

Skeletal Animations in Real-time 3D Graphics

Abstract

Skeletal animation is an effective technique for the animation of humans and animals, and it is used in most video games to animate complex 3D models. This thesis addresses many problems of the implementation of skeletal animations and it presents an effective solution to the most important ones. It contains all the knowledge necessary to use this important animation method, because it explains all the calculations required to transform a model by its skeleton, and then this thesis presents a complete implementation that uses all the concepts explained there. Build on the skeletal animations, the animation editor is the main application of the thesis, and it allows users to modify animations of 3D models. The animation editor is a graphical application with complex user interface and its construction is explained in a great detail.