

Animation Seminar
Prepare Till You Drop
28 October 2010

Running fast and jumping high has never before been easier for actors. This is all thanks to Computer Generated Imagery (CGI) and other technologies which are becoming widespread in no time throughout Hollywood and in the independent movie scene. But what about their quality?

Kwela Sabine Hermanns, innovation specialist in the creative industries and Master of New Media Studies, introduced three experts in animation and visual effects. The focus of her presentation was pre-visualisation, or pre-vis as it is called in the industry, which is used more and more often to combine CGI and live action seamlessly.

Before introducing the first speaker, Hermanns raised a few questions, such as 'How will the new techniques and technologies influence the creative process?'. An elaborate answer would follow.

The Golden Compass

Pawl Fulker was first up. He is the Managing Director of Destroy All Monsters, a company which provides pre-vis and post-vis services. Fulker worked on productions like the *Harry Potter* films and *The Golden Compass*. There, he was part of the visual effects team that won both an Oscar and a BAFTA.

'I was asked to go and pre-vis the first Harry Potter film. And I stayed there for a few years, until I got bored of flying children around on broomsticks. That is when I started my own company.'

It appeared that no one in the audience had ever used pre-vis before, Fulker first explained how it evolved. 'We would cut storyboards together and create an animatic out of them. At some point people started using really simple 3D shots to fill in what the storyboard and the animatic could not make clear. I started pre-vising for commercials where we needed to shoot a scene many many times on several locations. So we pre-vised the shot first and later used a motion-controlled camera to shoot exactly what we had pre-vised.'

Storymaking Tool

'Some ten years ago people started to think about using pre-vis as a storymaking tool, so as to build the story they wanted to tell before shooting a single frame. This can be very helpful to the shoot itself.' Fulker sees himself not as a technician, but as a part in the creative filmmaking process. 'I usually sit down with the director and the visual effects supervisor. It is really satisfying to create a shot in pre-vis, to go through post-vis, to shoot it and to finally see exactly what you had in mind.'

He explained how pre-vis can be helpful to various sections of the filmmaking process. 'Obviously it can help the director because he can see how a sequence of shots will work. It gives information to the visual effects department. Especially for big visual effects films you need some understanding before you can start a single frame of film. We have to know exactly what we are getting ourselves into. How many visual effects will be needed in each shot, what the required size of the green screen is for a particular location, whether we can film on a location or not.' The art department also benefits from pre-vis. 'We come in as soon as production designers start to design sets or start thinking on how a film should look. With just the slightest ideas we can start building a set in 3D. We are also a great help to the construction department. We inform them of the size of the set or the green screen.'

Different Angles

Fulker showed an example of how he used pre-vis for the production of *Sherlock Holmes*, using the pre-vis programme Maya. He showed how he built a 3D set with a 3D model in it. He could move the model around in the set, install cameras everywhere, move the cameras and choose different camera positions. 'If you want to make difficult camera moves, you can try them all out in pre-vis. Then you know where to locate cameras so that these are not in anyone's way.' He let his character run through the building with a camera track next to him. 'When the actual set is built, you know exactly how long the camera track must be for him to be running there.' Inside the constructed building he showed shots from different angles. 'You can see what the best angle or ideal distance is between the camera and the actors.' All this information can save a lot of time in the construction and preparation of the set. According to Fulker, pre-vis is actually not hard to learn. 'Everyone who can work on a computer can use simple pre-vis tools.' Pre-vis can be ideal for pitching a movie. 'You spend a couple of hours sketching up something. Then you download a 3D model from the internet and start creating your scenes.'

Vampires

Simple as pie, definitely for Kevin Tod Haug, who has had a long career in visual effects, going from CG production into all-digital effects and working on films like *Quantum of Solace* and *Finding Neverland*. During this presentation, he picked up the story where Fulker left it. 'Storyboards have served us well, but the main problem is that they create a 2D image. From 3D to a movie is only a small step.'

Tod Haug stunned the audience with pre-vis scenes from the movie *Eclipse*, in which vampires with superhuman powers are the main characters. The clip he showed was set in a forest where one of the vampires is being chased by other vampires and wild animals. 'This all happened in an organic location. We used interesting new techniques, allowing us to use a video camera and videotape the environment. Then we developed a model on the basis of this environment and combined it with the videotape. In a day or two we had an organic looking, virtual location.'

Based on this scene, the director made several choices. 'He was trying to go for a different kind of look. It had to look really superhumanly fast.' So they filmed the actors while they were running on a treadmill, on top of a truck which was moving at 40 miles an hour. 'A bit tricky, but it worked.'

Stuntmen

'No actor ever went to this location. It was just too hard to get there. Everything you see is created with CGI and prepared in pre-vis. We had to find out how to paste the stunts into the environment in the best possible way. We designed the whole thing and created the set on the green screen just the way we wanted it to be. This saved us a lot of time shooting actors and stuntmen.'

Tod Haug is convinced that using pre-vis is 'infinitely cheaper than the usual process of shooting a whole film and then fixing it later. We did approximately 50 setups a day on the green screen, because we knew exactly what we wanted. We shot five days on the green screen in total. It is totally worth it.'

Fast

Another passionate user of new technologies is Pascal Herold, who founded the animated studio Delacave and is currently working on the stereoscopic animated film *Cinderella*. 'During the last 25 years I have worked for directors and producers in companies of 600 people. But I wanted to build my own company for animated films. When I finally got what I wanted, I was obsessed by the idea of being fast. Fast not only because it saves money, but also for artistic reasons. We were trying to make a film of under 10 million Euros. And finding solutions was not easy.'

Control

Herold came up with a hardware rendering system which makes it possible to work on the film in real time. 'That is what I wanted. We could do the rendering of an 80 minutes film in four days, using only fifteen machines. And the quality was good. I started to sell *Cinderella* in Cannes last Summer, and have sold it now to 31 countries.'

Herold showed how to do a shading session using this technology. 'When you are shading a character, you normally spend two or three days. With this real time hardware rendering system you only need two hours. You can control every single step and change anything you want: texture, colour. And you can manage all specifications in real time.'

Herold stressed the importance of controlling the stereoscopic lay-out. 'We call it lay-out, some call it pre-vis', he smiled. 'We can do about eight shots per day and check all stereoscopic factors. At the end of the day we are reviewing the rendering. The good thing is that we cannot make mistakes. You can check everything in real time.' The system requires more staff in the studio. But the costs of the process are very low, thanks to the speed. 'In high definition it takes 40 to 45 seconds to render a scene. Stereo takes about twice that time. This means that one image takes just over a minute, which is not much. Most important is the fun we have working like this. Our team is having fun. We all can come up with ideas, propose stuff, and try it all out. Then suddenly work is becoming less complicated and something to enjoy.'

Creative Process

After all these technical elements, moderator Hermanns wanted to talk more about the implications of modern technologies on the creative process. Fulker saw pre-vis as an opportunity for the director to put his mark on the film from a very early stage. 'It enhances the creative process. We can work on a shot without having to worry about how much it is going to cost. We just want to create cool shots and then we think about how it can be done within the budget.'

But not everyone was convinced of modern techniques. Someone in the audience asked if it still offers sufficient opportunities to improvise. Tod Haug was certain that there is. 'You are only making preparations. You don't stick to these like glue. If an idea does not work on the day of the shooting, you can simply throw it into the bin. You can always improvise. And by preparing everything as well as you can you will have more time to concentrate on the acting, instead of on camera points or set decoration.'

Ideas

Cinekid manager Sannette Naeyé spoke on behalf of a director who works a lot with children. She was afraid that all these techniques would get an intimate bond with the children during the filmmaking process in the way. 'If she has found a technique which works for her, she does not need to change it', Tod Haug smiled. 'The ideas of the director are in the end most important. We use pre-vis to protect the director during the process. Normally, many ideas the director has get lost along the way. We are protecting these ideas. And anyway, technology is not anti-human. It is just a tool.'

Tod Haug handed out more practical advice to people who are planning to use a model environment. He suggested using Boujou Motion Tracking and proposed Unesco Sites as a location. 'On these sites everything is already scanned. Google Earth is also fabulous.' The overall conclusion came from Pawl Fulker: 'Never ignore technology. It is great. Just embrace it.'