Clothfighters

CONTACT
Simon Pabst
Wilhelm Schickard Institute for Computer Science
Department Graphical-Interactive Systems (WSI-GRIS)
Universität Tübingen
Germany

"Clothfighters" was produced by students of audio-visual media at the Stuttgart Media University (HdM), in cooperation with the WSI-GRIS, Universität Tübingen. The idea of this short animation was to work with and test an Autodesk Maya plug-in for cloth simulation developed at the GRIS. The shape of the characters should only be defined by the clothes they were wearing; the actual geometries of their bodies were to be invisible.

To challenge the simulator, a fight scene with fast movements was designed and captured. The base for the simulation was motion capture data, recorded at 120fps in a studio at HdM using 12 Vicon cameras. These data were cleaned in Vicon IQ and then prepared for Maya in Motionbuilder. Skinning a low-resolution polygon model using the motion capture trajectories was done in Maya. The simulation of the clothes, which are based on a NURBS pattern, was done in Maya using the proprietary tcCloth plug-in, developed at the Universität Tübingen. The highly efficient cloth simulation engine uses the Finite Element method to model realistic orthotropic materials and is coupled with a very robust collision detection and handling stage. The red character consists of five different cloth layers, and the white one of four layers. The final shots were rendered using Mental Ray. Matte painting and the compositing were done in After Effects.

HdM Stuttgart

Creators
Gunnar Heiss
Kai-Florian Franke
Cristian Kaese
Karla L. Guarneros Juarez

Technical Advisor
Simon Pabst

TCCLOTH/GRISTEX Cloth Simulation Engine
WSI/GRIS, University of Tübingen

Support
Bernd Eberhardt
Thomas Keppler
Jochen Bomm
Andreas Schmid

Mocap Actors
Andreas Nguyen
Gunnar Heiss

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