

# Creation of new topological rules for gvSIG desktop

Bonding Period Report



Google  
Summer of Code

## **Project links of interest**

- GitHub wiki: <https://github.com/hecnita/gvsig-gsoc2019-topology/wiki/Creation-of-new-topological-rules-in-gvSIG-desktop>
- GitHub repository: <https://github.com/hecnita/gvsig-gsoc2019-topology>

## **Activities performed**

As part of acceptance in the GSoC, following the recommendations given through the mailing list of osgeo for the soc, of my tutors and following the general traces defined in the project proposal I have carried out a series of tasks derived from this period that they include the participation required in the community as well as those that allow me during the coding period to be much better prepared and obtain good results with the main objective of contributing to the development of free code.

First of all, I have been researching the mathematical fundamentals related to topology, from concepts to applications that allow me to have a more solid base and also offer better solutions in the implementation of code during the development of the project.

After some general notions about general topology, I have continued to investigate, in particular, about the so-called geospatial topology applied in Geographic Information Systems. This has led me to study many of the topological rules and solutions or actions to these rules most used today.

Obtained some more solid theoretical knowledge, the next stage has been more practical. To cover the needs of the gvSIG desktop application in relation to this issue, I have refreshed some of the java language in depth.

Furthermore, since the project is going to be done with the Scripting module, I followed the development manuals provided by the gvSIG association's blog. The Scripting manual gathers from the beginning of the module, the installation of the necessary libraries, the first steps to more advanced questions. I have focused mainly on the geometry management. These practical days have allowed me to familiarize myself with the jython language, which uses the most manageable syntax provided by the python language. For this, it has been necessary to previously install the gvSIG desktop application.

Since there are a few rules implemented as a sample for this project, I have also become familiar with the code developed for this purpose, the topological framework and the topology diagram.

In addition, of these central issues of the project I have carried out other activities of great importance to facilitate their development. On the one hand I have established regular communication with my mentors and with another student, Mauro Carlevaro, through email, chat and video call to establish general guidelines for project development and coordinate together.

From these conversations it has been decided to establish a GitHub repository to publish the code with the established update guidelines and use the GitHub wiki as the main one to keep track of weekly progress. Also, the project has been redefined with the three evaluation periods in the timeline and with more detailed weekly milestones. As for the OSGeo wiki, I have requested access, a confirmation email has arrived and I have accepted it but I have not received any more answers and I have not been able to log in either.

On the other hand, I have presented myself and my project in the SOC mailing list as well as in gvSIG developer mailing list. Also, I have improved my knowledge about the organization community, reading all the recommended documents related to the GSoC 2019.

### **Evaluación**

The bonding period has been a great experience since I have maintained fluid contact with my main mentor and I have prepared myself in time for the following coding periods.

### **Visited links**

<http://www.gvsig.com/es/productos/gvsig-desktop/descargas>

[http://downloads.gvsig.org/download/web/es/build/html/scripting\\_devel\\_guide/2.4/index.html](http://downloads.gvsig.org/download/web/es/build/html/scripting_devel_guide/2.4/index.html)

<http://devel.gvsig.org/svn/gvsig-projects-pool/org.gvsig.topology/trunk/org.gvsig.topology/org.gvsig.topology.lib/org.gvsig.topology.lib.impl/src/main/java/org/gvsig/topology/rule/>

<https://blog.gvsig.org/2019/02/12/towards-gvsig-2-5-topology/>

<https://github.com/gvSIGAssociation/gvsig-desktop-scripting-GeometriesTo2D/blob/1a72ccb9ac00fb749217608bf29fdc26503cdc0c/geometriesTo2D.py>

<https://github.com/gvSIGAssociation/gvsig-desktop-scripting-SetZFromRaster/blob/f7f4af4803e4c8cf0ded65f771f97a759314e12f/setZFromRaster.py>

<https://github.com/gvSIGAssociation>

<https://www.youtube.com/watch?v=lvighKamaqU>

<https://www.youtube.com/watch?v=NmtYhPOMS44&t=1194s>

<https://www.youtube.com/watch?v=NYbH1UCMPsY>

<https://docs.google.com/document/d/1th0CVKOr918ltBI9czTJsRKAYSGnY6xpiY1R2415QM/edit?ts=5ce9c335>

<http://desktop.arcgis.com/es/arcmap/10.3/manage-data/editing-topology/geodatabase-topology-rules-and-topology-error-fixes.htm>

[http://help.arcgis.com/es/arcgisdesktop/10.0/help/001t/pdf/topology\\_rules\\_poster.pdf](http://help.arcgis.com/es/arcgisdesktop/10.0/help/001t/pdf/topology_rules_poster.pdf)