

Towards a realistic dental simulator with haptic interface

Abstract

We present our experience pertaining to the development of a dental simulator interfaced with an haptic device. Such a system can enable dental trainees to be trained with a patients' virtual set of teeth. To provide better immersion into the virtual world and for navigation of dental tools, the system is interfaced with an haptic device that provides realistic force feedback to the user. Since the dental tool (hard) will be in contact with either the teeth (hard) or gums (soft) during most interventions, it is imperative that the force feedback provided by the system assimilate actual contact forces between any two materials.

Keywords — Dental simulator, force feedback, haptic interface, virtual reality