OSGeo

Your Open Source Compass

OSGeo Journal

Volume 6 - September 2010

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FOSS4G 2011 Denver, USA See You There!

2010 Official Visitors Guide

More information coming soon...

MAY 1 LIKE AN EGYPTIAN

with King Tut at the Denver Art Museum

Page 72

July 1, 2010 – January 2, 2011

JULY 10 A "WESTERN HEMIS-FAIR"

of art, culture and music at the Biennial of the Americas

Page 76

July 1 – July 31, 2010

From the Editor...

by Tyler Mitchell

Welcome to the first edition of the OSGeo Journal for 2010! As a good kick-off to the new year this volume takes a few different perspectives on software development and design. Naturally the various issues related to typical development projects applies quite well to our open source geospatial specific interests. The articles cover a range of topics from a review of various software to a discussion of user-centered design. Along the way you'll also get to read some more technically meaty articles and some perspective pieces.

Each volume of the Journal takes several months of concerted effort by many individuals. Landon Blake played a lead editorial role in getting this volume pulled together so you can read it - thank you Landon! It's always a pleasure to have more section editors, LaTeX masters and reviewers come to help. Thank you to all the volunteers.

With our new online management system, any potential article can be submitted at anytime by simply filling in a form at http://osgeo.org/ojs. As well, over the next couple of months keep one eye open for the OSGeo 2009 Annual Report. Get your articles in soon if you have not already. Enjoy the articles!

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Contents of this volume:

Editorial 1
From the Editor... 1

News 2
Brief News from the OSGeo Community 2

Event Reports 6
CASCADOSS International Symposium and International Information Workshop 7
Summer Training Courses on FOSS4G, 2007-2009 14

Topical Interest 18
Why Every Open Source Project Needs a Good Dictator 18

Programming Tutorials 20
GPGPU With GDAL 20

Case Studies 23
gvSIG is a viable robust alternative to commercially available GIS packages 23

Project Introductions 26
GRASS Image Processing Environment 27
SEXTANTE, a Free Platform for Geospatial Analysis 32

Peer-review Papers 40
Usability Trumps Features 40

Volunteer Recognition 53
53

News

Brief News from the OSGeo Community

Compiled by Scott Mitchell

To keep abreast of OSGeo news, watch http://www.osgeo.org/news, or subscribe to its RSS feed. This report includes highlights from recent months, plus items specifically sent to the News Editor.

OSGeo Governance

Four vacant positions on the OSGeo Board of Directors were recently filled. Two new members were elected (Daniel Morissette and Tim Schaub), and two members were re-elected (Arnulf Christl and Frank Wamerdam). The new and returning directors join Ravi Kumar, Jeff McKenna, Markus Neteler, Chris Schmidt and Geoff Zeiss in making up the full Board. Board members are elected by charter members, and the tough decisions were made thanks to very high voter turnout from those members. The Board positions have a two year term, with half the positions up for election each year. The charter members of OSGeo are listed at http://www.osgeo.org/charter_members; a new charter member intake process is scheduled annually.

Conferences

FOSS4G 2009 - Sydney

The beautiful city of Sydney, Australia hosted the 2009 version of FOSS4G. This annual event is considered the premier conference for the open source geospatial community, aiming for a "full-immersion experience in established and leading edge geospatial technologies for developers, users, and people new [to the open source geospatial community]." Highlights included an array of technical workshops, updates on OSGeo projects, the "WMS Performance Shootout" (http://www.osgeo.org/news/2009/foss4g_wmsshootout), and the awarding of the 2009 Sol Katz Award to Daniel Morissette (http://www.osgeo.org/node/970).

FOSS4G 2010 - Barcelona

The FOSS4G series of conferences continued, and has just concluded, in Barcelona Spain, 6-9 September 2010 (http://2010.foss4g.org/). This year's Sol Katz winner was Professor Helena Mitasova, honouring her wide-ranging contributions to the FOSS4G community (http://www.osgeo.org/node/1069).

Local OSGeo groups: conferences and workshops

The **Québec Local Chapter** of OSGeo hosted the first Rendez-vous OSGeo Québec in Saguenay, Québec, June 15-16, 2010. This date coincided with the second anniversary of the local chapter, which was created following a meeting at the same location in June of 2008. OSGeo community members gathered to share their projects and experiences, and heard from a great lineup of invited speakers featuring

many key members of the North American OSGeo community. Full details can be found at http://rendez-vous-osgeo-qc.org/2010/english/.

The **OSGeo Poland Chapter** co-organized a conference on the GIS applications of open source software. The event took place on May 13-14 in Wroclaw, in co-operation with the Institute of Geodesy and Geoinformation Science, Wroclaw University of Environmental and Life Sciences. For more info see http://www.gislab.up.wroc.pl/wogis2010/.

Ever hacked code in an Italian monastery? The **Bolsena Code Sprint 2010** was the third annual event held in a monastery overlooking Lago Bolsena. Participants report a great mix of coding progress, fantastic food, exploration of the local area, and great company. See http://www.osgeo.org/node/990 for more details, and watch for your opportunity to sign up next year.

The **German local Chapter** has announced a Call for Location (http://www.fossgis.de/konferenz/w/images/f/f5/FOSSGIS-2011_CfL.pdf) for the 2011 FOSSGIS-Konferenz (http://www.fossgis.de/konferenz). The 2010 conference was held in Osnabrück from 2-5 March, and featured a special 2-day track on Open Street Maps.

The second **Open Source GIS UK Conference** was held 21 – 22 June 2010 at CGS, University of Nottingham. Presenters included Ari Jolma, Arnulf Christl, and Tyler Mitchell, with workshops on topics including gvSIG Desktop & Mobile, OS OpenSpace and GEOSS. The conference was webcast, and recorded archives are now available at http://cgs.nottingham.ac.uk/~osgis10/os_call2010.html.

Related upcoming meetings

WebMGS2010 — the 1st International Workshop on Pervasive Web Mapping, Geoprocessing and Services — aims to provide a dedicated gathering place and open forum for researchers, professionals, government decision makers and students to exchange and discuss recent advances in web-based mapping, geospatial information services and applications. The workshop theme, Sensor Web Enablement and Geoprocessing Services, encourages diverse topics related to the new web-based development of geospatial theories, technologies and solutions. See their website http://webmgs2010.como.polimi.it for more details.

The University of Prishtina and FLOSS Kosovo are hosting the **International Software Freedom Conference of Kosova**, which will be held on September 25 and 26 at the Faculty of Electrical and Computer Engineering, University of Prishtina. Topics cover the breadth of information technology including geospatial topics. http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=8777

Google Summer of Code 2010

OSGeo participated as a mentoring organization for Google Summer of Code 2010. This program provides funding for students to work on open source projects under the support of experienced mentors. The projects participating through OSGeo include GDAL, GRASS, Mapbender, Quantum GIS, uDig, OpenJUMP, deegree, OSSIM and MapWindow.

50 good proposals were evaluated, and a very high calibre selection ended up being chosen for the 10 final positions. Students worked with their mentors to get to know their projects even better. You can view the list of 10 finalized projects at http://socghop.appspot.com/gsoc/org/home/google/gsoc2010/osgeo.

Project News

Incubation

The OSGeo Board has recently announced the approval of three projects to enter the incubation process (http://www.osgeo.org/incubator), and one graduation. Incubation is a stepping stone to becoming a full-fledged OSGeo project. Graduating incubation includes requirements for open community operation, a responsible project governance model, code provenance and license verification and general good project operation, all of which provide potential users of the software added confidence in the product's viability and safety. Geomajas, GeoServer, and MapFish commenced the incubation process, and deegree graduated.

Geomajas (http://geomajas.org/) is a free and open source GIS framework for building rich internet applications. It has sophisticated capabilities for displaying and managing geospatial information. Its modular design makes it easily extensible, while a client-server architecture guarantees endless scalability. The focus of Geomajas is to provide a platform for server-side integration of geospatial data, allowing multiple users to control and manage the data from within their own browsers. In essence, Geomajas provides a set of powerful building blocks, from which the most complex GIS applications can easily be built. A new version of the framework, 1.7.1, was

released on August 11, with major improvements to the plug-in system. See http://geomajas.org/geomajas-1.7.1 for more details.

GeoServer (http://geoserver.org/) is a server written in Java that allows users to share and edit geospatial data. Designed for interoperability, it publishes data from any major spatial data source using open standards. GeoServer is the reference implementation of the Open Geospatial Consortium (OGC) Web Feature Service (WFS) and Web Coverage Service (WCS) standards, as well as a high performance certified compliant Web Map Service (WMS). GeoServer makes extensive use of the GeoTools Java library.

MapFish (http://mapfish.org/) is a flexible and complete framework for building rich web-mapping applications. It is based on the Pylons Python web framework, and emphasizes high productivity, and high-quality development. MapFish also provides a complete RIA-oriented JavaScript toolbox. The JavaScript toolbox is composed of the ExtJS, OpenLayers, GeoExt JavaScript toolkits, and specific components for interacting with MapFish web services. MapFish supports several OGC standards, including WMS, WFS, WMC, KML and GML via GeoExt and OpenLayers.

deegree (http://deegree.org/) is a Java Framework offering the main building blocks for Spatial Data Infrastructures. Its entire architecture is developed using standards of the Open Geospatial Consortium (OGC) and ISO/TC 211 (ISO Technical Committee 211 – Geographic Information/Geomatics). deegree encompasses OGC Web Services as well as Clients and security components. You are invited to share in the celebration of the project's 10th anniversary at deegree day 2010, the 16th of November, at the University of Bonn; see http://deegreeday.deegree.org/.

MapGuide

The MapGuide Open Source team has released MapGuide Open Source version 2.1.0 (http://trac.osgeo.org/mapguide/wiki/Release/2.1/Notes). Highlights of advances made with this version include many improvements in performance, scalability and stability, an improved error reporting system, raster re-projection, and CS-Map as the coordinate system library.

The project's steering committee has also announced the debut of a "Sponsorship and Donation Program" (http://mapguide.osgeo.org/sponsorship). Donations (contributions under US$500) help ensure the continued success of the project. Sponsors (contributing over US$500) receive the additional advantages of direct input to the direction of the project, priority bug report processing, and marketing benefits.

MapServer

The MapServer (http://mapserver.org/) team welcomed last holiday season and new year with the release of version 5.6, and subsequent minor releases brought them up to version 5.6.3 (as of 22 March). New features or enhancements include:

- XML Mapfile schema and XSLT
- One-pass query processing, making WFS queries on database backends much faster
- Improved control of output resolution, allowing map printing at printer resolution using a mapfile defined for screen resolution
- Labelling enhancements: ability to repeat labels along a line/multiline
- Security fixes
- Performance optimizations (one-pass image loading, optimized large shapefile handling)
- Improved OGC web services specifications support
- Improvements to MapScript.

For more details please see the full release announcement at http://lists.osgeo.org/pipermail/mapserver-users/2009-December/064001.html.

QGIS

The Quantum GIS (QGIS) project has been busy! The multi-platform, user-friendly, GPL GIS supporting a wide variety of vector, raster, and database formats (http://www.qgis.org/), released version 1.4.0, 'Enceladus' in January, and version 1.5.0 'Tethys' in July. The newest version includes around 350 bug fixes, nearly 40 new features, on top of 30 new features in version 1.4. While they claim too many changes to be able to make a short list, some highlights include a new symbology infrastructure, a field calculator, a rapidly improving printed map composer, interface improvements including a python console with syntax colouring and command history, spatial selection, render caching, custom SVG search paths, an angular measurement tool, and customizable attribute forms.

The project is also celebrating a series of recent productive developer meetings. The fourth

of the year will be in Wroclaw, Poland, 12-15 November - see http://www.qgis.org/wiki/4._QGIS_Hackfest_in_Wroclaw_2010 for more details.

GDAL/OGR

The GDAL/OGR Project recently announced the release of GDAL/OGR 1.7.0. The 1.7.0 release brings many new features, including a number of new raster and vector drivers as well as many improvements to existing drivers, and limited extensions to the GDAL API. Key changes include:

- new raster drivers: BAG, EPSILON, Northwood/VerticalMapper, R, Rasterlite, SAGA GIS Binary, SRP (USRP/ASRP), EarthWatch .TIL, WKT Raster
- GDAL PCIDSK driver using the new PCIDSK SDK by default
- new vector drivers: DXF, GeoRSS, GTM, PCIDSK and VFK
- new utilities: gdaldem, gdalbuildvrt now compiled by default
- added support for Python 3.X. Compatibility with Python 2.X preserved
- removed old-generation Python bindings
- significantly improved raster drivers: GeoRaster, GeoTIFF, HFA, JPEG2000 JasPer, JPEG2000 Kakadu, NITF
- significantly improved vector drivers: CSV, KML, SQLite/SpataiLite, VRT.

Full release news is available at http://trac.osgeo.org/gdal/wiki/Release/1.7.0-News.

GRASS

GRASS development has been concentrated in three streams:

- GRASS 6.4 is the current stable release, published on September 3 (see http://grass.osgeo.org/announces/announce_grass640.html for detailed announcement). Much of the recent work has concentrated on a new wxPython-based graphical user interface, full support for Python as a scripting language, and the first full stable native Windows port. Since the 6.3.0 release in April 2008, almost 2,900 code modifications have been made, with highlighted changes including:
  - updated Lidar tools
  - new translations
  - new Python support, and
  - processing speed improvements by orders of magnitude for several modules.
- The "GRASS AddOns" mechanism allows modules to be made available outside the main distribution. This allows experimentation with new algorithms that build on GRASS capabilities without affecting the main source stability or direction. Developers can gain relatively quick and liberal access to the SVN repository for AddOns. A wiki page http://grass.osgeo.org/wiki/GRASS_AddOns shows the large and growing range of available modules.
- GRASS 7 is a major redevelopment of the source, in which backwards compatibility is not guaranteed, but conversion scripts will be provided. Many major code rewrites and redesigns are complete, underway, and in planning (http://trac.osgeo.org/grass/wiki/Grass7Planning). A lot of recent work has gone into improvements to the wxGUI and related tools, many of which will hopefully be back-ported into a future GRASS 6.4.1.

OpenLayers

A new stable release of OpenLayers, version 2.10 was announced on the 10th of September. A full list of updates can be found at http://trac.openlayers.org/wiki/Release/2.10/Notes, including new support for WMS layers with SVG as image format, for SVG enabled browsers. Previous new features, delivered by version 2.9 back in April, are listed at http://trac.openlayers.org/wiki/Release/2.9/Notes.

This PDF article file is a sub-set from the larger OSGeo Journal. For a complete set of articles please the Journal web-site at:

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Acknowledgements
Various reviewers & writers

The *OSGeo Journal* is a publication of the *OSGeo Foundation*. The base of this journal, the LaTeX 2_ε style source has been kindly provided by the GRASS and R News editorial boards.

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Journal online: http://www.osgeo.org/journal

OSGeo Homepage: http://www.osgeo.org

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ISSN 1994-1897

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