



Virtual Ft. Campbell MOUT Site



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MetaVR has built a real-time 3D replica of the Ft. Campbell, KY, Cassidy Military Operations in Urban Terrain (MOUT) site for simulation and training of infantry and future combat systems (FCS).

This brochure provides a brief summary about MetaVR's Ft. Campbell database for use on PC-based visual systems. All images are unedited realtime screen captures taken with MetaVR's 3D visualization product, Virtual Reality Scene Generator™ (VRSG™), of the database created by MetaVR's terrain database generation application except where noted.

Overview

The 90,000 sq. km terrain is centered on the urban training facility that represents the Cassidy MOUT site. The database is designed to support both fixed- and rotary-wing high-speed flight and close urban combat training scenarios.

Included in the database are 14 MOUT building models, which were created from perspectiveless digital photographs of the structures at the Cassidy MOUT site.



Simulated micro-UAV overlooking a hostage-taking scenario at MetaVR's virtual Ft. Campbell Cassidy MOUT site. The scene includes site-specific building models, and vehicle and character models from MetaVR's 3D content libraries.



Aerial view of the virtual Ft. Campbell Cassidy MOUT site, rendered at 60 Hz by VRSG, MetaVR's image generator.



Grasses and trees on the Ft. Campbell Cassidy MOUT site.

The building models have radiosity (soft shadows) applied to the geometry to increase their realism. The database also makes use of other cultural elements such as street signs, electrical boxes, street lights, gas pumps, fences, sewer covers, flag poles, and utility cables. All models are in MetaVR's model format.

Image on the cover: Aerial view of MetaVR's virtual Ft. Campbell Cassidy MOUT site, rendered at 60 Hz by VRSG.

Specifications

The following are specifications for MetaVR's Ft. Campbell terrain database in MetaVR's flat-earth, UTM-based MDX format:

Image/view statistics for the MetaVR scene on the cover of this brochure

Far horizon: 30 km
FoV: 50 degrees horizontal
Polygon count: 305,330 triangles
Display: 2560 x 1600 pixel res. with 4 subpixel AA
Color depth: 32-bit
Frame rate: 60 frames per second
Graphics card: ATI Radeon x1900 Pro 512 MB DDR memory

Terrain database statistics

Imagery build time: 1 hour, 38 minutes
Geometry build time: 9 hours
Extents:
N38'
W89' W86'
N35'

Database size: 9 geocells (266 km x 328 km)
Size on disk: 6 GB

Terrain LoDs: 7 maximum
Texture LoDs: 8 maximum
Terrain post spacing: 4 mpp
Source imagery: 14.6 GB

Elevation coverage:
Breakpoint survey data (submeter-resolution)
Cassidy MOU (4 x 4 km)
30.0 mpp shuttle radar topography over entire database (266 km x 328 km)

Imagery coverage:
0.125 mpp color Cassidy MOU (4 x 4 km)
1.0 mpp color Ft. Campbell (32 x 42 km)
4.0 mpp color Ft. Campbell (30 x 55 km)
15.0 mpp color entire database (266 km x 328 km)

Cultural features:
14 photorealistic buildings with interiors and articulated windows and doors
26 geotypical buildings with high-resolution textures
3,662 geotypical volumetric trees
251 other point features, including street signs, electrical boxes, street lights, gas pumps, fences, sewer covers, flag poles, and utility cables
466 alpha-blended road linears
753 areal-feature edges for walkways, parking lots, and tarmac
300 runway and taxi point lights
Dual linear runways at Ft. Campbell airstrip with FAA markings



Simulated hostage scenario at MetaVR's virtual Cassidy MOU site area of the Ft. Campbell database rendered at 60 Hz by MetaVR's image generator, VRSG.



A soldier watching the simulated hostage scenario (shown above) at MetaVR's virtual Cassidy MOU site area of the Ft. Campbell database. The scene includes site-specific building models, and vehicle and character models from MetaVR's 3D content libraries.



Interior scene from MetaVR's virtual Cassidy MOU site depicting a scenario with snipers. Modeled interior wall surfaces, articulated windows and doors, and furniture inside the buildings contribute to a realistic training experience.

Actual and simulated views of the Cassidy MOU site

The following set of images show Cassidy's main street with the municipal building in the center of the view. You can compare photographs of the actual Cassidy MOU site on the left side with the VRSG screen captures of the simulated view on the right side that were taken within MetaVR's virtual Cassidy MOU site. The models of buildings and other structures are photorealistic; the models were created from a set of photographs of the structures in the area.



The MetaVR Ft .Campbell database is available free of charge to all US Government agencies and contractors (for official use only) and requires version 5 of VRSG.

For more product information, pricing, and ordering, see MetaVR's web site at www.metavr.com or send email to sales@metavr.com.

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