Dview - A Fast Scripting 3D Graphics Language

At the Jet Propulsion Laboratory, there is a need for fast 3-D visualization, rapid prototyping and real-time analysis of articulated spacecraft, their trajectories
and instrument field of views. From as early as the 1960's, Jim Blinn and other have produced software to meet the needs of JPL missionS visualization, and Dview is a new language and accompanying software which is the result of one such effort.

Dview is a text string 3D graphics language whose syntax enables rapid construction of articulated models, real-time control, key-framed control, import and export of geometry information from VRML 2.0 file format, export of animations to VRML 2.0 animations, and sequenced image export to Gif and Iris format enabling creation of images, QuickTime or MPEG movies.
Dview is currently available on all OpenGL platforms with a second compliant Java3D implementation already under development.

Dview is entirely text string based and thus programming language independent, making for easy integration with languages as different as TCL, C++, Java and HTML. Dview can receive it's input via commands typed in by hand, read from files, generated by active programs and user interfaces, sent over sockets or over the internet.
Scientific visualization applications may find the language useful both for rapid prototyping, and for streaming communication between control software and real-time 3D graphics.

Fast and easy client-server interfacing to the Dview graphics engine has proven useful in a variety
of applications at JPL. For example, real-time telemetry from the Mars Global Surveyor (MGS) (currently in orbit around Mars) is down-linked and formulated into Dview commands such that the Mars Website (http://marsweb.jpl.nasa.gov) provides a continuous round-the-clock visualization of MGS in it's actual in-flight configuration.
Spaceraft designers and rover engineers utilize Dview to provide the visualizati
for their real-time robotics control software.
While Dview's utilization at JPL has been for real-life mission visualization, the langauge is entirely general purpose, and can be downloaded via a free clickwrap license from the Dview Web site (http://dview.jpl.nasa.gov).
Real-time scientific visualization applications would make for excellent utilization of Dview's capabilities.

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