

## **Spatial Studio 1.0 Release News**

Devonor is pleased to announce the availability of Spatial Studio 1.0. Spatial Studio is an efficient desktop tool for the display and editing of vector and raster data. Oracle Spatial is supported along with standard vector and raster files.

Spatial Studio is a product that from the start was designed to run on the .NET platform. The entire application, including the core libraries, has all been implemented in C#. This is a modern, well proven, efficient architecture which has a huge community and user base.

We took care when designing the data structures of Spatial Studio to make sure that it would be able to process spatial data as efficiently as possible. This makes the tool able to process both large numbers of spatial features and complex spatial features with hundreds of thousands of points. The geometry library handles points, oriented points, arcs, line strings, composite curves, polygons with holes and geometric aggregates. The geometry model implements standard predicates like equals, intersects, disjoint, within, contains, crosses, touches and overlaps. Standard operations like union, intersection, subtraction and symmetric difference are also supported.

OGC standards have been used in the implementation of Spatial Studio's interfaces and data structures. This ensures that the application follows the gis market trend of increasing standardization. Unlike older software which is based on memory models, Spatial Studio can seamlessly access large amounts of data from any source, including databases. It is able to do this since it works with interfaces and iterators instead of fixed memory structures.

Spatial Studio makes it possible to read data from a variety of sources. You can for instance read some features from Oracle Spatial, and display this with other vector and raster files at the same time.

Changing the display order is done by drag and drop. Visibility can be changed by the click of a mouse button.

The tool has a simple, yet powerful, presentation system. Control feature colour, transparency, size in device pixels, ground meters or plot scale, font, alignment, end caps and so on. Multiple descriptions can be added to achieve special effects. We support clear type text and anti-aliased curves. Raster files of high resolution can be super-sampled to look better when displayed.

Full in place editing of vector features and their associated properties are supported. You can even edit multiple sources in parallel with full undo / redo across sources. Even if a datasource is read only, you can still edit it, when you try to save you will be asked where you wish to store it. Many editing functions are available, including cutting, trimming, merging with automatic surface hole generation, single vertex editing, distance and offset.

Other Spatial Studio features:

- All open vector datasources can be exported to a single vector file. The export can be filtered by any combination of layers, geometry dimension and quick find expression.
- All data that is displayed can be exported to a single raster file. What you see on the screen can be exported to a raster, but at a much higher resolution.
- A simple, intuitive and powerful built in predicate language can be used to filter vector features. A find results window can display the result of the search and allows you to navigate or export the results. The language supports many operators and comparisons and also a few geometric checks.
- Right click in the map window to get a list of vector features available at that position. This is really useful when there are lots of overlapping or intersecting vector features. The list will be sorted by coverage (length / area) and it will dynamically highlight the relevant feature when you move the mouse over one.
- Any interactive edit function can be controlled by GPS. Both continuous and single point mode is supported.
- Curves and Surfaces can be squared. In a topological net it will do two plane locking of nodes to ensure a high quality result.
- Corners can be corrected for buildings that has got unnatural rounded corners (for instance as the result of a vectorization process).

- Douglas Peuker curve smoothing can be used to remove unnecessary points or duplicate points.
- The Dvf format can be used as an efficient format that is able to fully contain all native features of dst and gfo files, as well as for many other formats like shapefiles, dxf files and dgn files. The reader supports advanced features like discovering self-touching face borders and converting them into islands and it discovers broken faces and converts them into groups. Any broken edges are automatically snapped and displayed, even if they are orphans. All height values of edges are retained during editing, even at the end points, which avoids the shared node height value syndrome.