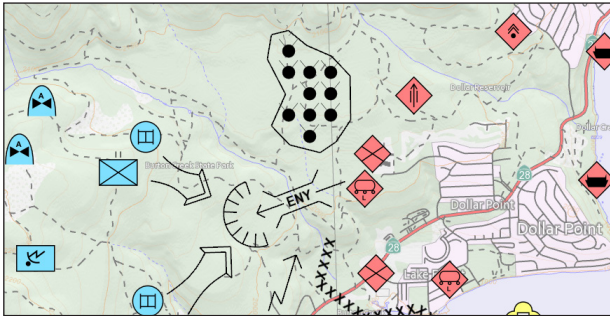**carmenta**
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Carmenta Engine 5.5 Extensions

TACTICAL EXTENSION

- Extension for creating, managing and visualising tactical symbols according to the MIL-STD-2525B and APP-6B standards.
- For more information please refer to the separate Carmenta Engine Tactical Extension product sheet.
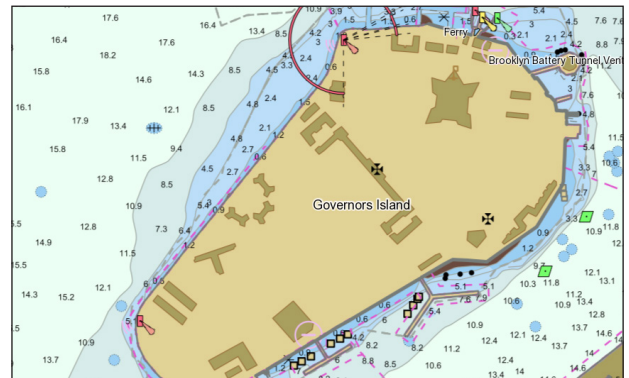

3D EXTENSION [3]

- Enables interactive 3D fly-throughs with dynamic loading of data.
- On the fly generation of 3D worlds straight from 2D/3D GIS data in any format suppported by the Engine - no 3D modeling is needed.
- Nearly all 2D visualisations can also be used in 3D, including Tactical Extension military symbology.
- 3D ground is generated on the fly from elevation raster data or 3D point clouds.
- Any combination of 2D map layers can be draped over the 3D ground.
- Support for VRML and 3D Studio (.3ds) 3D models.
- 3D parameters such as camera and sun position, camera angles and visibility can be dynamically set.
- Automatic generation of fences and buildings from 2D lines and polygons.
- Can be integrated with SilverLining™ from Sundog Software for realistic weather effects.

VERTICAL PROFILE EXTENSION

- Extension for generating a vertical profile, usually a ground profile, along a route.
- Profiles can be generated from raster data, lines or points.
- Fits perfectly into the Carmenta Engine model. Generated profiles are visualised using the normal visualisation model, and input can be other analysis operations such as a 3D view shed from line of sight operations.
- Makes it possible to add multiple layered vertical profiles in the same view. A second profile can e.g. show vegetation features such as trees.
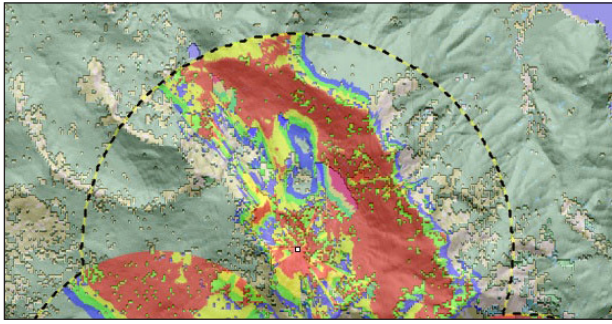

NAUTICAL CHART EXTENSION

- Extension for reading and rendering Nautical Charts according to S57 and S52 standards.
- For more information please refer to the separate Carmenta Engine Nautical Extension product sheet.

CATALOG EXTENSION

- Gives Carmenta Engine based applications a structured way to handle background maps. A Catalog can be instantiated either from a local folder or from an OGC CSW service.
- The Carmenta Map Builder application (sold separately) gives end users an easy way to add new maps to the catalog.
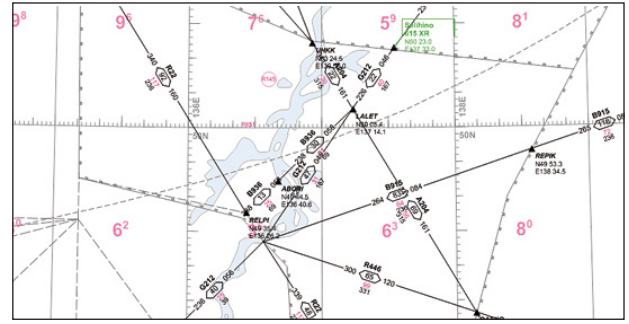
VISIBILITY ANALYSIS EXTENSION

- Extension for performing high-performance visibility calculations.
- Uses elevation data to compute the regions that have a free line of sight to the position of a geographical object.
- Extremely rapid - designed to be computed on-the-fly for moving objects.
- Can use multi resolution data sources.
- The line of sight result consists of raster values that specify were the ground is visible or how tall an object has to be to be seen at a specified position.
- The result is typically visualized with a configurable color table as in the picture above.
- The result can also be visualised as a surface in 3D or intersected and visualised in a vertical profile.
- Many configurable sensor parameters, such as lobe size, maximum range and refraction means that the calculation can also be used for determining the line of sight from regular or phased array radar systems.
- Also provides high-performance calculation of intravisibility between multiple moving objects, useful for target tracking.
- A separate component can compute the line of sight from each possible position within an area (a so-called visibility index) in order to indicate optimal positions for surveying an area.
- Also contains functionality for computing the shadows cast by terrain features such as mountains on a specific time and day.

PRINTING EXTENSION [1, 3]

- Extension for handling scale-correct printing of maps and other Carmenta Engine 2D Views on printers.
- Support for printing directly on printer with printer's resolution or indirectly by first rendering to an internal bitmap.
- Support for tiled printing for large paper sizes such as A0.

MILITARY GEODATA FORMATS EXTENSION

- Adds functionality for reading military geographic data in CMRG (PCMap), DFAD and RPF (CADRG and CIB) formats.

ARINC 424 EXTENSION

- Reads aeronautical navigation database files on the ARINC SPECIFICATION 424-16, 424-17 and 424-18 formats.

MAP PACKAGE EXTENSION

- Makes it possible to package a mix of map images, raster data and vector data in a single, optimized Map Package file.
- Especially useful for mobile devices where it is essential to minimize the amount of processing necessary to read and display data.

C-MAP CM93 EXTENSION [1, 2, 3]

- Functionality for reading C-Map CM93 nautical chart data.

C-MAP CM93 S52 PRESENTATION EXTENSION [1, 2, 3]

- For reading CM93 data and displaying it according to S52.

DWG AND DXF EXTENSION [3]

- Extension for reading CAD databases in the file formats DWG and DXF, the AutoCad file formats.

MICROSOFT SQL SERVER EXTENSION [3]

- Extension for reading spatial objects from a Microsoft SQL Server 2008 or later relational database.

MYSQL EXTENSION [3]

- Extension for reading spatial objects from a MySQL relational database with spatial extension.

ORACLE SPATIAL EXTENSION [3]

- Extension for reading spatial objects from an Oracle Spatial relational database.

TERRAIN VEHICLE ANALYSIS EXTENSION

- Extension for calculation of terrain vehicle accessibility and speed in terrain.

[1] Not available on Carmenta Engine Linux.

[2] Not available on Carmenta Engine 64-bit.

[3] Not available on Carmenta Engine for Android.

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