

FREE 6GB OF VIDEOS & MORE

Practical inspiration for the 3D community

www.3DArtistonline.com

94

3DArtist™

NEW UPDATES REVEALED

3DS MAX & MAYA

Our first look at Autodesk's exciting new software developments



KITBASH CONCEPTS

Mark Van Haitsma reveals the secret to great design



HOW TO MAKE IT AS A COMPOSITOR

PHOTOREALISM IN CINEMA 4D

WATER DYNAMICS IN REALFLOW

FIRE UP YOUR MODELLING

• 5 expert workflows • Pro sculpting & hard surfaces • Advanced techniques explored



IS THIS THE BEST MOCAP EVER?

DI4D, Audiomotion and Remedy explain the awesome tech behind Quantum Break



ISSUE 94

£6.00
94 >



771759 963007



PRO TEXTURING FOR GAMES

Utilise ZBrush and 3ds Max to generate triple-A standard tileables



Zero's team took on the monumental task of swapping seasons for *Black Mass*



With a global talent pool, VFX Legion has the know-how to make triple-A visuals

MAKE IT AS A COMPOSITOR

Get a seamlessly integrated foot in the door with practical tips and advice from industry experts

The art of compositing is rooted in the pre-digital era, from the trick films of George Méliès in the 19th Century to the ground-breaking work of the father of stop-motion animation Ray Harryhausen, who matted his creatures using a combination of rear-screen projection and a front, hold-out matte.

Nowadays, the often invisible art of compositing can be seen, or rather not seen, in a vast array of big and small-screen productions. Larger studios have entire departments of compositors working at the final step of the pipeline in a VFX facility or acting as a standalone department working purely on compositing shots. Common production tasks such as wire, marker, reflection and object removal, green screen and blue screen

compositing, shot stabilising, tracking, sky replacement and more are all part of the job.

To help aspiring compositors looking for their first break into the industry we interviewed leading experts to explain how to get started, what's expected from a junior artist, tips for progressing and responsibilities for once you get to the top of your game and working on those all-important complex shots.

“Practical experience, an eye for detail and a lot of passion is what you'll need; experiment as much as you can”

Michelangelo Neri Orliani



In *The Man From U.N.C.L.E.* HMS Hermes was built by Cinesite's CG team



Before diving into what working in the industry as a compositor entails, it's important to know both what a compositor does and what compositing is. "Compositors are the men and women of VFX that weave the assets together and bring the shots to life... the last line of defence in the VFX pipeline before a shot is completed and sent to the client," begins Kyle Spiker, lead compositor and creative director at VFX Legion. "To a compositor, plates, CG, matte paintings, paint and roto are pieces of a puzzle. There are thousands of ways to put it together, so the talent and artistry of a good compositor is in creating a cohesive image efficiently, on time, and at a quality level befitting of the project."

To explain what compositing is, we asked Janeen Elliott, senior compositor at Image Engine and VES award-winner for Outstanding Compositing in a Feature Motion Picture: "Compositing takes everything that has been rendered and combines it with either other rendered elements, for example from the lighting and FX departments, and/or with live-action elements. Live-action elements could be a background plate, a green screen plate or something as simple as a smoke

element that was shot over black. We combine all of these elements, balance for colour, film grain and film aberrations, and in the case of my work, strive to make the shot look as photoreal as we can – typically trying to mimic how all of our elements would look had they been shot through a camera at the same time."

LANDING A JUNIOR COMPOSITING GIG

To increase your chances of being hired for your first position, it's a smart move to gain some experience before applying. Being able to demonstrate key skills in your showreel will dramatically increase your chances. "Practical experience, an eye for detail and a lot of passion is what you'll need; experiment as much as you can, copy and learn from anyone with more experience than you, and be passionate and curious. Secondly, if you are compiling your first showreel go for quality, not quantity. It's better to have two great shots than ten average ones – always put the best at the very beginning. Showreels are judged in the first 30 seconds," explains

PLAN COMPOSITES

Like a house, you don't want to build the roof before the walls. Collect your materials, make placeholders for things you don't have yet and make sure all the pieces fit together according to plan. That way you can avoid surprises. Build up from there, improving each piece as you go.

Jeremy Brown



There's a surprising amount of digital Cinesite trickery you may have missed in *Spectre*

Michelangelo Neri Orliani, senior digital compositor and 2D lead at Cinesite.

One of the more common entry-level jobs available is rotoscope artist. "It's not always the most enjoyable task, but there's no escape from roto work in compositing," says Robert Liscombe, compositor at Zero VFX. "It's a great foundation skill. Understanding how to quickly disassemble an image using roto splines is equally as important as knowing how to reassemble it as a composite."

LEARN YOUR SOFTWARE INSIDE AND OUT

"The more you know about your tools the better you can use them, the more creative your workflow will become," explains Spiker. "The more fluid your input, the better your ideas will flow. Ideally, the software becomes an extension of you... not a limit, but a magnification of your imagination. This won't happen without an encyclopedic knowledge of the program. A qualified candidate needs to be able to roto, track, key, colour correct and paint. VFX is a fast-paced industry and learning on the job comes with the territory, but without a working knowledge of the basics, you're going to be a liability. That said, the fundamentals are only going to get you so far... what I look for in a junior artist is strong communication skills and an eagerness to learn."

Elliott affirms: "Compositing is one of those right brain and left brain roles where (I believe) you need to have a certain technical understanding of how the software works but also, and perhaps more importantly, you have to have a good eye for detail and composition. Compositing is not for the lighthearted. The comments can seem harsh sometimes, and the hours can be crushing. As compositors, we are the last in line before the job leaves the facility, so if the deadlines have been pushed in other departments, often there isn't much room for deadlines to shift in compositing. So overtime work is very common, especially when starting out and you're struggling to learn

pipelines and procedures as well as efficient techniques. Stay true to your ideals though, stay focused and you should weather that time well. Compositing skills that would be best to tackle for a junior role would be roto and paint, paint work cleanup, rig removal, character removal; tracking, including manual tracking using the tracking systems and camera tracking within the compositing software; basic keying of blue screens and green screens; some CG integration – even of a simple model; and some integration of live-action elements – smoke or dust or something similar to show the ability to utilise library elements."

"You work throughout the production process and need to deliver lots of shots to a tight deadline, so it's important to be able to debug and problem solve along the way," adds Orliani. "A meticulous and methodical approach and the ability to be an active part of a big team are key. Having the ability to balance the quality of your work and the time available to always get the best possible result is also vital in the role. In terms of software and tools, After Effects is a good starting point, but experience with Nuke or another node-based software is essential to work in the industry.

BLOCK SHOTS

Test before committing. To avoid wasting time and energy it's important to figure out your solution before you start to refine it by creating a simple proof of concept shot. Blocking your shot first will help you find any problems early and make your final path much less stressful.

Kyle Spiker

CLEAN SCRIPTS

It's a good rule to try to keep your scripts tidy. Not only does it help you find your elements and hunt down any issues but you'll also encounter less confusion when you hand off to another artist, which can happen sometimes with last minute scheduling changes.

Janeen Elliott

software, ideas or tips. Learn to be okay with being wrong and accepting criticism."

Liscombe adds: "Always keep building upon your skill set. Examine the techniques that more senior compositors have used to complete a shot. The beauty of node-based compositing is that it is super easy to follow another artist's workflow. Mimic elements of their work and add those tricks to your toolkit."

Further study is also recommended by Elliott, who advises to "continually learn and

follow updates to the technology and discipline. Learn from your peers – ask questions on how they approached a problem, attend software launches and watch online tutorials to stay on top of the technology. You can pursue growth artistically with your own side projects, but technically you are dependent upon learning from the people creating the software and how others are using it."

KEEP LEARNING

With experience as a junior under your belt, your next goal will be to work your way up. "Visual effects is a continuously evolving industry with more powerful tools available each year," explains Spiker. "I've found it extremely important to test and refine my process whenever I can. Never be afraid of a new technique, piece of



JANEEN ELLIOTT

Image Engine
image-engine.com

Projects:

- Chappie
- Elysium



KYLE SPIKER

VFX Legion
vfxlegion.com

Projects:

- Avatar
- Justified

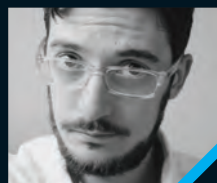


LUKE BICEVSKIS

The Sequence Group
bit.ly/1Tb3R5M

Project:

- Halo: The Fall Of Reach



MICHELANGELO NERI ORLIANI

Cinesite
cinesite.com

Project:

- Spectre



JEREMY BROWN

Zero VFX
zerovfx.com

Projects:

- Hardcore Henry
- Southpaw



ROBERT LISCOMBE

Zero VFX
zerovfx.com

Project:

- Black Mass





The house wasn't burned down in *Sinister 2*, as VFX Legion provided visual effects



In *San Andreas*, Cinesite added CG rotors to a hydraulic rig to sell the illusion it's flying



GETTING INTO THE INDUSTRY

Janeen Elliott reveals top advice for getting hired as a compositor

"While it is totally possible to get into the VFX world by self-training, recruiters usually want to know that there has been some formal training involved and that you've been taught to avoid some common mistakes. Train up in roto and paint work, keying and CG integration.

"Do some matte painting if that interests you, and comp that into your background. Try to integrate some live action elements such as smoke or dust. Compositing is all about layering elements, colour grading and overall balance as well as adding in fine details to sell the shot. In film, compositing gets literally down to the pixels in detail work. Hone that ability to work on the details of the overall shot so that it looks as seamless as possible.

"Ask a friend or peer to check your work, as it's amazing how often you can overlook obvious mistakes when you're focused on fine details. Stay true to the work that you would like to do and don't be afraid to express those interests, for example if you really enjoy doing CG integration work, don't be afraid to tell production that you'd prefer that type of work. Most often they will try to accommodate."

UNDERSTANDING SENIOR ROLES

Elliott has been a compositing sequence lead in the past, but has now settled on the role of senior artist. "The senior artist role... consists of compositing shots (often more complex shots), sometimes being called in to do specific look development, gizmo and tool creation, assisting fellow artists, getting shots done quickly, efficiently and looking great without the need of much direction from 'sups'."

A camera shot for *Elysium* flying up and over into the space ring proved a memorable challenge. "At first the camera is facing Earth and the ring (which orbits Earth) was dark, then when the camera flew up over and into the space ring, we were facing away from Earth glancing past the bright Sun into the bright terrain of the ring. It was an extremely complex shot with multiple layers, many of which did not render with motion blur so that needed to be applied in comp. Not to mention layers of elements, added lens flares and other extras, and it was basically two different shots in one, due to the lighting and perspective change. Ironically, I do enjoy the complex shots most! I enjoy being given a giant task of a shot and making sense of it, down to making it really beautiful."

As a lead compositor it's Spiker's responsibility to review what's been shot, understand the client's needs, discuss the most effective solution with his

COMPOSITING WITH AFTER EFFECTS

Luke Bicevskis explains why the Adobe program is Sequence's go-to tool

"Growing from a motion comics/graphics background, Sequence has always enjoyed the use of After Effects and other Adobe products.

"For *Halo: The Fall Of Reach* we used AE exclusively for compositing. It allowed us to integrate multipass EXR renders, 3D cameras and 2D multilayered digital matte paintings. We were then able to relight our scenes and generate all of our FX in the program. Being able to create a complex nuclear space explosion or rig a 2D puppeted character for added background movement within the program gave a lot of creative power to our artists, and freed up our pipeline from a great deal of unnecessary task management.

"Being a smaller, boutique studio we rely on talented, multi-skilled staff to bring projects to life. AE is perfect for a generalist, with content creation in-app being more robust than other compositing software. Whether we are working on live action VFX, a 2D-cell style animation or design-based title sequences, we know the tools can add content on the go."



Zero VFX stepped into the ring to deliver invisible visual effects expertise

team and convey that message to the composers involved. "For me, my most challenging task has always been paint, specifically frame-by-frame paint. It's taken me a lot of practice to find a method that doesn't wobble from frame to frame. I've improved greatly over the years but smooth gradients with subtle light changes still pose a challenge. It might sound weird, but pulling a perfect matte is one of the most enjoyable things I do as a compositor. Just like pulling protective plastic off of new electronics, for me, there's nothing as satisfying as finding the perfect keying solution with the least amount of moves.

"It's this enjoyment that led me to develop a custom keying tool. Combining my years of experience with the help of another Legion artist, Nick Guth, we created a keyer setup [to] handle any screen colour (even grey). Our keyer gives an artist the ability to pull keys better and faster than any previous method we've seen. It's a 'one-click' key that gets results immediately and offers every control necessary to combine your edge seamlessly into the background. Given enough time to dial it in, there can be zero loss of foreground detail. I really like keying, and my standards for quality tend to be the highest here."

Orliani's responsibilities as a senior compositor and 2D lead can differ depending on the show, he says: "As a compositor I have to deal with a wide variety of scenarios: rotoscoping, painting and removing elements from a scene, 2D and 3D

tracking, a huge amount of blue screens, compositing of CG renders, sky replacements, colour matching between shots and much more... A lot of time is spent creating a variety of templates in NUKE that all the composers need to use in order to ensure continuity through the shots. How the CG passes are combined, grain, colour presets and custom tools designed for the show are all set up in advance, often before we hire the compositing team. Another very important part of my job is to keep a continuous channel of communication going with the 3D department to discuss how we are going to tackle all the aspects of the CG renders and how they will be used in the 2D world to make the workflow as efficient as possible."

"My primary role is, first and foremost, to create visually stunning images," says Jeremy Brown, lead compositor at Zero VFX. "I work closely with our VFX and compositing supervisors to develop and implement the creative vision of the studios and directors. I am in part responsible for maintaining pipeline and workflow tools. Usually, the most challenging tasks are not technical, but creative. Since creative direction

informs how we go about achieving things technically, it can make it difficult if creative goalposts shift in the middle of the process.

Liscombe's most challenging tasks have come from having to retime the speed of long, sweeping dolly shots, he reveals: "The problem with dramatically increasing the speed of a moving camera means that moving objects within the scene can appear to be travelling at unrealistic speeds. After preserving the original timing of the moving elements in the scene, I've had to rebuild the world around them to cover up all the holes that the moving elements left behind. I've

reconstructed an entire street in downtown Hong Kong in order to keep taxi cabs from breaking the speed limit, and I've reassembled a corral full of running horses while the camera was travelling backwards at nearly 30 miles per hour.

"I enjoy solving problems like this, you find yourself chasing issues until every hole is filled, and when you get to the end you realise that almost every element in the shot was placed there by you, and when done right the viewer would be completely unaware that any work went into it."

STABILISATION

When motion tracking (applying tracking data for one object's movement to another object) an image in 2D it's helpful to view the stabilised results of the tracking data. This is because any bumps or deviations in the track will then become much more apparent when played back through a stabilisation.

Robert Liscombe