

3D Digitizing Character Animation · Making of 'Inner Game'



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MINOLTA · VI-700 3D Digitizer

German Film School - Making of 'Inner Game'

CASE STUDY

3D ANIMATION

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For the final exam at the legendary 'German Film School' near Berlin, a group of students were given the task to create a short digital film. The purpose was to implement and extend the hardware and software tools that had been taught during the course.

The topic of 'Inner Game' was about the good and evil within human nature. In the course of meditation, Yamia, a nun of ancient China, enters her inner soul where she happens to meet a dark opponent. She conquers the dark danger, but it turns out to be her own image – the personification of the dark side of her personality.

The Minolta VI-700 3D Digitizer with Polygon Editing Tool Software (Minolta) together with Alias Wavefront's Maya, Adobe Photoshop and After Effects were applied. Right Hemisphere's Deep Paint 3D solved the texturing and paint issues. Additionally, each workstation had Discreet's Combustion for further compositing in the post production.

Information on Asian temples from several books and Internet sites was collected in order to create an appropriate location for Yamia's soul. Her spirit would ideally be displayed by means of a temple

equally hosting her interior opponent. The modelling team decided for a traditional octagonal main hall sided by a separate long entrance corridor.

This project not only allowed the students to gain detailed experience in the field of character animation including all intermediate steps but was also of high interest to the students by applying a combination of tools learnt in previous studies to generate an ideal solution.

Based on a realistic look, a modelling solution combined with the Minolta 3D Digitizer VI-700 provided the ideal solution.



VI-700

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In the course of the process the Asian model Hong-Thu Ly was invited to the studio. As scanning dark, black and highly reflective objects sometimes leads to uneven data, Hong-Thu's hair was covered by a rubber cap. Tracking points were allocated to allow for easy registration of the single data sets afterwards. The remaining visible hair as well as the skin were dusted with white powder to enable optimum scanning conditions.

The VI-700 3D Digitizer takes approximately half a second to take each scan. Operating within this very short time, the VI-700 offers considerable advantages for human objects.

From the 14 scans taken from Hong-Thu, nine were used in the final model. Marked points on the model's head assisted as a reference for the merge of different scans. For this only three identical points on both neighbouring scans had to be chosen in the Minolta Polygon Editing Tool software. Although the registration points were only roughly positioned, the result was excellent.

Exported to Maya, this 3D model provided a beautiful 3D image of Hong-Thu however due to the high polygon density it was difficult to animate.

In order to texture the models, Hong-Thu's head and hands were neutrally illuminated and photographed with a digital camera.

A Cloth Collision Object using Maya was built for Yamia's body. Collision objects especially in problem areas like the armpit were divided and assigned various Cloth Collision Priorities to reduce material distortion.

Yamia obtained her own personal user interface allowing the combination of various functions like control of fingers as well as facial animations such as eyebrows or different facial clusters to copy muscle deformation.



Founded in March 2000, the German Film School educates students in 2 ½ years for the recognised 'Diploma as Digital Artist'. The philosophy is to provide a wide, well-founded theoretical background in fields such as 3D and 2D animation, 3D graphics, digital compositing, virtual set design and computer games. Skill from various areas are a must for the profession of Digital Artists. www.filmschool.de



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