

The logo for FOSS4G 2006, featuring a stylized red and white graphic that resembles a ribbon or a stylized letter 'G'.

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Integration of GDAL/OGR, libral, and GTK+ with Perl on Unix and Windows

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GDAL/OGR, libral, and GTK+ libraries were linked on both the level of C code and on the Perl interface level. The resulting system has been used with other software for creating web services, developing graphical desktop tools, and writing analytical scripts. The other software that was used include, e.g., apache, mod_perl, glade-2, and PDL::NetCDF. The system has been compiled on a Linux/GNU system and on Windows/MinGW. The system can be further extended and/or linked to other systems either through the use of C binding code or on the Perl level. There are plans to use the Cairo 2D graphics library for rendering geospatial data. Some experiments have been done in creating networks from OGR data using the Graph module available at CPAN.

GDAL is the well-known geospatial data abstraction layer library, which offers uniform access to most raster data. OGR is a similar library for vector data. Libral is a fast raster algebra library. Within libral there is also a simple library for rendering rasters and vectors on a pixel buffer. GTK+ is a multi-platform toolkit for creating graphical user interfaces. GDAL/OGR, libral, and GTK+ all have an existing Perl interfaces. Data exchange between these three libraries have been arranged in the C code. Libral rasters can be created from GDAL datasets and libral vectors can be created from OGR datasets. The pixel buffer, that libral uses, can be used to create GDK pixbufs. GDK is the part of GTK, which interfaces to the graphics subsystem of the host OS. The Geo::GDAL Perl module, which is a part of the GDAL/OGR distribution, provides basic Perl-based access to geospatial data and to the functionality in GDAL, OGR, and libraries that have been linked to them like GEOS. The Perl modules, Geo::Raster and Geo::Vector, add the functionality of libral, rasterization and vectorization support, and support for using the data in a graphical user interface. A set of Perl modules in the namespace Gtk2::Ex::Geo provide basic tools, i.e., widgets and dialog boxes, for building geospatial graphical applications. The integrated system currently offers a rudimentary platform for building research and end-user applications besides the simple data viewer that is provided as a test of the Gtk2::Ex::Geo package.

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