TECHNOLOGY

Real-Time, 3-Dimensional, Massive Terrain and Dynamic Animated Data Visualization System

OVERVIEW

Real-time transportation data visualization systems have been slow to evolve and current advanced traveler information systems (ATIS) and advanced traffic management systems (ATMS) still used 2D traffic maps to display a graphic of the local roads that are color coded to communicate speed and volume. Such a representation severely limits the end-user information experience. Since 3D and 4D visualizations have proven useful in the design process of transportation systems, it stands to reason that a "real-time" 4D visualization system would be extremely useful for traffic management and traveler information systems. Such large-scale systems have yet to be developed due to the massive amount of data (both static geospatial and dynamic traffic and incident) that would need to be integrated, manipulated, and rendered in real-time to represent an area covered by a regional traffic management center (TMC).

Researchers at the University of Maryland have developed a novel 4D, fly-through visualization system that serves as real-time data modeler. Various sources of information are combined to provide a unified virtual world that mimics the behavior of the real world. The sources of information include but are not limited to the following: terrain & aerial photography, road network, transportation devices, etc. The result is a fully interactive 4D simulation focused on traffic-related modeling, which is extendible to other modes and data types. In the above novel system, a user can effortlessly fly around the region in real-time to view the world from various angles and zoom levels. The system includes several novel features such as an incident locator, in which a user can look for an incident in an area and zoom in/zoom out to experience the desired information.

For additional information, please contact the Office of Technology Commercialization, University of Maryland College Park, via phone at (301) 405 -3947 or e-mail at otc@umd.edu

APPLICATIONS

traffic monitoring and management

ADVANTAGES

provides real time updates
allows for dynamic viewing, giving details or overview as needed

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Software + Algorithm
- Information Technology

EXTERNAL RESOURCES

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