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GSS Weekly

Open Source GIS

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By: Eric Gakstatter

Some years ago, I predicted that the price of GIS data-collection hardware would eventually decline to the point that software would be the most expensive part of a GIS data-collection system. Well, I'm beginning to rethink that statement. Here's why.

There's a solid push towards the open source concept in GIS. Since 2006, there's been an annual conference called FOSS4G (Free and Open Source Software for Geospatial) hosted by OSGeo, the Open Source Geospatial Foundation. According to the OSGeo website,

> *The Open Source Geospatial Foundation, or OSGeo, is a not-for-profit organization whose mission is to support the collaborative development of open source geospatial software, and promote its widespread use. The foundation provides financial, organizational and legal support to the broader open source geospatial community. It also serves as an independent legal entity to which community members can contribute code, funding and other resources, secure in the knowledge that their contributions will be maintained for public benefit. OSGeo also serves as an outreach and advocacy organization for the open source geospatial community, and provides a common forum and shared infrastructure for improving cross-project collaboration.*
>
> *The foundation's projects are all freely available and useable under an OSI-certified open source license.*

The OSGeo Mission Statement:

To support the collaborative development of open source geospatial software, and promote its widespread use.

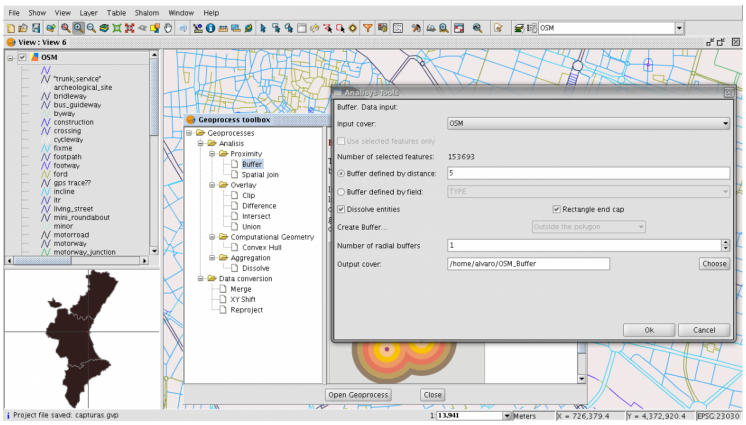
OSGeo Goals:

The following more detailed goals support the overall mission:

- To provide resources for foundation projects — e.g., infrastructure, funding, legal.
- To promote freely available geodata — free software is useless without data.
- To promote the use of open source software in the geospatial industry (not just foundation software) — e.g., PR, training, outreach.
- To encourage the implementation of open standards and standards-based interoperability in foundation projects.
- To ensure a high degree of quality in foundation projects in order to build and preserve the foundation "brand".
- To make foundation and related software more accessible to end users — e.g., binary "stack" builds, cross package documentation.
- To provide support for the use of OSGeo software in education via curriculum development, outreach, and support.
- To encourage communication and cooperation between OSGeo communities on different language (eg. Java/C/Python) and operating system (eg. Win32, Unix, MacOS) platforms.
- To support use and contribution to foundation projects from the worldwide community through internationalization of software and community outreach.
- To operate an annual OSGeo Conference, possibly in cooperation with related efforts (e.g., EOGEO).
- To award the Sol Katz award for service to the OSGeo community.

Clearly, from the mission statement and goals, this effort is all about the geospatial user community, and you should stay tuned into this effort.

Some of the current OSGeo projects include desktop GIS applications like gvSIG, Quantum GIS, and GRASS GIS.



gvSIG Desktop App

There is also a gvSIG Mobile app I mentioned in last week's *Geospatial Solutions Weekly* column. It was developed using Java and runs on the Windows Mobile platform. With both gvSIG desktop and mobile, you can have an entire GIS data collection and desktop software suite free of charge. Of course, free comes with a price. There's no accountability, no priority tech support, no one to call when you can't figure out why things aren't working, etc. You're on your own, sort of. There's an online community of users who interact and support each other. Also, like open source operating system LINUX, there are companies that will provide commercial support for open source GIS apps.

gvSIG originated in Spain, and although it is available in more than 20 languages, it hasn't gained much momentum in the U.S. yet. I think it's an important enough subject that I've added it as a session topic to the Field Technology Conference this September. We will have at least one technical presentation on the subject and I will address open source GIS in my keynote presentation. If we're lucky, we'll also have a hands-on open source GIS area so conference attendees can see open source GIS apps being used in action.

If you recall two weeks ago in my *Geospatial Solutions Weekly* article, I presented the United Nations Five to Ten Year Vision on Geospatial Information Management. Some of the key geospatial trends the U.N. identified related to open source are:

- Free and open source software will continue to grow as viable alternatives both in terms of software, and potentially in analysis and processing.
- Free and open access to data will become the norm and geospatial information will increasingly be seen as an essential public good.
- Within five years the level of detail on transport systems within OpenStreetMap will exceed virtually all other data sources and will be respected and used by major organisations and governments across the globe.
- National Mapping Agencies are likely to find it difficult to justify the costs of traditional data maintenance mechanisms as their products are used in

increasingly niche areas.

- Crowdsourced content will decrease cost, improve accuracy and increase availability of rich geospatial information.
- There will be increased combining of imagery with crowdsourced data to create datasets that could not have been created affordably on their own.
- Crowdsourced data will push National Mapping Agencies towards niche markets.
- Progress will be made on bridging the gap between authoritative data and crowdsourced data, moving towards true collaboration.
- Crowdsourced sensoring will emerge.
- There is unlikely to be a market for datasets like those currently sold to power navigation and location-based services solutions in 5 years, as they will have been superseded by crowdsourced datasets from OpenStreetMaps or other comparable initiatives.

It's going to be very interesting to watch how quickly open source GIS apps *and* data (e.g., OpenStreetMap) are adopted. Part of the challenge is market awareness of open source GIS apps and data. Being open source (free), there aren't big (or any) marketing budgets to promote the open source GIS concepts and products. Another challenge is if one chooses to implement open source GIS apps, there's limited amount of technical support available to implement and maintain the apps unless there's a reasonable level of commercial technical support available. However, as the adoption of open source GIS increases, it's reasonable to assume the quality and quantity of user community technical support will grow.

If any of my readers use open source GIS apps and would like to share, I'd love to hear about your experiences. Click here to send me a quick email.

Thanks, and see you next week.

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