

LA SIGGRAPH GREENSCREEN EVENT A HUGE SUCCESS

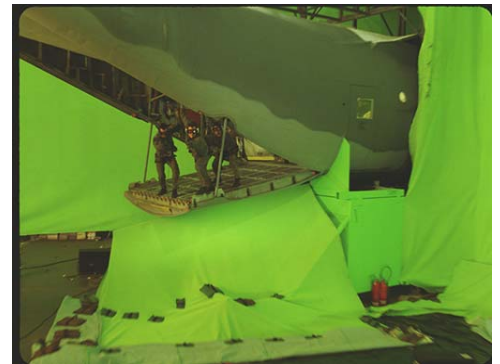
by Diane Wright



Agent X-Ray introduces Steve

Close to 250 people showed up for the monthly LA Siggraph meeting on February 12th appropriately held on a greenscreen stage at Gnomon to learn about greenscreen visual effects compositing from Steve Wright and Jonathan Erland. Steve Wright, VFX instructor and author of *"Digital Compositing for Film and Video"* and *"Compositing Visual Effects: Essentials for the Aspiring Artist"* along with Jonathan Erland, the owner of Composite Components Company and the creator of greenscreen and bluescreen filming technology put on a fabulous show that was chock full of excellent information.

The primary focus of Siggraph is the promotion of knowledge of CGI (computer generated images) of which a large percentage is 3D computer animation. Last night's Los Angeles Siggraph Chapter meeting focused its attention on the often "unsung hero" in the land of visual effects, the dauntless digital Compositor. The magic of a good compositor is to seamlessly blend all of the 3D elements created for a movie with the live action. In a live-on-live situation, the compositor must flawlessly pull the green/bluescreen mattes and take that live action which was shot at a different time, with different lighting, on different film stock and again make it blend seamlessly with the live action background. If the compositor did his/her job correctly, the movie-goer will not even know what has been done, which is of course the ultimate goal. Often times this is not the easiest of tasks as Wright explained this evening.



Huge "garbage mattes" were needed to clean out the cloth-draped backing region in this example that also had to be motion-tracked to a long camera push in.



If the bluescreen is shot too dark then the finished composite will have dark edges around the character.

While Jonathan Erland set the "greenscreen stage" by talking about the technical aspects of shooting on greenscreen and bluescreen, Steve Wright, a 20 year visual effects compositing veteran with over 60 feature films to his credit, followed up with demonstrated techniques on how to work with even the toughest of green/bluescreens based on his book, *"Digital Compositing for Film and Video."* Wright had an array of examples consisting of both badly shot and gorgeous looking green/bluescreens that he used to demonstrate the wonderful technological advances that computers have made as contrasted by the early days of working with film proper. Unfortunately, technology tends to breed complexity and in our end of the business we

often hear the catch phrase “we’ll just fix it in post” which often times can be a double-edged sword.

As Wright explained, “the folks who do 3D live in a very clean world, while we composers live in a very messy world.” He goes on to say, “Pulling a greenscreen matte is a mathematically invalid concept”. The process uses a trick of nature and at best does a fair job when provided with excellent elements. Everything is downhill from there. Compositors have to cope with film elements that are out of focus, poorly exposed, badly lit, too grainy or may even be poorly composed, and yet still extract from this potpourri of cinematic faux pas a beautiful composite.



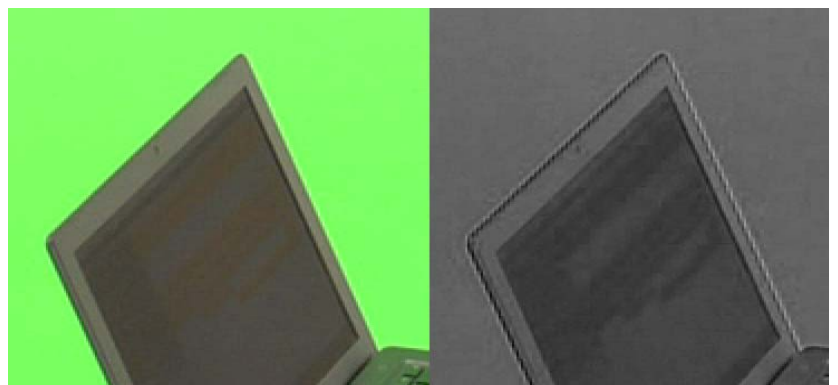
Steve makes a point!

He went on to illustrate a few of the techniques he employs which he fondly refers to as “coping strategies” to create those seamless composites. Some of those strategies consisted of combining multiple mattes into one, preprocessing the greenscreen to “set it up” for the keyer, dividing the target object into pieces and pulling keys on those pieces and performing the all important despill operation.

Suppose you had to pull a matte on a character that was wearing a feathered cap, but to get the matte opaqueness to be correct for the feathered cap the matte developed a semi-transparent region in the body. You have a good head, but a bad body. What do you do with this said Wright, “you divide and conquer!” Create a solid matte for both the head and the body and then cut and paste the best parts of each matte together. Simple!

In another case an excellent matte was pulled keeping the fine edge detail, but the foreground still had some green light that had spilled onto the character from that badly lit greenscreen. What is the fix in the magic bag of tricks for this type of problem...despill of course. “The despill operation is another mathematically invalid operation,” says Wright. It attempts to remove the excess blue (or green) using more computer tricks that are a violation of the laws of man and nature. The despill operation is a key part of blue/greenscreen compositing; however, it can introduce its own artifacts into the picture so Steve showed the audience how to “roll your own” despill operation.

We then moved from the realm of film into that of video where the many evils of modern digital video were revealed and reviled by composers. These include edge artifacts due to video sharpening in the camera, the loss of color information from 4:2:2 color sub-sampling, and the most recent crime against video, MPEG compression of the finished video signal thereby discarding further key information required to pull a good matte.



Video capture adds its own set of problems, one of which is shown here where the “picture sharpening” of the video camera has introduced a bright edge artifact to the blue channel shown on the right.

Some workarounds and tricks to defeat these issues were demonstrated as well as advice on how to avoid them during principal photography.



Several shot breakdowns from the 35mm fantasy short "Dorme" were shown that demonstrated the wide array of greenscreen compositing effects used in a modern feature film.

Wright finished up the evening with a look at several scene breakdowns from a 35 mm short fantasy film entitled "Dorme." Sixty-four of the sixty-five shots that made up this short were a mix of greenscreen compositing, cgi compositing, matte paintings, motion tracking, speed changes, rotoscoping and a plethora of other 2D visual effects.

So if you are looking for a career in the world of digital media and you have an eye that lends itself towards photorealism, you may want to consider a career as a digital compositor.

As Wright says, "Being a good compositor not only requires you to be technically proficient, but you need to be artistically capable too!"

Steve Wright Bio

Steve Wright is a Senior Compositor, 2D Technical Director and a senior industry veteran in visual effects compositing with over 60 film credits such as Blade: Trinity, Ray, Solaris, Traffic, U-571, Air Force One and many, many more. Starting out in 3D animation at Robert Abel's and Associates; he opened his own VFX studio in Hollywood for seven years before joining Kodak's Cinesite digital imaging studio. Steve travels around the world conducting VFX compositing training for major visual effects facilities, produces training programs, conducts classes and workshops, and has published two books on this fascinating subject. To find out more about Steve, his classes or books visit his web site at <http://www.swdfx.com>

Special Thanks

Siggraph and its dedicated members and guest speakers volunteer their time. We would like to extend special thanks to our Chair, X-Ray Halperin and Vice-Chair, Joan Collins Carey, Diana Lee, Sharon Eisenberg, Howard E. Neely, III and the Executive Council and the all the Siggraph volunteers that helped put this event on! Without you guys LA Siggraph just wouldn't happen.



Manning the sign-in table



Joan Collins Carey mans the projector



Jonathan Erland answers questions