Abstract

The human hand is an important interface with complex shape and movement. In virtual reality and gaming applications the use of an individualized rather than generic hand representation can increase the sense of immersion and in some cases may lead to more effortless and accurate interaction with the virtual world[1]. A realistic and accurate virtual hand model may be required for applications in virtual reality, virtual assembly system virtual prototyping, animation, special-effects, games, ergonomics, medical simulation, etc. However, modeling an accurate and realistic virtual human hand is difficult and requires great skill since the human hand has a complex shape.

Virtual hand system, which's main function is to realize the interaction behaviors of user and system, is the subsystem of a virtual assembly system. This thesis concern elaborate and investigate on modeling the hand on the Virtual Hand system.

Almost all applications contain bugs. Whether these bugs can be exploited, requires time and specific technical knowledge. It has been developed some methods and applications for searching exploitable bugs automatically. In this paper I present manual system investigation which is concern in virtual hand model as one of the most important part in the Virtual Hand System during manipulation and interact with other components, as results give the bugs captured report as a future substances for better system development.

Key word：*Human Computer Interaction; Virtual Assembly; Virtual Environment; Virtual Hand System; 3ds Max; Cal3d; Open Inventor; System Investigation; System Bug*