



COMET SIL: Comment valoriser par l'OpenSource ?

ORFEO ToolBox: gouvernance et collaboration ouverte

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Introduction

Topic

- ▶ Talk about changing the license of a ten years old open source project
- ▶ the *strategy* that we used to change the license of a 10 years old project
- ▶ Why we decide to make this change, things that we learn
- ▶ More generally how the OTB governance works
- ▶ Recap of the OTB OSGeo incubation process
- ▶ This presentation is not about "Permissive versus copyleft license"

What is Orfeo ToolBox ?

- ▶ A **C++ library** for image processing, based on ITK
- ▶ **90+ remote sensing applications**
- ▶ **Monteverdi**, a satellite image viewer (hardware accelerated, raw products)
- ▶ Accessible from C++, Bash, GUI, Python, QGIS, Monteverdi, WPS (Zoo)
- ▶ **Big Data** (buzzword detected here!) capable, thanks to built-in streaming, multithreading and MPI
- ▶ Apache v2.0 license (since release 6.0) before CeCILL v2
- ▶ Funded and developed by CNES (French Space Agency)
- ▶ Used at CNES, ESA, mission exploitation platforms, remote sensing labs, teaching...
- ▶ Standing on the shoulders of giants (ITK, GDAL, OSSIM, OpenCV...)
- ▶ **An OSGeo project since July 2017 !**

Segmentation

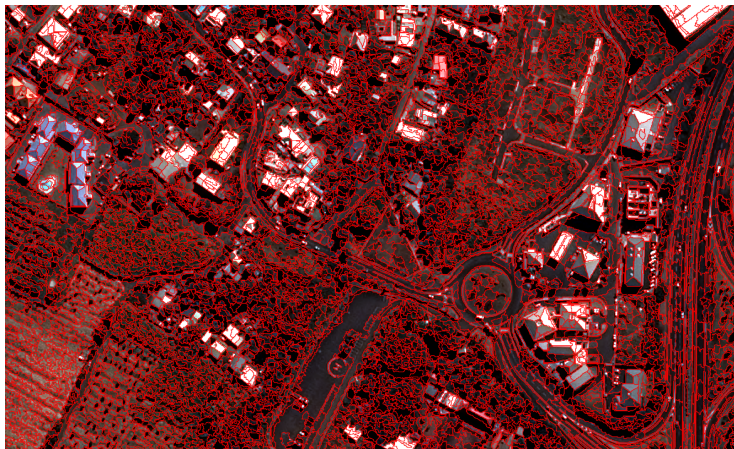
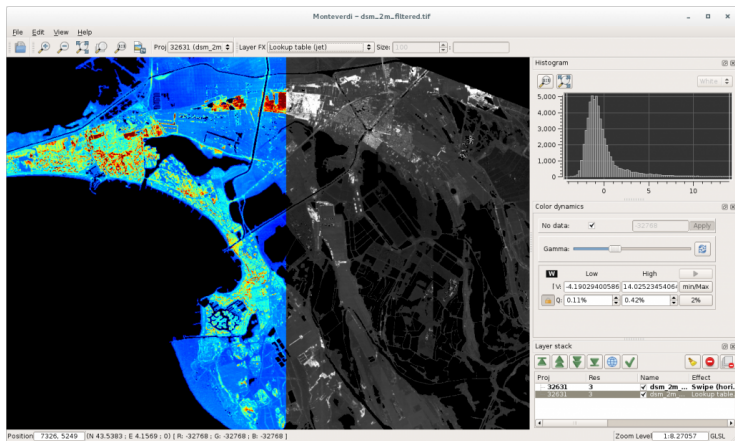


Image visualisation and analysis



Sucess stories

From end users to operational ground segments

- ▶ OTB applications are available through QGIS processing framework
- ▶ OTB applications are available in Zoo Project (WPS service)
- ▶ OTB used to teach remote sensing
- ▶ Gnorasi Software (National Technical University of Athens)
- ▶ ESA Sentinel-2 for Agriculture
- ▶ Geosud project : Spot images mosaic over France
- ▶ OTB is a component of Sentinel-2 and Venus ground segments (CNES and ESA)

Before talking about license change

- ▶ Changing the license can be a pain to deal with
- ▶ But technical details like code review, CLA, Copyright are perhaps not the most important thing at the end
- ▶ So I will talk more about governance, about communication with the community...
- ▶ ...and less about technical details of the license change
- ▶ Explain how OTB starts by setting up a more open governance first with a Project Steering Committee
- ▶ And how to deal about big changes like this in the most open "way"

OTB history

- ▶ Start in 2006
- ▶ Always be a Free and Open Source project
- ▶ Mostly supported from the French Space Agency CNES
- ▶ Always encourage and integrate contributions
- ▶ Code, documentation, mailing lists, everything is public since the beginning
- ▶ Try to follow as much as possible open standards
- ▶ People who started the project were great FLOSS advocates
- ▶ But...

OTB decision making process before the PSC

the benevolent dictatorship dynasty

Who makes feature requests

- ▶ Users from Orfeo CNES program (main funding source for 8 years)
- ▶ CNES team
- ▶ Users from mailing list

Who decides

- ▶ CNES team with support of CNES contractors

Who actually writes code

- ▶ CNES team or CNES contractors
- ▶ Other contributors

Why changing in 2015 ?

Transparency

- ▶ Users are often informed afterward of major changes
- ▶ No insight on motivations behind some decisions
- ▶ Difficult to participate in decision making
- ▶ OTB is a big project now, someone may want to get involved more deeply

For more, easier contributions

- ▶ what was the process for contributing code to OTB ?
- ▶ how can I know if my contribution will be accepted ?
- ▶ if I contribute a lot, do I get a grip on decision making ?

For sustainability

- ▶ What if, one day, CNES stops funding OTB at the current level ?
- ▶ We need new actors to be able to get involved in OTB !

OTB project Steering Committee

- ▶ In 2015 CNES decided to set-up an open-governance for OTB
- ▶ We now have a working PSC, with :
 - ▶ Members
 - ▶ Rules
 - ▶ Decisions
- ▶ PSC scope :
 - ▶ roadmaps
 - ▶ communication
 - ▶ contribution management
 - ▶ release planning
 - ▶ **Handling legal issues**
- ▶ "PSC should help to guarantee that OTB remains open and company neutral."
- ▶ Inspired by existing governance (status,rules) and especially by OSGeo projects like GRASS GIS, GDAL, QGIS

... for users

- ▶ Every significant ongoing or passed change is now public and visible
- ▶ Users have the opportunity to comment on pending Request for Changes during review
- ▶ There are more details available on why and how things were done (and discussions)
- ▶ Users can file new Request for Comments to request new features
- ▶ Releases are more frequent

... for contributors

- ▶ There is a clear and detailed process on how to get your code in OTB
- ▶ Contributors are guaranteed to be treated with equity
- ▶ They know the deadline to get their feature into next release

Are we making a better OTB ?

On the overall, I think that we do.

- ▶ We have more code reviews, from external reviewer (even if PSC is still small)
- ▶ Changes are more consistent because they belong to the same RFC
- ▶ Everyone gets to give his opinion
- ▶ New features are more visible

It creates the structure to deal with more controversial changes

- ▶ License
- ▶ Version control system
- ▶ Refactoring

Moving from CeCILL to Apache

- ▶ The license change consideration starts in the same time as the governance set up
- ▶ Also closely related with the OSGeo incubation process as it was one of the goal of the PSC to complete the application to OSGeo

Why moving from CeCILL to Apache ?

- ▶ CeCILL is not a very common license (even if it is compatible with GPL and OSI approved since 2013)
- ▶ Strategy : OTB position in the GIS and image processing pipelines
- ▶ Strong relationship with ITK (image processing library) distributed under the Apache v2 license
- ▶ OTB modular architecture : nothing prevent to contribute OTB module with an other license
- ▶ In the current context where OTB can be useful, copyleft may also restrict the use of the library for some potential users and contributors
- ▶ This licensing change also means in our case better management of contributors (CLA and ICLA)

Personal thoughts

- ▶ Copyleft is a very good protection for open-source software in general
- ▶ But OTB was considered by many institutions and companies as part of their projects
- ▶ Cause individual and expensive schemes to include OTB in projects and still respect the license requirements
- ▶ From a practical standpoint, think that a more permissive license could only increase interest in OTB
- ▶ From both a strategic and an operational point of view I think that it is a good decision for OTB

License change feedback

- ▶ Follow guidelines provided by OSI, GNU, Apache foundation...
- ▶ Doing a code review is a long and hard work (especially for a library like OTB -> more than 500k lines of code)
- ▶ But you always learn things doing a code review
- ▶ Think twice before integrating code/libs without a license
- ▶ It helps a lot for OTB to maintain properly contributions since the beginning
- ▶ Helps from a lawyer at CNES (P. Maurette) and S. Dinot from the dev team
- ▶ Changing license should follow at the end the same acceptance mechanism as new features (pull request, RFC...)
- ▶ For most users changing the license will not change a lot the way that they use OTB
- ▶ Communication is important

- ▶ The Open Source Geospatial Foundation (OSGeo)
- ▶ A non-profit non-governmental organization
- ▶ Support and promote the collaborative development of open geospatial technologies and data
- ▶ Provide financial, organizational and legal support
- ▶ Umbrella for FOSS4G conferences (→ \$\$\$)

OSGeo incubation

- ▶ Effort to welcome new projects into OSGeo foundation
- ▶ Designed to promote open source and inclusive development of software projects
- ▶ Formal process :
<http://www.osgeo.org/incubator/process/process.html>

How OSGeo helps during the all process ?

- ▶ Open governance
 - ▶ How to set up the PSC
 - ▶ Decision making strategy
 - ▶ Documentation license
- ▶ Take time to set up the governance...
- ▶ We wait to complete the license migration before restarting the incubation process in 2017
- ▶ It took time...
- ▶ ...But it was perhaps the time needed by the project

Conclusion

- ▶ OSGeo incubation starts in 2011 (first application)
- ▶ Being an official OSGeo software will perhaps not change lots of thing. . .
- ▶ I think that the incubation helps OTB to have a more open process and overall
- ▶ Moving to GPL to Apache was also quite a huge work
- ▶ The OTB governance is still young but works well
- ▶ Number of RFC in 2 years : 103

Questions ?