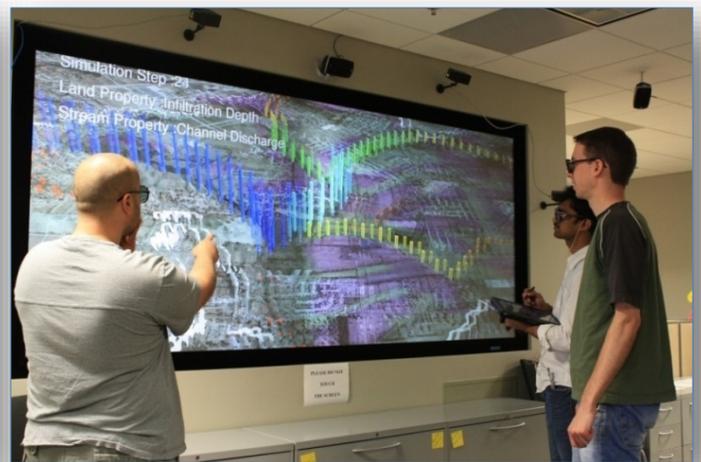


# Interactive Visualization of Multivariate Spatiotemporal Data via GP-GPU



Data visualization is a critical component of all business management processes. To this end, JavaScript-based web dashboard systems are often employed to handle such data visualization and analysis tasks, but generally demonstrate poor visualization capabilities when scaled to realistic, large data sets (millions of records). To overcome this bottleneck, research at the University of Louisiana at Lafayette have designed and prototyped a novel approach that moves the visualization data and processing off of the CPU and onto the graphics hardware (GPU) using WebGL. This approach can handle datasets with more than a million records at prompt interactive rates and demonstrates feasibility as a web browser environment for interactive, real-time information visualization tasks. This invention offers substantial performance advancements over standard JavaScript-based web dashboard systems, and enhances the abilities of visualization and analysis packages for a wide variety of application areas.

## Interactive Web Browser & 3D visualization of Multivariate Geological Seafloor Data



### KEY ASPECTS OF THE TECHNOLOGY:

- Software architecture to import, manage, and visualize large data from a variety of databases;
- Architecture embeds visualization into a web browser; utilizes both local and remote data that is converted to a flat file prior to visualization;
- Prototype demonstrates 60x performance over standard JavaScript-based web dashboard systems;
- Research funded by the Center for Visual and Decision Informatics, [www.nsfcvdi.org](http://www.nsfcvdi.org)

UL Lafayette recognizes that the current technology may have broad public benefit and commercially valuable to various industries. Accordingly, we seek a commercial partner interested in licensing and/or collaborative research opportunities. To learn more about this research and/or partnership opportunities please contact UL Lafayette's Office Of Innovation Management via the information provided below.

### Office of Innovation Management

University of Louisiana at Lafayette · 537 Cajundome Blvd. Ste. 115 · Lafayette, LA 70506

Tel: 337-735-5483 · [OIM@louisiana.edu](mailto:OIM@louisiana.edu)