

Figure 4. Industrial design applications. Both models are rendered interactively by our VRML browser. Their VRML representations contain additional nodes to specify custom shaders. Left: A car headlight featuring physically-correct reflection and refraction. Right: A complete car, also visualized in a physically-correct manner using special glass and car paint shaders.

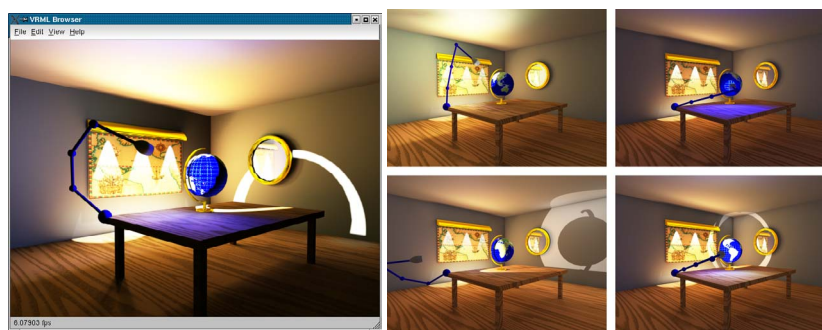


Figure 5. Animated global illumination. Left: A VRML scene incorporating animation paths for a moving lamp and a rotating globe. All lighting calculations are performed by a global illumination shader plug-in. Right: Depending on where the globe is lit by the lamp, different lighting patterns appear on the surrounding objects.

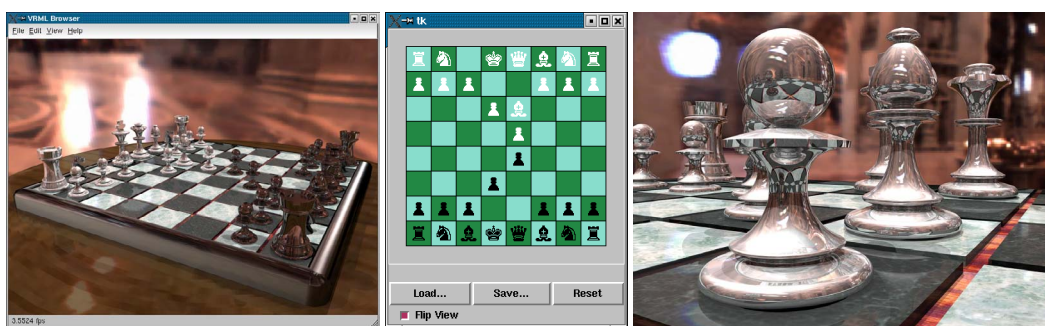


Figure 6. VRML scripting. A chess game controlled by a Tcl/Tk scripting engine. Left: Chessboard overview from inside our VRML browser. Middle: Graphical user interface produced by the Tcl/Tk script. Right: Closeup view on some of the chessmen showing multiple reflections.