show, Oddbods.

Finding a way to let artists be artists

The One Animation team will be the first to admit that there have been hundreds of technical obstacles they've had to overcome through the years. Nevertheless, a key challenge has been coming up with a way that artists and animators can work together and collaborate as seamlessly as possible.

"Artists are beautifully creative beings, but they are very human, and humans make mistakes," says One Animation's Head of CG, Enrique Caballero, who's also one of the original 12 members of the company.

The need for improved efficiency grew not only out of the company's growth and volume of employees in two different locations, but in the technology needed to animate the shows. Oddbods, for example, began as a series of one-minute sketches. Now, however, each season includes nine hours of fully rendered

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content, and long-form television is very different from film or video games. In film, for example, people use assets for a year or two before they're archived. Long-form television, on the other hand, is very different.

"With film, maybe the assets will come back a few years later for a sequel, but usually they just disappear into obscurity," says Caballero. "With long-form television shows such as Oddbods, we are constantly making content."

The switch from Softimage to Maya (and Bifrost for Maya)

One Animation is what Caballero affectionately refers to as "a small shop that does kids' TV shows." People don't typically expect a studio this size to have an R&D department, but they do have one. This makes it possible for the team to work smart and utilise resources to the very best of their abilities.

"We collaborate with Jakarta by having a centralised pipeline that both studios use," says Caballero. "We both share the same database and files. They are just synchronised across two servers, one in Singapore and one in Jakarta."

The studio's main DDC is Autodesk Maya which the team uses for modelling, rigging, and animation. They've been using it for five years and are also early adopters of Bifrost which has recently replaced the need for Softimage while enabling the company to significantly scale its pipeline. For lighting, fx, and rendering, the team also uses Houdini and renders in Mantra. With Oddbods, content creation tools are always centred around Autodesk products, be it Softimage or Maya.

Early adoption of Bifrost

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Because the team's assets live for such a long time and are used daily, it's crucial for them to have efficient rigging practices that include lightweight environments and fast scene load times. Rig efficiency in conjunction with lightweight GPUCached environments makes it possible for animators to animate with multiple characters on one screen while avoiding slow interaction.

"Our production can move at a fast pace, so being able to develop rapid prototypes and iterations with Bifrost is working very well in our environment," says One Animation's Lead Pipeline Technical Director, Jason Labbe. "It's also giving our TDs more opportunities to do bespoke effects on a per-shot level, whereas before it would have required much more time and effort to, say, make a C++ deformer."

A powerful pipeline that protects the artists from themselves

When all is said and done, Autodesk plays a central role in One Animation's workflow. The switch to Maya five years ago has enabled the team to build an incredibly powerful pipeline to pass data back and forth between departments, but it also lets them automate tedious tasks. It allows the artists to be artists, and Bifrost for Maya has given them the opportunity to rethink all aspects of their pipeline, right down to asset creation and animation.

"We have created a pipeline that protects the artists from themselves,'' says Caballero. "It gives the artist a safe sandbox to get creative inside of while keeping our pipeline safe from silly little accidents. None of this would have been possible without Maya's flexibility, scalability, and its robust scripting capabilities."

When it comes to emerging trends in animation, both Labbe and Caballero agree that there are many interesting new approaches and technologies coming onto the scene:

"I see the future of rendering to be split between GPU-Accelerated Path Tracers such as Redshift, Octane or Arnold's GPU

Image courtesy of One Animation

implementation, and Real-Time rendering such as Unreal or Unity," says Caballero.

Also, with the disappearance of Softimage, the team wanted to find a software that had equally powerful tools and flexible workflows for the artists. They knew that the development of Bifrost was progressing and that they'd be able to start making good use of it very soon.

"We're huge supporters of Bifrost and it's just a matter of time before it becomes a core component of our architecture," says Labbe. "USD is another promising avenue that we want to explore. With its popularity rising and more companies looking at it I'm sure we're going to see its development improve by leaps and bounds."

Some words of advice from Jason and Enrique for 3D artists who are interested in coming to work with the team One Animation team:

"Degrees and diplomas are nice – they help you get work visas and they make your parents proud, but as far as we are concerned, all that matters is the skill and the attitude. So, if an artist wants to join us, they should practice like crazy, get some good work together and send that portfolio our way." – Enrique Caballero, One Animation

"I think what still holds true today is this: The school you went to doesn't define you. As long as you have solid work to show and you have an easy going attitude, then the sky's the limit!' – Jason Labbe, One Animation

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