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ABSTRACT : Please type single space, 150 words minimum and 200 word maximum, within the ruled area. Make your abstract as definitive as possible. Place the title on the first line.

USING VIRTUAL REALITY FOR SCIENCE MISSION PLANNING: A MARS 'PATHFINDER CASE

NASA's Mars Pathfinder Project requires a Ground Data System (GDS) that supports both an engineering and a science payload with reduced mission operations staffing, and short planning schedules. Also, successful surface "operation of the lander camera requires efficient mission planning and accurate pointing of the camera.

To meet these challenges, the GDS Team designed a new software strategy that integrates virtual reality technology with existing JPL Navigational Ancillary Information Facilities (NAIF) and image processing capabilities. The result is an interactive, workstation-based application that provides a high resolution, 3-dimensional, stereo display of Mars as if it were viewed through the lander camera. The design, implementation strategy and parameter specification phases are already completed, and the prototype has been tested. When completed, this software will allow science investigators and mission planners to access simulated and actual scenes of Mars' surface. The perspective from the lander camera will enable scientists to plan activities more accurately and completely. The application also will support the sequence and command generation process, and will allow testing and verification of camera-pointing commands via simulation of the sequence.

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