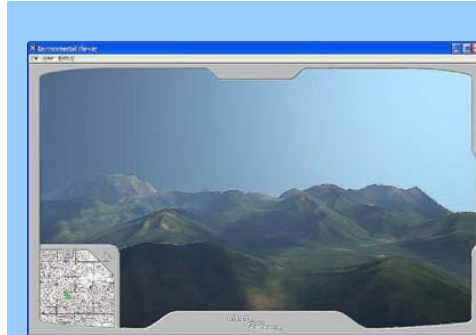


Create Geo-Specific Environments For Serious Games

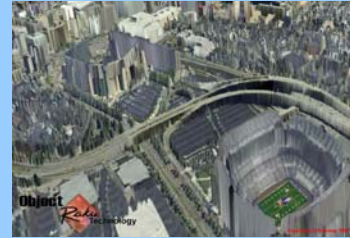
Sextant GeoSpatial™

Sextant Geospatial™ offers automatic, 3D, “real world site” scene generation with **on-the-fly** environment modification. Access a multi-user interactive 3D web-browser based visualization, output to the AI environment, and transition the created VRML environment into the game pipeline.

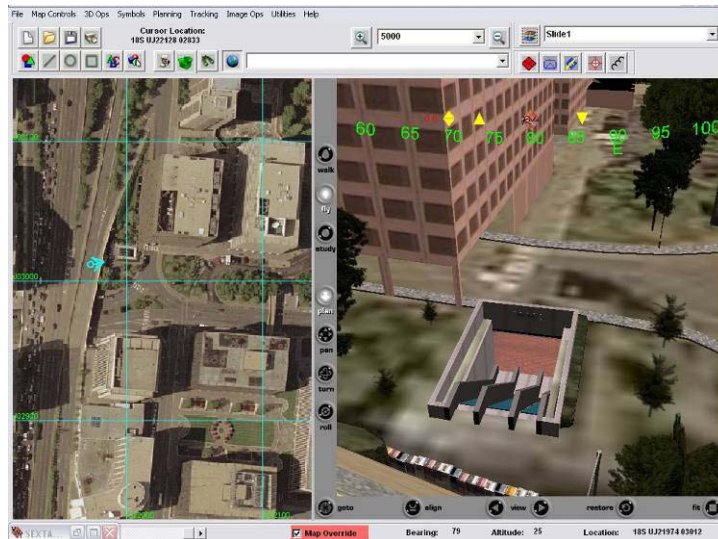
- ✓ Get the Storyboard
- ✓ **Rapidly create the terrain model using geospatial data (grey scale height-map, DEM, LIDAR or DTED) – get square kilometers of terrain within minutes**
- ✓ Create intricately detailed urban sites with models and micro-terrain tools
- ✓ Play through the environment from any internet-connected laptop.
- ✓ Transition basic scene into the production pipeline for further detailing (VRML output universally accessible through most 3D applications)
- ✓ Generate environment for the AI



DTED / DEM Terrain Mesh texture mapped with imagery



Terrain Generated from LIDAR Scan (Light Detecting And Ranging)



Above: Sextant Geospatial – On the left is the digital map view with the corresponding 3D view on the right. Sextant is a fusion of geospatial technology with the visualization engine, so there is full correlation between the accurate geo-data and the dynamic 3D scene.

Sextant is Geo-specific

Sextant is fast

Sextant builds 3D scenes interactively

Sextant builds 3D scenes automatically from geo-specific data

Sextant models interiors of buildings

Sextant models dynamic effects (smoke, fire, model damage levels)

Sextant visualizes environmental conditions

Sextant allows modification of the 3D models on the fly

Sextant uses standard geo-spatial data

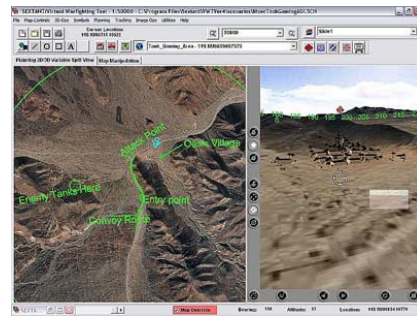
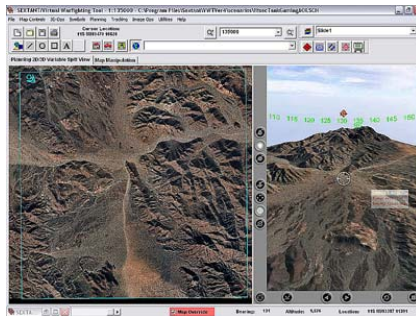
Sextant is designed for use by non-specialists

Sextant is a tool for urban terrain visualization

Sextant is a tool for prototyping Game environments

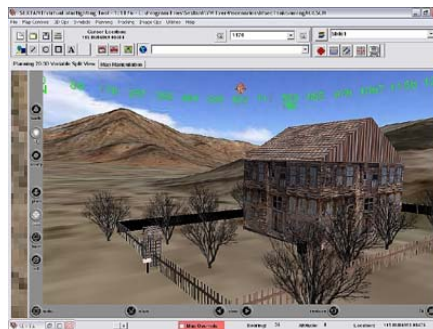
Dynamic 3D Scene Realism from Geospatial Data

The standard process is as follows: The operator constructs the 3D ground terrain geometry from a digital elevation matrix (DEM) such as a grey scale height map or commercial source DEM, then maps texture onto the terrain model using aerial, satellite imagery or geo-typical texture maps.



The operator then adds the geo-specific models for buildings, curbs, trees, urban objects. Buildings, roads, tree-lines, water features and miscellaneous urban clutter objects can be automatically added based on vector geo-spatial data (shape files), or entered manually based on imagery or imagination.

Sextant's "Auto-generate" capability can create hundreds of buildings or objects in the 3D scene in minutes rather than weeks. Once created, building models can be easily modified to show windows, doors or battle damage. These models can be modified an unlimited number of times.



Once an environment is created (natively in VRML), it can be viewed interactively over the web on a multi-user server (using the Sextant MRC module) for verification, and then can be output to formats required for further detailing for final game production (via 3D Studio Max, Maya...). The same environment can be exported to the format required for the artificial intelligence engine using the Sextant Crowd Authoring Module.

Sextant incorporates the AI.implant engine by

Bio|Graphic

Sextant now offers full access to crowd animation and behaviour through the integration of BioGraphic Technologies' AI.implant. AI.implant is an industry leader in crowd animation and behaviours. Configured as a plug-in to the Sextant authoring tool, users can establish the crowd population, locations, paths and behaviours. Export your detailed geospatial terrain along with crowd features for use in the game.

Sextant has been through rigorous hands-on testing by soldiers and marines in over 6 years of field experiments and usage. Sextant is proven effective for rapid visualization and analysis of urban environments for mission planning and rehearsal. Sextant has been deployed in OEF as well as OIF I, II, and III. Capture this fielded technology to enhance the realism of your games.

Rapid Terrain geometry creation from DEM, height-map, or imaginary relief

Planar mapped terrain texture using aerial, satellite imagery or geo-typical texture maps

Automatic default texturing of ground and buildings

Micro-Terrain tools for creating intricate details: hills, depressions or holes

Complex building model creation with detailed interiors, working doors and windows, complex roofs

Models for urban clutter (such as cars, street lights, other rubble)

Easily modify terrain and features an infinite number of times

Object Raku strives for innovative fusion of geospatial data with 3D visualization.