

Sextant

Rapid Urban Database Creation and Visualization for Training, Rehearsal and Real-Time Operations

Sextant provides laptop-based, automatic 3D scene generation with **on-the-fly** scene and situation modification. It is configured for easy access to multi-user interactive 3D web-based rehearsal and is suitable for low bandwidth dissemination. Create your simulation and visualization database from standard geospatial data. Sextant tools provide an easy-to-use interface to **automatically** or manually visualize and rapidly interact with standard NGA or commercial vector data and imagery. Developed for use on a windows platform for geospatial novices and experts alike, Sextant allows you to quickly achieve your correlated database requirements.

Sextant version 5 includes:

- Rapid Automatic Terrain mesh creation from DEM or DTED
- Enhanced Imagery Drape on Terrain mesh
- Micro-Terrain tools for hills, depressions or holes
- Subterranean detail capability
- Realistic Urban Shadow effects
- Easy to follow Wizards for Automatic 3D Urban modeling
- Ingest Autocad files for accurate, detailed building interiors
- Hot-Link Manager
- Database Query interface and display modes
- Export to OpenFlight™

Dynamic 3D Scene Realism from Geospatial Data

Initial scene – Geo-referenced buildings, trees, and roads (from shape files) on DTED terrain



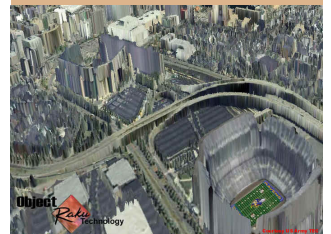
Adding Detail – Put in Doors & windows, add digital imagery of the target, place interior walls, stairs, furniture



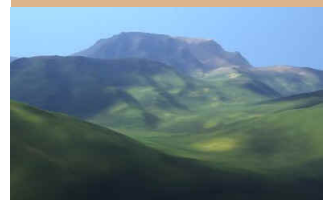
On-going scene – Add exterior windows & doors, trees, fences, obstacles, vehicles, towers, antenna



LIDAR



DTED / DEM draped with imagery



....continued:

...find faster and more useful ways to extract critical feature data from high resolution digital elevation models. The result was the Sextant LIDAR Feature Extraction Module, configured for use with Sextant version 5.0. The Feature Extraction capability recorded exceptional speed of processing on the test LIDAR data set provided for the research. Over 88,000 features were extracted from an area just over 16 sq km in 8.2 minutes – about 178 features per second.

Sextant is a component of Raytheon's Civil Emergency Reaction and Responder Training System (CERRTS). Sextant's role in CERRTS is to provide the correlated database and visualization required for the scenario resolution algorithm. Sextant processes vector data, shape files and digital elevation data as the foundation to the simulation's terrain logic. It also processes the digital raster imagery required for CERRTS' map views. And finally, Sextant produces the 3D visualization to assist with the trainees' entity-based decision-making.



Sextant is your **proven**, most **economical** and **easiest** path to a correlated simulation database and visualization.