

Anti-Grain Geometry – 2D Rendering Library

Source:

<http://www.tech-archive.net/Archive/DotNet/microsoft.public.dotnet.framework.drawing/2004-04/0303.html>

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Hi,

I'd like to announce my project called Anti-Grain Geometry.

<http://www.antigrain.com>

Anti-Grain Geometry (AGG) is an Open Source, free of charge graphic library, written in industrially standard C++. The terms and conditions of use are very simple and described on the License page.

AGG doesn't depend on any graphic API or technology. Basically, you can think of AGG as of a rendering engine that produces pixel images in memory from some vectorial data. But of course, AGG can do much more than that, particularly, it can be easily incorporated into the .Net environment via simple class wrappers written in Managed C++.

The ideas and the philosophy of AGG are:

- Anti-Aliasing.
- Subpixel Accuracy.
- The highest possible quality.
- High performance.
- Platform independence and compatibility.
- Flexibility and extensibility.
- Lightweight design.
- Reliability and stability (including numerical stability).

Below there are some key features (but not all of them):

- Rendering of arbitrary polygons with Anti-Aliasing and Subpixel Accuracy.
- Gradients and Gouraud Shading.
- Fast filtered image affine transformations, including many interpolation filters (bilinear, bicubic, spline16, spline36, sinc, Blackman).
- Strokes with different types of line joins and line caps.
- Dashed line generator.

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- Markers, such as arrowheads/arrowtails.
- Fast vectorial polygon clipping to a rectangle.
- Low-level clipping to multiple rectangular regions.
- Alpha-Masking.
- A new, fast Anti-Alias line algorithm.
- Using arbitrary images as line patterns.
- Rendering in separate color channels.
- Perspective and bilinear transformations of vector and image data.
- Boolean polygon operations (and, or, xor, sub) based on Alan Murta's General Polygon Clipper.

Anti-Grain Geometry contains many interactive Demo examples that are platform independent too, and use a simple platform_support class that currently has two implementations, for Win32 API and X11 (no Motiff, no other dependencies, just basic X11). One of the examples is an SVG Viewer.

For more information look at <http://www.antigrain.com> : News, Screenshots, Demo, Documentation, Download.

Currently I'm working on the documentation and new algorithms

McSeem