

BRASIL

FOSSGIS

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Georreferenciando o Conhecimento

METADATA

Plugin for creating
and editing metadata
in **QCIS**

Portable applications
KOSMO

CVSIG a new
development model

INTERVIEW
JEROEN
TICHELER

Issue's map
hypsoetry
of the state
of Alagoas

Create maps
from a mobile
source

BREAKING
HABITS
FOSS can
also do it!

Demystifying
the remote
sensing



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By Felipe Costa

Arquivo pessoal



Jeroen Ticheler

(www.ticheler.net)

Owner of GeoCat BV - Chair and founder of the GeoNetwork Opensource project.

FOSSGIS: How has your work at the Food and Agriculture Organization (FAO) evolved into the creation of Geonetwork?

JEROEN TICHELER: I joined FAO as a junior professional to assist with the satellite imagery receiving and processing system ARTEMIS. The satellite imagery is used in Early Warning Systems for food security and for Desert locust control. We were a team of four at that time and in my spare time I started organizing other geospatial data that FAO collected at Head Quarters and in countries. There was a small desktop catalog application that stored FGDC metadata in an MS Access database. I wanted a web based application that would store ISO 19115 metadata. At the time (2001) that metadata standard was only available in draft form. The system also had to be platform independent, written in Java and be database independent. To do that we build a prototype system we called GeoNetwork, intended to be released as an open source product so it could be used anywhere in the world. My idea was that that would drive local businesses, attract contributors from all over the world, allow organizations anywhere to start using it and ultimately build the best geospatial metadata catalog available. The prototype was the

basis to start discussing a suitable system and software architecture with software engineers. I actually better refer to them as friends! We then build the first version that was released as open source software. I managed to convince a colleague at the World Food Program (WFP) to fund the first interactive map viewer, InterMap that was able to combine WMS map services from distributed map servers.

FOSSGIS: How was the negotiation within the FAO for the provision of Geonetwork as free software?

JEROEN TICHELER: I was convinced that an open source software strategy would work best. We would be able to kick start the project and support it for some time with shoestring funding and lots of energy. Projects always have a limited lifetime within an organization after which people move on, money is finished, managers want something new. Once we would reach that stage, the project would die unless there was an escape. Creating a broader developer and user community could avoid such thing, and that's exactly what happened. GeoNetwork opensource developed into a sustainable project with a large community supporting and using it.

FOSSGIS: What are the most prominent successful cases in using Geonetwork?

JEROEN TICHELER: The first was within the United Nations system itself. GeoNetwork is in use in most of the specialized agencies and these agencies exchange spatial data through that network. That was followed by the CGIAR Agriculture Research Institutes Consortium for Spatial Information. Then things moved on quickly in Australia, France, the FAO & ESA GEOPortal for GEOS (the Global Earth Observation System of Systems). Today in Western Europe GeoCat supports 10 national georegistries that provide national geospatial data for the European Spatial Data Infrastructure named INSPIRE. Australia and New Zealand use it as their base catalog. The list goes on and on. I'm not yet aware of the International Space Station ISS using it ;-)

FOSSGIS: Geonetwork was developed as a catalog of geographic data but can also be used to manage other types of documents and data. Are you aware of different uses of the software?

JEROEN TICHELER: I have mostly seen it used for geospatial content. That is also the focus of the project. Slowly we start seeing requests for it to also support other types of information. Open Data as a concept is broader than geospatial data and we think that GeoNetwork offers tremendous opportunities for that. Metadata and catalog access protocols are all based on standards in GeoNetwork, making it perfect to serve Open Data using Open Standards. For that we combine GeoNetwork with GeoServer that provides the geospatial Open Data services. Obviously the same could be done using other data services applications.

FOSSGIS: Who are the major competitors of Geonetwork and the main advantages of it over the others?

JEROEN TICHELER: Competitors come and go. There are a few open source projects that serve metadata through the OGC CSW (Catalog Service for the Web) interface. A couple of proprietary metadata catalogs on the market focus on very specific user communities like earth observation. Esri released their Geoportal toolkit as an open source product one year ago, realizing they lost large contracts because of the closed character of their solution. The main advantages of

GeoNetwork over those catalog applications is its huge user community. Users all require the software to comply with the standards that create a Spatial Data Infrastructure. Performance, compliance and metadata management functions have all been tested and used in operational systems for years. The value of that experience is often underestimated by people starting from scratch. In the ten years I've worked on GeoNetwork I have not yet seen a single geospatial metadata catalog come close in offered functionality. That doesn't mean we take our leading position for granted. The list of new functions that is added to GeoNetwork every year is mind boggling to me. The developers working on the project come up with the most amazing new functionality all the time.

FOSSGIS: What is the future of Geonetwork? What changes are planned?

JEROEN TICHELER: The Graphical User Interface (GUI) has completely been redesigned and implemented from scratch. It will offer functionality in line with that seen in modern web based applications. The old GUI will still be available for some time, but the new one is based on widgets written in ExtJS allowing developers to create new, flexible user front ends that are loosely coupled with underlying GeoNetwork services. Multilingual metadata editing is already part of version 2.6, but the upcoming version 2.8 will see multilingual search and indexing also. Furthermore we are working on metadata versioning, metadata workflow improvements, a metadata profile plugin system and more.

FOSSGIS: Obviously data catalog service is an important tool in data discovery. But what else should be done to improve standards and implementation of standards in GIS?

JEROEN TICHELER: A big problem in data discovery is still that today's systems don't really know of one another. Connecting catalogs is still a manual process in most cases and search engines like Google and Bing only marginally focus on geospatial data and service discovery. Geographic standards are fairly advanced, while they have not yet stabilized much. The result is a Spatial Data Infrastructure where Web Map Services (OGC-WMS) work fairly well on many GIS platforms and in web applications. But when it comes to any other service things look much worse. Web Feature Services and Sensor Observation Services serving GML formatted data, as well as Catalog Services (with ISO

metadata) are slowly getting there. Other standards have poor or very fragmented support in the GIS community. Once the main standards stabilize, it is quite likely that the Global Spatial Data Infrastructure will grow at an incredible speed. Applications that use a bit of geospatial data and services are slowly starting to re-use the available geospatial services. It is those applications that will really drive the demand for geospatial content.

FOSSGIS: How was the decision to run the Geocat company and what types of services and solutions do you offer?

JEROEN TICHELER: After a fantastic nine years working with the United Nations I wanted a new challenge. GeoNetwork was well established in the UN system and was more and more in demand outside of the UN. With the very limited budgets we had to work with at the FAO it was impossible to keep up with the expectations and requirements from the GeoNetwork community. I'd been waiting a long time for other companies to pick up business with GeoNetwork and a few companies did catalog work on the side. That was when I thought the time had come to kick off my own company and give the project development a serious boost. That decision has been a good one for the project I think. GeoCat offers consultancy and development services to governments that need to establish sound geospatial catalog systems. We now even offers support contracts for GeoNetwork opensource to assist clients to reliably run their catalogs and fix problems as they pop up. With OpenGeo we partner to offer similar support on GeoServer, PostGIS and more. We also developed an extension to Esri ArcGIS Desktop named GeoCat Bridge. It does exactly what should be expected from a Bridge: transfer your geospatial data from the desktop to a Spatial Data Infrastructure. It will create the required map services on GeoServer and soon in MapServer also. Data is transfered to the server platform, storing it on disk or loading it into a PostGIS database. Styling is taken from the ArcGIS project, generating the most incredible SLD documents in seconds. Metadata is also maintained at the source and transformed into valid ISO 19115 metadata that is published in a GeoNetwork catalog. Links between service and metadata are properly configured and preview images are taken care of. In short that creates an SDI with a click of a button. Eventhough that extension is proprietary, I'm proud of a product that builds a solid bridge between proprietary and open source software solutions using the best of both worlds.

FOSSGIS: What kind of organization are its main customers?

JEROEN TICHELER: We mostly work for Government agencies, hence our slogan "The Government Geographic Data Publishing Company". About 75% of our revenue comes from international customers we serve worldwide. We're a small company, but we offer experience with both SDI implementations and Open Source Software development that is difficult to find. Most of our work is done through online collaboration, we try to limit travel as much as we can. Although I would obviously love to come over to Brazil one day :-)

FOSSGIS: Did you know that Geonetwork software is recommended by the Brazilian National Mapping Comission (CONCAR) for use in public and private agencies for implementing the National Spatial Data Infrastructure? What message would you like to send to brazilian users?

JEROEN TICHELER: No, I didn't know that. That's fantastic, what an honour for our team!! I would invite you to make yourself heard on our mailinglists and contribute your experiences and work back to the project. GeoNetwork thrives because of all those individual users that take just that extra step to contribute back. Those contributions can be as small as correcting a spelling error or improve an outdated paragraph in the documentation. Most users don't realize how valuable their work is to the larger community.

FOSSGIS: Changing the subject a little. You are the organizer of Bolsena Code Sprint, a one-week event for free software development in a monastery in Italy. How did you come to this idea? Tell us a little about the event and the results so far.

JEROEN TICHELER: Nathan, the same friend and old colleague that I started developing InterMap with in the UN now runs a monastery together with his wife Sabrina. I visited them one day in Bolsena, just North of Rome and got the idea to host a week of code sprint there. It is the most incredible place you can imagine to work intensively together. The environment, the small rooms, the garden, the Italian food and the view create an inspiring atmosphere where 25 developers from a range of OSGeo projects meet up and share ideas that they immediately start to implement during the week. We have two presentation sessions during the week where people are free to present their work and their new ideas. Obviously we

laugh, drink and eat a lot! Every year has triggered new initiatives across projects that inspired people to collaborate until months after the event happened. The week also allows people to meet face to face and do the work they never get to back home in their office. The available time and relaxed atmosphere make it a great environment for developers who don't want to be disturbed while they think, discuss and work on complex problems. Hopefully it provides real added value to the

OSGeo community. This year will be the fifth time. Time flies when you are having fun!

Felipe dos Santos Costa

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