

Agenda

- Our research center NCVA;
- What is Visual Analytics?
- Multivariate Visual Analytics;
- GAV tools DirectX vs. Flash;
- Demos;
- GeoVisual Analytics;
- Communication and Collaboration;
- Conclusion







National Center for Visual Analytics

My academic and commercial background

- □ Ink Jet Color Plotter System University Lund 1970-79
- Boston US Worked with Applicon Inc 1979-1980
 Spin-off into UNIRAS 1980-1993
- Became the largest software visualization company in the world
- □ European Commission Visualization Projects 1998-2006
- Professor at University Linköping since 1999
- Established National Center Visual Analytics 2008 with funding from Swedish Knowledge Foundation;
- Honored "Pioneer in Computer Graphics" at SIGRAPH 93 for breaking new ground research in raster graphics



















Multiple linked views and multivariate data















Visual Analytics of Self-Organizing Networks Operated by the ANR Algorithm

KEY FEATURES

- Interactive dialogue between operators and system;
- Large-scale data are simultaneously analyzed using dynamic linked views;
- Spatial and multivariate data are analyzed and animated in a temporal context;
- Key information e.g. visual representations are combined with textual labels and symbols placed in separate map layers to avoid overwhelming the display;

ERICSSON 筹

AHI

NCVA









- Detailed monitoring of voyages based on planned and reported waypoints;
- Easy exploration of weather forecast according to both geographic positions and along routes;
- Using a PCP together with geographic map visualization to find interesting voyages according to weather parameters;
- Increase the awareness and requirement for more advanced GeoAnalytics methods;
- Presented at conference IV09 in Barcelona;







NCVA develops advanced Visual Analytics tools for both .NET/DirectX and Flash/Flex

- Visual Studio .Net/DirectX (Microsoft) 2002
 - > Microsoft's library for GPU based graphics using C# > Optimized for 3D Visualization

 - > Requires client-installation of NCVA's GAV Player
- Flex/Flash based version (Adobe) 2008
 - > 100% Web compliant means accessible for all users
 - > O-O ActionScript language
 - > Adobe Flex is well-known user interface design
 - > Architecture for multiple linked views
 - > Introducing advanced Visual Analytics tools in **Adobe Flash**
 - > Adobe Flash player and Adobe PDF are defacto

ORAL eXplorer developed by NCVA for Unilever spatial-time-multivariate data Riving Runge Rivinge Sunda. Riving 46 OK



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