INVESTIGATING THE VALIDITY OF A OPEN SOURCE 3-D GIS URBAN SIMULATION MODELLING SOFTWARE (SIM CITY) IN THE URBAN PLANNING ENVIRONMENT

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ABSTRACT

Understanding urban development is a task that is undoubtedly extremely complex. However with the use of scenario planning and appropriate technologies, the urban planning process can be better managed. Computer simulation and geographical information systems (GIS) have been widely used in planning and decision making in the urban environment, many of these software packages have had to deal with an underlying theme of producing an intangible service or product. In terms of 3-D modelling for urban development, computer software such as Cellular Automata, iCity and UrbanSim (both using an ArchGIS platform) are used as the GIS for urban scenario planning. However, the lack of the ability to holistically integrate intangible services and run multi-faceted scenarios and the high cost of licensing, severely limit this software's capabilities. However the 3-D urban game modelling software of Sim City a.k.a Micropolis (having recently become open source) is software that is capable of integrating holistic and in many cases realistic data into the system. By using gaming software to scenario plan in real life situations urban developers can use a software tool that is, easy to obtain, run and data share online. This creates major benefits for urban management and town planning in technologically disadvantaged areas and provides a useful GIS for urban planning. The poster will display the capabilities of the software through visual depictions of real world urban setting and how the open source GIS software can predict future development trends.

POSTER PRESENTATIONS

POSTGRESQL/POSTGIS, GEOSERVER & OPENLAYERS AT ELECTRICITÉ DE FRANCE

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ABSTRACT:

For some years now, EDF Group has been confronted with the growing complexity of managing spatial data in domains such as customer relationship management and marketing. So EDF R&D decided to seek out powerful, robust and easy-to-deploy solutions for geospatial information systems.

We found that PostgreSQL/PostGIS was the most efficient easy-to-use data management software and that the best way to deploy spatial webservices (WMS,WFS) from it was by using Geoserver.

This combined solution made it possible to provide the company with spatial data supported by any OGC-compliant client.

This in turn, when used in conjunction with the Openlayers javascript library, allowed us to build websites overlaying spatial business data on top of base layers such as those readily available through Google.

Next we developed a few applications using these techniques which we are currently presenting to the company in order to convince IT people that opensource, OGC-compliant solutions are viable choices for the future.

The proposed poster would present several web solutions combining PostgreSQL/PostGIS, Geoserver and OpenLayers -- and emphasize the benefits of using these techniques. They are powerful, easy-to-use, free and opensource.

POSTER PRESENTATIONS

AN OPEN-SOURCE INTEGRATED GIS SOLUTION (IGS) FOR SYRIAN MUNICIPAL ADMINISTRATION MODERNISATION PROJECT

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ABSTRACT

The Municipal Administration Modernisation (MAM) Programme aims at improving the quality and effectiveness of local governance in many areas of life. Focusing initially on six cities across Syria, it will set the framework to manage urban growth.

The aim of this project is to provide Municipalities and MLAE (the Ministry of Local Administration and Environment) of an application (instruments and procedures) to manage (create, update, analyse) their data in a fully integrated GIS system able to talk together with other systems, supporting Property Management business processes.

GESP and his Syrian partner HI-TECH HOUSE have developed a solution based on PostgreSQL/PostGIS as spatial database, a custom ArcSDE like connector to ArcGis (used as desktop client) and a webgis application based on geoserver and Openlayers.

The cadastral data of each municipality are updated using ArcGis, stored inside PostgreSQL/PostGIS using a customized solution that uses the ESRI's personal Geodatabase as an interim data store between the ArcGIS clients and the RDBMS and published by an Openlayers interface through Geoserver.

Moreover the application represents a solution to the U.S. informatics embargo.

POSTER PRESENTATIONS

USE OF OPEN SOURCE GIS TOOLS TO BUILD THE RISKMED EARLY WARNING SYSTEM WEB PORTAL FOR SEVERE WEATHER EVENTS

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ABSTRACT

The main objective of the RISKMED (INTERREG III B ARCHIMED area) project is to build an early warning system for severe weather events (e.g. heavy rain and snowfall, strong surface winds, high waves, extreme temperatures) occurring over the Central and Eastern Mediterranean. In the frame of the core activities, the partner CNR-ISAC, has developed a Data Gathering System (DGS) able to offer a versatile handling method to gather data coming from meteorological prognostic models in order to provide real-time risk assessment information over specific sub-areas of southern Italy. The entire system is based on GIS (Geographic Information Systems) approach and fully developed using Open Source components in order to display actual and forecast weather variables over the selected risk alert areas. The selected risk areas are stored into a geographic database in form of vectorial geographic boundaries for both land and sea surfaces. The DGS is available for public user from http://riskmed.le.isac.cnr.it. The system has been developed using Open Source software for both GIS components (geo-processing libraries, digital mapping tools, etc.) and database management system (RDBMS with GIS extensions). The utilization of a RDBMS system that provides GIS functionalities improves the efficiency in such an operation because it gives a structured workspace for information storage and retrieval. Nowadays, several software solutions are available also within the GIS industry worldwide relatively to both commercial and open source products. In particular, the available open source GIS projects provide several powerful tools that answer the major requirements in both the scientific and the industrial applications. These open sources tools permit to embrace affordable low-cost software projects that can be utilized by the scientific community. Among the available Open Source projects, the components matching our needs have been selected. In particular, the following key tools have been used:

- PostgreSQL with PostGIS extensions with OGC specifications enabled are used as GIS enabled enterprise database;
- GDAL/OGR Geospatial Data Abstraction Library/Simple Features Library are adopted as data format/geographic reference and projection conversion utilities;
- PROJ.4 Cartographic Projections library are exploited as geo-processing libraries;
- UMN (University of Minnesota) MapServer are used as Web Mapping Tool;
- Ruby on Rails are used as web application framework.

The web application interface includes several functionalities which allow the users to visualize data alert forecast products through geographic map images and textual lists sorted by several criteria such as warning level, area, kind of surface (land or sea), etc. Map images show the alert affecting each area with different colours according to the predicted alert level. From web portal, users can also download text files which contain alert information with format defined by the centralized RISKMED System. More in detail, the application was developed using Ruby scripting language (configured to work with MapScript module) and following a modular strategy and an object oriented pattern, in order to allow an easy extension of the prototype. In particular, Ruby Mapscript module is a Ruby dynamically loadable module that makes MapServer's MapScript functions and classes available in a Ruby environment. All front end scripts are developed using the Model-View-Controller design paradigm by mean of Ruby on Rails free web application framework. Rails aims to increase the speed and ease with which database-driven web sites can be created, and offers skeleton code frameworks from the outset. This poster describes a Data Gathering System able to produce weather alert information about geographic area starting from meteorological model data output, using PostgreSQL with PostGIS, Ruby with Ruby MapScript and other free software packages. The experience demonstrates how, due to the employment of Geographic information systems and specific database system, geographic data collected from weather forecast model may be computed and visualized in order to produce and show risk alerts in real time. With the help of the adopted Model View Controller design pattern, the application has demonstrated to be stable and easily expandable. The planned future developments will regard the integration and harmonization of multi sources data coming from both weather forecast models and earth observations.

DEVELOPMENT OF AN AGRICULTURAL INFORMATION MANAGEMENT SYSTEM (AIMS) FOR THE SADC REGION

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ABSTRACT

Key words (FOSS perspectives): Sustainable development, Ecosystem management, Land & Water management, Participatory GIS, Open Source, Interoperability and OGC Standards. Under the Regional Indicative Strategic Development Plan (RISDP) of the Southern African Development Community (SADC), the wider development goal of the Food, Agriculture and Natural Resources (FANR) Directorate of SADC is to achieve sustainable access to safe and adequate food at all times by all people in SADC for an active and healthy life.

From the FANR programs more then ten different and fragmented information and knowledge sharing systems have emerged. The proposed Agricultural Information Management System (AIMS) will provide the main access point and integrative framework within which a number of these FANR initiatives will fill in their niche. The Land and Water Management Information System and Portal (LWMIS – http://aims.sadc.int/) has been developed as a nucleus and first phase of the conceptual AIMS development featuring the following set-up and tools (in bold the FOSS component or perspective):

- Fully open source web-based application with a basic GIS toolset. Use of Open Source software, Open Standards and Open Access (MapBuilder, Google maps, WMS services, Python, Java, Jango, PHP and more…) – open source

- Meta data for spatial datasets in the SADC GeoNetwork node

Enabling integration of different thematic spatial datasets from distributed locations (as well as in different formats) at regional and country level using two Clients:

- MapBuilder and GoogleMaps – Case study of open source implementation, Interoperability, FOSS and Proprietary software

- Enabling grouping and integration of non spatial information at regional and country level by implementing a Web2.0 approach that uses resource repositories embedded in a portal Content Management System and tools for searching, filtering and delivering non-spatial information located on web sites and within data repositories like libraries – Interoperability and standards

- Decentralized and participatory approach to information management. Ownership and responsibility of updating information will remain at the information source. Training has been provided to 4 target SADC countries – GIS Support and training

- Establishment of a Land and Water Network of people leading this approach and setup to the next stages.

The poster will be A0-landscape format and presents the organizational set-up of the LWMIS in the AIMS concept, technical portal details (programming environment, Spatial Datasets and formats, CMS content), and screen shots featuring interoperability, link between other (proprietary) GIS software packages using WMS, and a selected set of spatial datasets currently available in the portal.

POSTER PRESENTATIONS

DEVELOPING THE HISTORICAL AGRO-ENVIRONMENT BROWSING SYSTEM USING FOSS4G

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ABSTRACT

The Rapid Survey Maps (Jinsoku Sokuzu) are the first cartographical map series of Japan. These maps were surveyed in the 1880's, early Meiji Era. Especially, in the map series of the Kanto Plain, land use is shown by color. Everyone can easily understand the traditional landscape and agricultural land use of Japan seeing this map. The Rapid Survey Maps also provide valuable information to urban planning, civil engineering, hazard assessment and biodiversity conservation We developed a Web-GIS System to publicize the Rapid Survey Maps of the Kanto Plain using FOSS4G. We named this system the Historical Agro-Environment Browsing System (HABS).

First, we mosaiced and georeferenced 900 maps of the Rapid Survey Maps. The HABS provides two ways to browse map data. One is the web-based interface, the other is the KML file for Google Earth.

In the web-based interface, we use GeoServer (1.6.0) as the GIS server and OpenLayers (2.5) as the client. Because of data size, the Rapid Survey Map is huge (over 10GB), we also use GeoWebCache (0.7) to improve performance. In this interface, present-day road and water boundaries are displayed to compare with past location. GeoServer also provides KML data. But, because of huge data, performance is not enough. So, we use GDAL2Tiles to generate tile files and the KML file for Google Earth.

You can access HABS following this address; http://habs.dc.affrc.go.jp/

THE USE OF OPEN SOURCE GI SOFTWARE IN TEACHINGS

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ABSTRACT

The use of geographic information systems in universities, colleges, in advanced or further training became common standard in the last years. In most of the cases desktop GIS of the main software producers – like ArcGIS by ESRI or MapInfo by PitneyBowes - are used. With its well adopted and easy to use windows-like user interfaces, the numerous extensions and functions and the in many cases easy and cheap price structures and licensing models they seem to offer exactly what is needed or wanted.

So why should open source GI software be used in teachings? This issue was addressed in a research study that started in 2007 as part of a project at the Applied University Eberswalde, Germany. It includes the evaluation of interviews that were following different GIS courses in universities and other educational institutions.

GIS requirements in teachings

The evaluation of use and potential for open source GI software initially demanded the definition of requirements from an organizational perspective (administration, software administrators) and a user perspective (lecturers, tutors and students). Each perspective was evaluated to understand possible barriers in using open source GI software.

The functional complexity of different software applications were also examined according to environmental analysis as this often includes very complex tasks and questions. The common requirements, however, can be easily assigned to other applications.

The main questions and results of the study will be given in the full paper version.

Conclusion

The use of open source GI software in teachings was proved to be sufficient for the initially defined requirements and problems in environmental applications. Even complex tasks could be handled whether sometimes by using more than one software solution or by combining functionalities. In this regard existing proprietary GI software could be completely replaced by open source GI software.

The use of open source GI software is recommended explicitly to students, to get a general idea of different solutions and the comprehensive methods and functions to be used for environmental or any other application. Students have the flexibility to use open source GI software wherever they want – in the university, at home or at work – to solve their GI tasks.

Within the last years open source GI software has established in the GI market and has become a promising alternative for educational institutions. But the enormous potential must be utilised and promoted in a better way, starting by cleaning up existing prejudices.

POSTER PRESENTATIONS

THE USE OF OPENLAYERS FOR THE DEMONSTRATION AND VISUALISATION OF ENVIRONMENTAL RESEARCH APPLICATIONS

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ABSTRACT

Environment science is a complex and dynamic stream. The environmental problems can often easily be understood spatiotemporally. Visualisation of the environmental data gives a great opportunity to deal with the environmental problem. OpenLayers is one of the open source application which provides this opportunity. Also the open source component of the application gives advantage to share and customise it freely. It offers advantage to the decision makers and freedom to developers to use or customise in their own way.

Also OpenLayers can use the maps from different sources (different map services) and it is with no server side dependencies. So the decision makers can have interaction with the maps (environment information) and they can choose the best solution on the basis of the professional knowledge and information available.

This article will describe and examine the use of OpenLayers in the demonstration and visualisation of environmental research applications. There will be given examples from forestry applications and spatiotemporal changes in forests.

OpenLayers offers a great opportunity to visualise environmental information, because it can be easily integrated e.g. in existing webpages. Environmental professionals with no or little knowledge about "web mapping " and / or server technologies can even use the tool.

POSTER PRESENTATIONS

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) GEOWEB EXPANDS ACCESS TO GIS DATA FOR THE MIT COMMUNITY THROUGH OPEN SOURCE TOOLS

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ABSTRACT

MIT Geoweb, a new interface to the MIT Geodata Repository, enables MIT community users to access Geographic Information Systems (GIS) data through a standard web browser. The web interface allows users to search, view, and download GIS data and metadata from the MIT Geodata Repository, a collection of international GIS data maintained by MIT GIS Services. Users will find data in the MIT system not freely available on the web and can view or download the data, and manipulate and analyze it in whatever system they choose.

GeoWeb was built in Spring 2008, using GeoServer, ArcSDE, TileCache, and PHP on the server side, and with the OpenLayers and jQuery JavaScript libraries on the client side. Development tools included text editors and Firebug.

GeoWeb is a part of MIT GIS Services, which provides the collection of literature and data, and training and assistance in the use of GIS software and resources. Our goal is to support the MIT community's research and academic activities, as they relate to Geographic Information Systems (GIS). MIT GIS Services is a collaboration between the MIT Libraries, Information Services & Technology (IS&T), and the Office of Educational Innovation and Technology (OEIT).

MIT does not offer a GIS certificate or degree program.

To learn more and see a video tutorial go to: http://web.mit.edu/geoweb

POSTER PRESENTATIONS

OPEN SOURCE GIS IN ANTHROPOLOGY

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ABSTRACT

In both Social Sciences and Humanities the interest in using GIS for research has increased dramatically. This poster will summarize and reflect on our early attempts to take advantage of open source GIS tools in the discipline of Anthropology. It will describe how we develop a research project that addresses sociocultural and anthropological questions of landscape, memory and African American history in the Georgia Sea Islands, USA.

POSTER PRESENTATIONS

GRASS DEVELOPMENT WITH ECLIPSE/CDT

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ABSTRACT

This poster provides an overview how GRASS developers can tap into the power of an integrated development environment (IDE). For this, the example of Eclipse in conjunction with the C-Development Tool (CDT) is used. It is showcased how to access, manage and compile the GRASS sourcecode independently from the platform via the IDE. For developers the short-term benefits of this approach are extended options for collaborative development, code refactoring and the wrapping of the traditional building-chain in ant-Code. However, beyond the initial benefits lie strategic options. The traditional developer community still embraces the traditional text-editor based development approach. Therefore, the challenges of code-understanding and navigation come with a steep learning curve for potentially interested programmers. Also, in the last years, IDEs have increasingly become the reference approach to code development, most programmers have become used to them and take them for granted. To lower the curb to join the active GRASS developer community and to extend and rejuvenate the community in the long term, IDE-based platform-independent GRASS-development will play a prominent role in the future. This will help to future-safe GRASS GIS as a community-driven FOSS GIS project.

POSTER PRESENTATIONS

USING POSTGIS, GEOSERVER AND GOOGLE EARTH TO VISUALISE SENSOR MEASUREMENTS

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ABSTRACT

One of very actual topic of today's GIS is to combine static maps with sensors measurements in real-time. This problem become even more interesting when we consider moving sensor that provides its position through GPS. Even though that there has been a lot of effort given to this topic especially on specification level (OGC SWE - Sensor Web Enablment activity) the integration into the widely used GIS software is not yet done at all. The aim of this paper is to describe the example how to visualize moving sensors and measurements data in Google Earth using PostGIS and Geoserver time templates. The results of particular real project focused on general mobile sensor unit will be demonstrated. Basics of hardware solution and detailed software description will be given. The relation to OGC SWE specification will be mentioned as well. This poster demonstrates the way how to combine power of several Open Source projects into impressive visualization of real-time measurements in popular viewer - GoogleEarth

POSTER PRESENTATIONS

OPEN SOURCE GIS FOR HEALTH DATA VISUALISATION

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ABSTRACT

Cartographic visualization of health data is something very valuable for common people as well as specialists in medicine and civil services. On other hand the complexity and time dependency of such data makes it also challenging issue for GIS people. This poster describes project focused on visualisation of health data cold VisualHealth. This project aims on processing of large amount of statical data into cartographic visualisation. The deliverables of this project are focused on needs of ordinary people as well as specialist form the government and medicine field. The possibilities of such visualisation of today's open source GIS products and also some specific approaches will be shown (SVG together with XSLT). Finally some interactive results (GoogleEarth time series) and implementation details are going to be demonstrated.

POSTER PRESENTATIONS

SLAXGIS: A GIS-ORIENTED LIVE USB LINUX SYSTEM

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ABSTRACT

Slax (http://www.slax.org/) is a portable Linux operating system with a modular approach that gives the user the ability to include any other software in Slax easily. Using this particular distribution any user, even if inexperienced, has the opportunity to start working immediately in a Linux environment without any kind of installation: he simply has to insert the USB memory stick and reboot the PC. It's important to make available the same working environment to all students in a class and it is not always easy to have university laboratories with Linux and all the needed GIS software installed. Moreover students should be provided with the possibility to work at home and, in case, continue unfinished tasks in an independent way. For this reason we decided to adopt the live USB version of the Slax 6 Linux distribution and integrate it with all the GIS software packages adopted in our courses to provide a homogenous environment for every student and a system that is easy to install and use: we called this new environment slaxGIS. It is specifically designed for education and for people approaching this kind of products for the first time. It is a ready to use and complete environment for using GIS packages under Linux.

It is bootable from most computer machines independently from the installed operating system. slaxGIS includes various GIS software: three desktop GIS: GRASS, uDig and OpenJUMP PIROL edition. In order to allow users to start experimenting with GRASS we also included widely known datasets such as Spearfish and the new North Carolina data. As for webGIS we built MapServer and Chameleon modules, adding also two ready-to-use demo websites designed for these applications using Itasca data. Databases are also available: PostgreSQL/PostGIS and MySQL modules are included. In addition to these software packages, all the packages they need are included too (e.g. libraries, Proj4, Gdal/OGR, PHP, Python, Apache web server, ...). In order to add new software to Slax a user can operate in two ways. If a Linux pre-built package is available (e.g. a Slackware .tgz, a Debian .deb or a Red Hat .rpm file) there is a handy command that converts it into a Slax module ready to be used. Otherwise the user will have to compile sources as it is usual on Linux systems and then create the module for Slax by using the appropriate available utility. Differently from usual live systems based on CDs or DVDs, a live USB system is substantially faster since it is loaded and runs completely on RAM. It allows also users to store changes (user-created files, customized configurations, ...) and restore them on the next boot. slaxGIS has been used for more than one year at Politecnico di Milano, Polo Regionale di Como for educational purposes and its packages are updated on a regular basis and downloadable from the website: http://geomatica.como.polimi.it/software/slaxGIS/ . A 1 GB flash disk at minimum is required to install and run slaxGIS conveniently. slaxGIS is released free of charge.

PROMOTION OF ACCESS TO SPATIAL INFORMATION USING WEB-BASED OPEN SOURCE GIS TO CAPE TOWN COMMUNITIES LIVING AT INFORMAL SETTLEMENT

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ABSTRACT

Spatial information is a key component in planning and decision making. Increasing access to spatial information to communities who live at informal settlements will create awareness and improve the living standards of people. In the past, the availability and use of spatial information has been limited to government and academic institutions, with ordinary members of the public especially at informal settlements not being able to access or make use of such information. The implementation of Access to Information Act in 2000 by the South African Government gave effect to the right to have access for any information, which is a right provided for in the Constitution of the country. The public, and in particular communities living in informal settlements, do not receive enough information regarding who to contact when they want to report, inquire, comment or submit requests for spatial information from the government, organisations and other institutions. Increasingly the internet is being used to disseminate spatial information. However, none or few systems allow the public to access spatial information and submit ideas on spatial problems to those in power.

The system prototype to be implemented will use the City of Cape Town Smart Cape project access points which use open source software and have connected computers at community libraries for bridging the digital divide. Using a combination of open source software, a web-based GIS system prototype will be developed with UMN Mapserver, PostgreSQL/PostGIS, Flexible Internet Spatial Template (FIST) and chatty. The system prototype will be tested at six Cape Town informal settlement community libraries being Langa, Gugulethu, Nyanga, Crossroads, Phillip and Delft.

The system prototype aims to assist the City of Cape Town relevant directorates as an option to be able to supply decision-making environments based around Geographical Information Systems (GIS) to the public across the internet, enhancing the two-way flow of information between the public and those governing them. Informal settlement users should be able to:

- access spatial information and metadata-information about the system

- interact with user interface easily.

- use basic map functionality

- follow instructions easily and would not need training as it will assumed that they have been using Smart Cape Access project commuter facilities.

- examine spatial data involved in the decision makings. They should achieve this by producing map session and manipulate the data to examine a number of complex "what if, else if or while" scenarios.

- interact with users from other informal settlements through discussion forums by using a chat program.

This research looks at promoting open access to spatial information easily and affordable using the web-based Open Source GIS technology under the general right of access to information.

POSTER PRESENTATIONS

BUILDING AN OPEN SOURCE MOBILE GIS CLIENT

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ABSTRACT

When confronted with the request to build a GIS application for a mobile device many people will turn to ESRI ArcPAD for a perceived lack of open source alternatives. However, a little known open source library can fill this hole. SharpMap is a mapping library written in C# which supports both webservices and local files. The eWater application is an example how SharpMap can be used to build a multilingual mobile application which is easy to use and stunning to see. Using the latest .NET framework a radically different interface has been designed. The application is part of a large international spatial data infrastructure using CSW, WMS, WFS and WMS-C to access data in different countries with one single application.

The poster will showcase a mobile device which allows the fieldworker to access (international) data about the current position.

POSTER
PRESENTATIONS

MAPPING KIT FOR DRUPAL

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ABSTRACT

The Mapping kit is a collection of modules to support custom mapping in the Drupal Content Management System.

It's main objective is to provide users with the capability to add their own geographic data and show it in maps, either on screen or in pdf.

For this purpose, the standard content types of the CMS can be extended with location in terms of x/y coordinates and reference system; it is not limited to longitude/latitude.

In addition, Drupal is extended with several content types to facilitate mapping:

- Web mapping service for referencing an external WMS,

- Map context for defining map size, extent and projection, together with the WMS layers to use,

- Map layer for layers to be added dynamically,

- Geodata for attaching or importing shapefiles as feature sets, and

- Map file for display of geodata by Mapserver.

A content filter is added to define inline maps. These maps can then display feeds of data containing GeoRSS information.

An example definition for a map showing a feed of images with a certain label (term) is:

[map   baselayers="google"   layers="1"   1="georss|taxonomy/term/10/0/feed"   width="600" height="300" zoom="1" title="Work images" /]

The modules build on OpenLayers as a map client, and UMN Mapserver for mapping and projection calculations.

Use of the Mapping kit is illustrated by an application for view the underground infrastructure (cables, pipes) from multiple owners each serving their feature sets in separate WMS'es.

POSTER PRESENTATIONS

STUDENTS IN ACTION: BROETLIKRONES PROJECT

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ABSTRACT

Before ending a three years bachelor degree, Media engineering students of University of Applied Sciences Western Switzerland are conveyed to take part in a ten days practical course targeting FOSS4G and OGC specifications, which is an optional suite of a general introduction course on GIS.

First week is devoted to discover and practice great opensource softwares (like Postgis, MapServer, Geoserver, Mapfish, OrbisGIS, gvSIG, OpenLayers...), while second one is dedicated to workgroup realizations. This poster aims to present one of them: Broetlikrones (Breadcrowns in english).

Broetlikrones was designed as an exercise to apply main opensource webmapping technologies currently available. The purpose of the application is to display bakery locations within an isochrone (or isodistance) polygon, around a user-defined point in Switzerland. Users can then get the shortest path to one of the bakeries.

Server-side, Broetlikrones works on a Postgis database, using pgRouting. Main geodata source is a homemade road network of Switzerland, highly generalized, which is sufficient for this exercise. In fact, the service could be connected to any other road network.

Core application offers Java-based RestFul webservices to get the driving distance (or driving time) polygon, given an origin point and SRID, and the shortest path linestring, given a source and destination point, and SRID.

Client-side, the result is received as a GeoJSON feature, which is directly usable as spatial feature in the OpenLayers front-end, and that can embed additional informations in some associated properties. Along with the polygons comes the covered population and area.

One next step would be to build the application interface using OGC Web Processing Service.

Demo can be played here: http://go.heig-vd.ch/broetlikrones

POSTER PRESENTATIONS