

The Department of Computer Science and Engineering

University of Nevada, Reno

cordially invites you to a Master's colloquium

Terrain Analyzing in a Virtual Environment with Real-time Native Shape Creation

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science
with a major in Computer Science.

by

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Abstract: An accurate representation of terrain is crucial for land based operations. Computer technology is helping expert geographers analyze terrain in new ways and this research will continue in order to ensure that new technology will at least preserve the accuracy at which analysts are currently analyzing terrain. Taverns stands for "Terrain Analyzing in a Virtual Environment with Real-time Native Shape Creation". This application is designed to assist specialists of geographic disciplines in analyzing terrain by distinguishing key features of the terrain depending on the context of the research study. This program will help analysts increase the accuracy at which they can analyze terrain because it is designed to be used in a virtual environment, offering the user the deepest sense of realism computer graphics technology can deliver today. Using Taverns, specialists with many years of experience may analyze terrain with a high degree of accuracy based on information that can be gathered through remote sensing techniques. Shapes are drawn on the rendered terrain and allow specialists to associate attributes to portions of terrain. While in Taverns, the expert user will have the capability to navigate through the terrain, view current data about the terrain and use this data with the added realism of a virtual environment to extract further features about the area being analyzed. The applications of remote sensing are not limited to Earth, increasing the potential of Taverns to aide specialists in more thoroughly analyzing the surface of other solid surface planets, in particular the surface of Mars.

2:30, Thursday, December 1, 2005

Scrugham Engineering and Mines (SEM) room 234

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