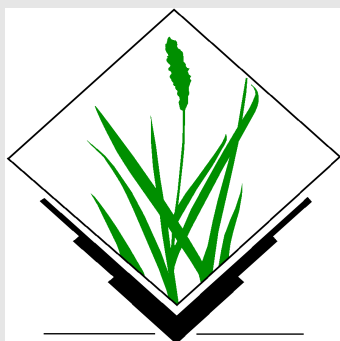
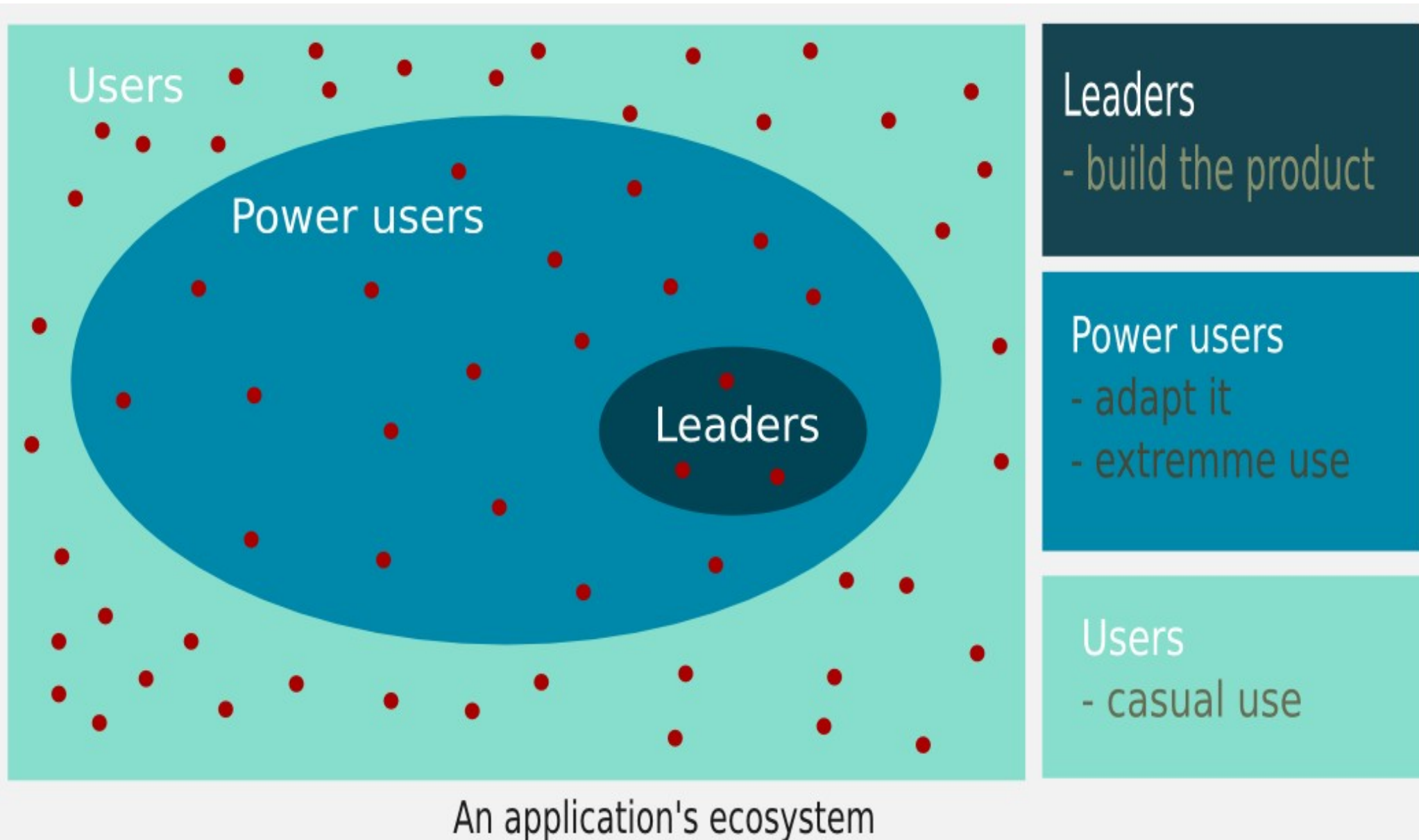


# A quantitative study on GRASS, gvSIG and QGIS Communities



V jornadas SIG Libre. 23-25 March, Girona  
Authors: Andrés Maneiro, Francisco Puga, Adrián Eirís, Alberto Varela

# The ecosystem of a software product

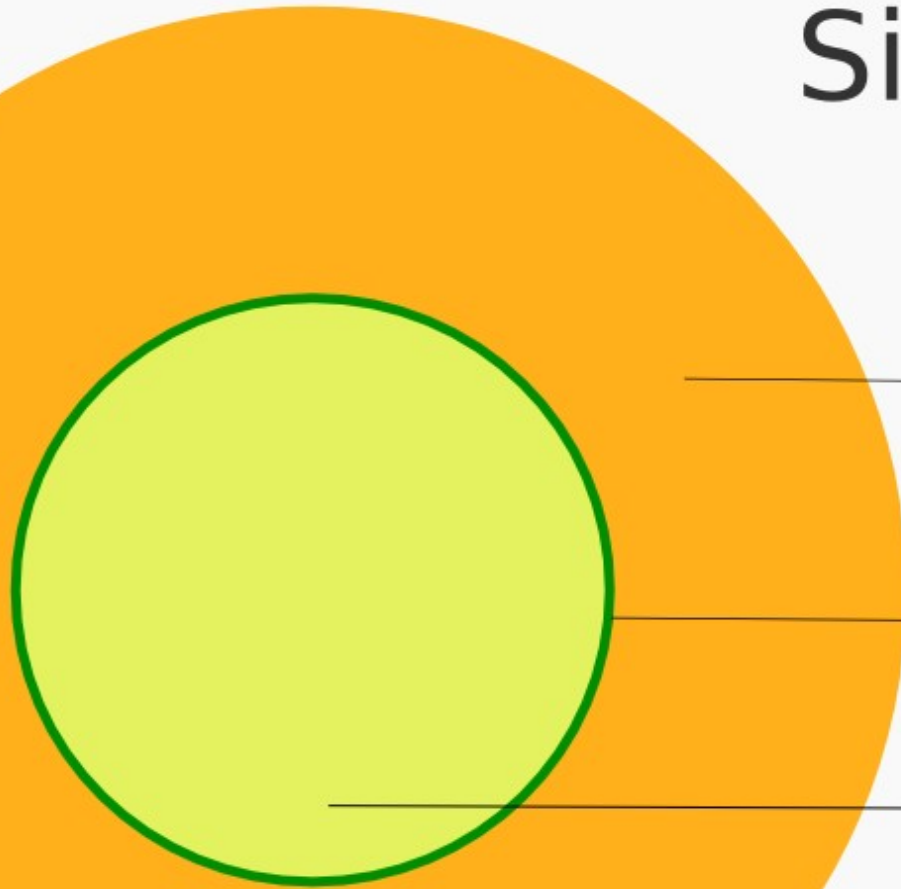


# A quantitative study on GRASS, gvSIG and QGIS Communities

5 indicators for communities and *core* product (default installation)

- **User trends:** based on mailinglists
- **Developers trends:** based on mailinglists
- **Activity and manpower:** based on code contributions
- **Community workhours:** based on code contributions
- **Generational analysis:** based on code contributions

## Size of projects



gvSIG

~1.200.000 lines of code  
80 months of development

GRASS

~515.000 lines of code  
132 months of development <sup>[1]</sup>

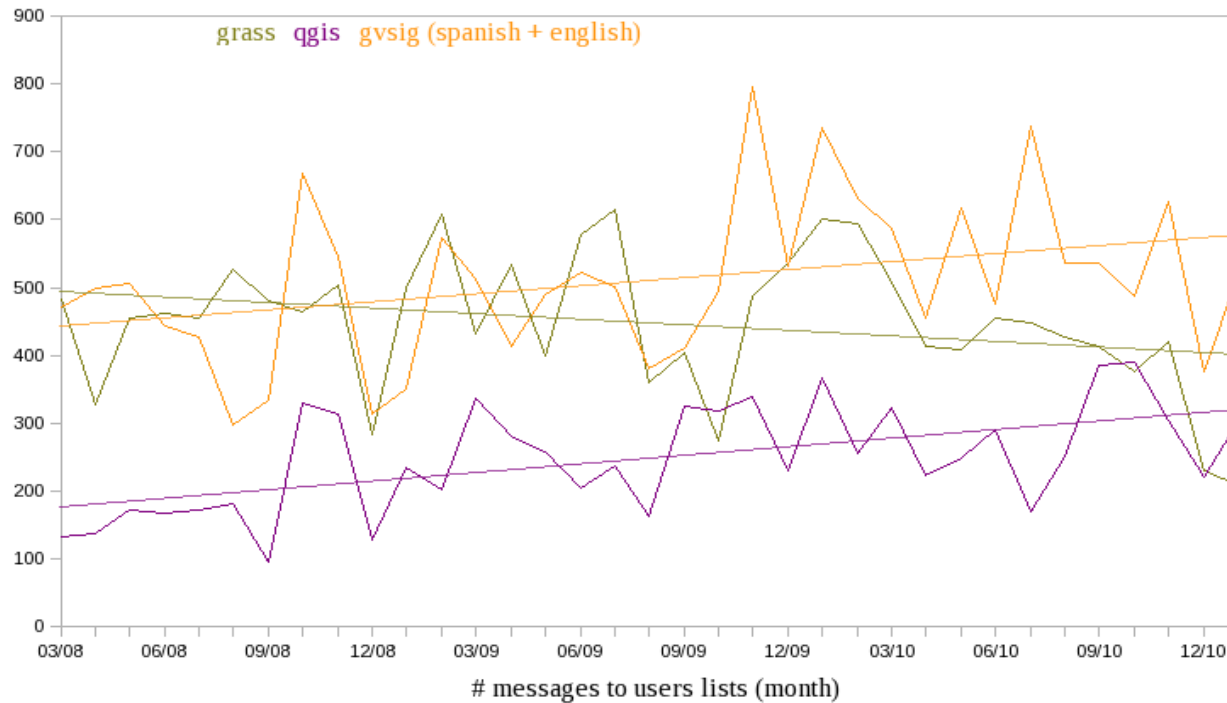
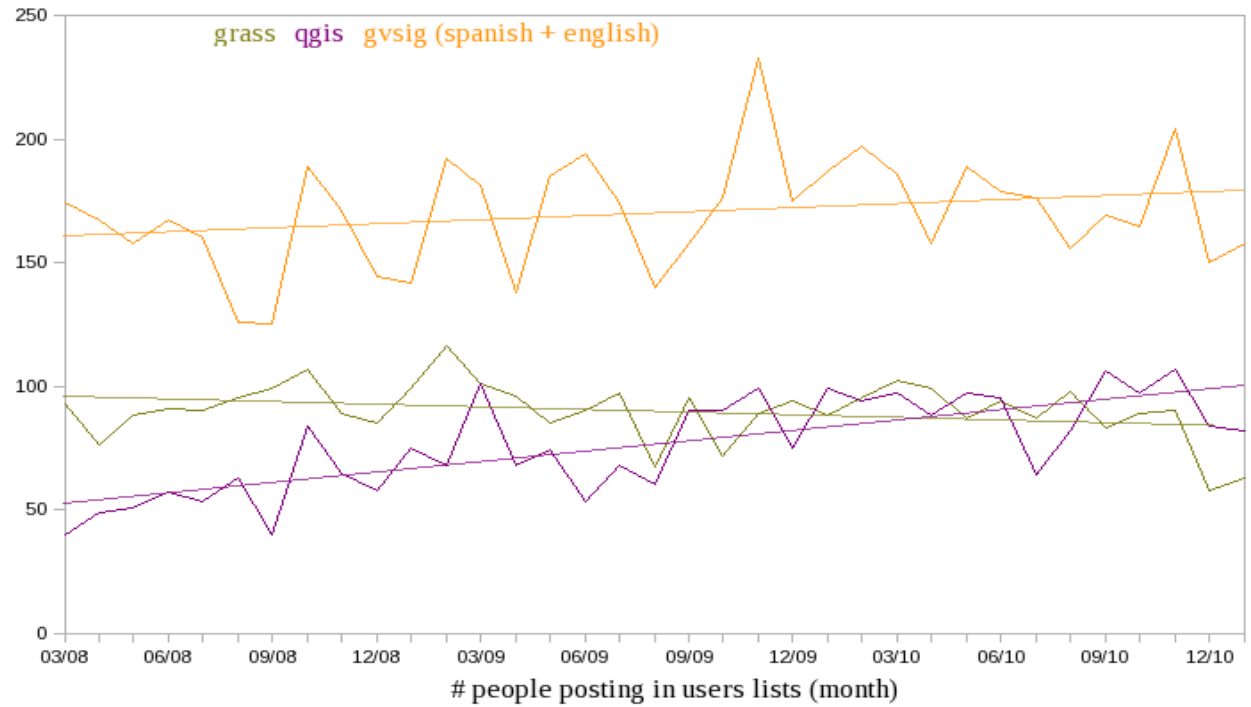
QGIS

~500.000 lines of code  
102 months of development

[1] The project declares that was initiated at 1982, but there is no data before 1999, probably due to using different version control systems for the code which provoked information loss.

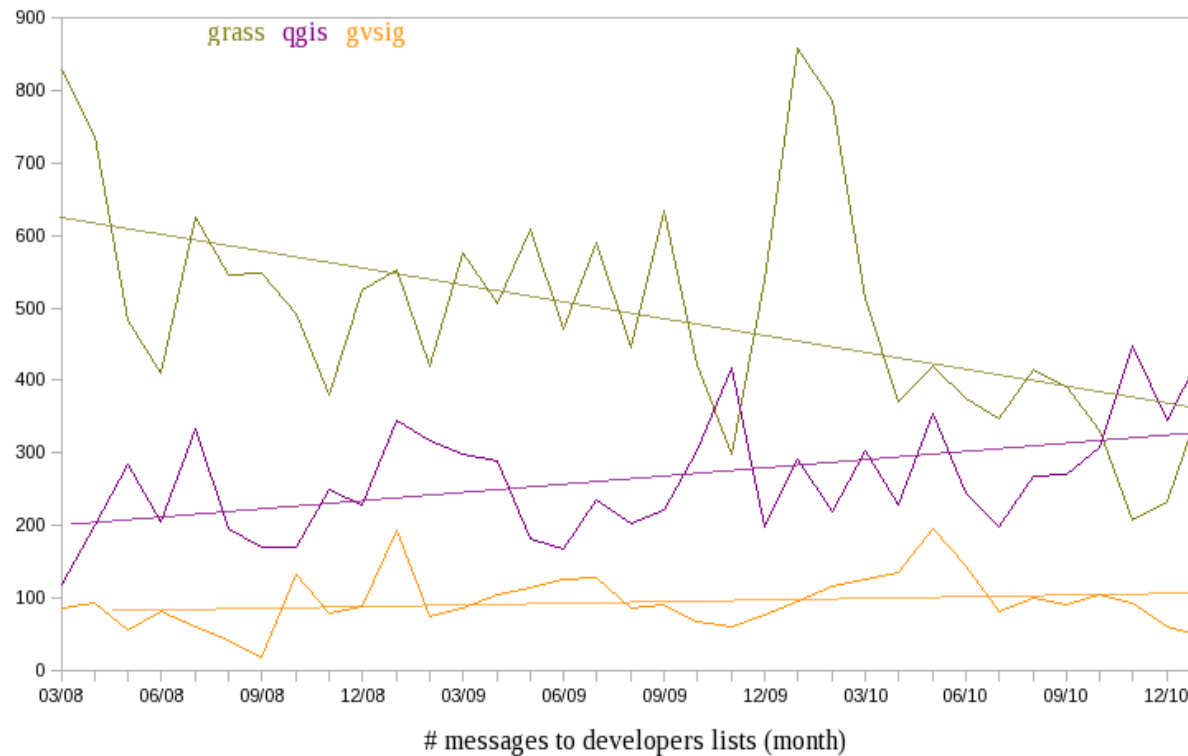
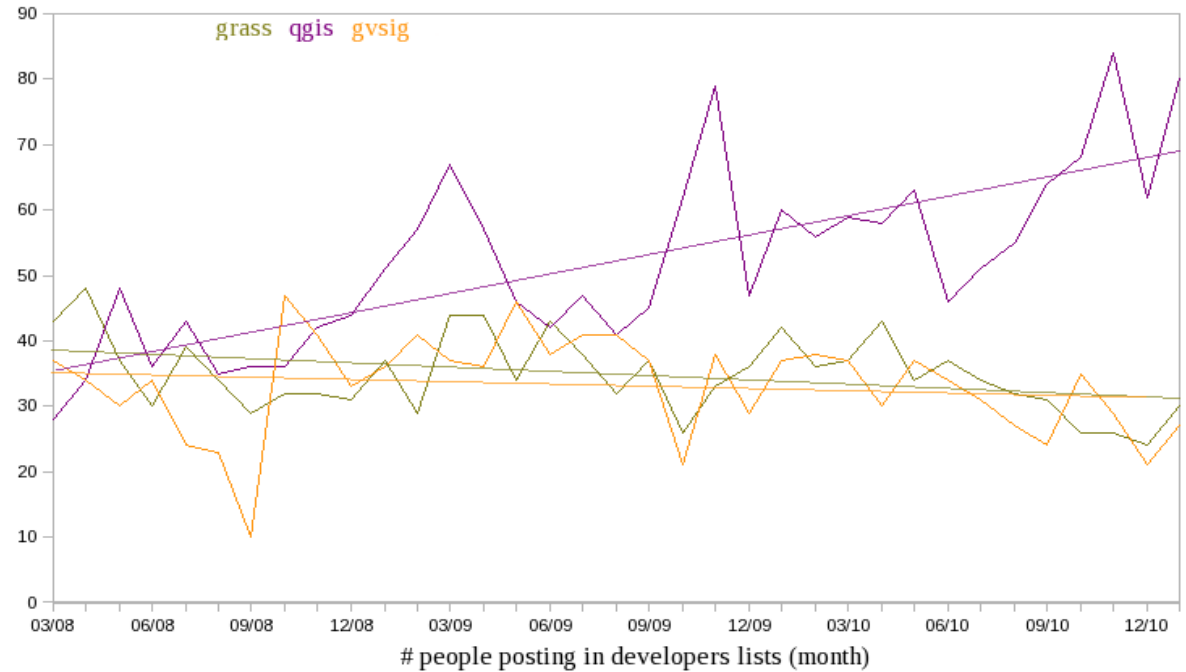
# Users trends (based on mailinglists activity 2008-2010)

| Project       | # subscribers |
|---------------|---------------|
| gvSIG (sp+en) | 1945 + 770    |
| QGIS          | 1243          |
| GRASS         | 1046          |



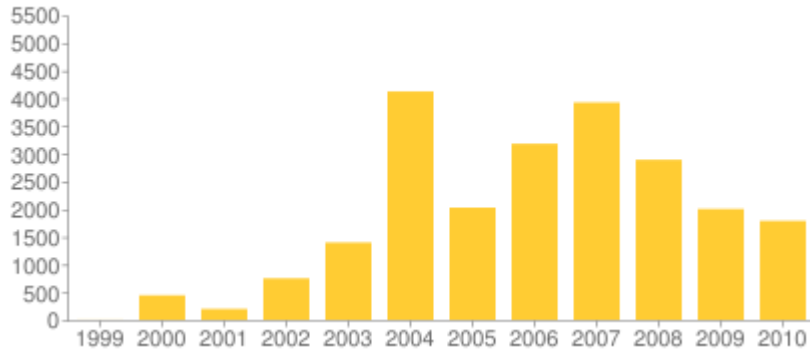
# Developer trends (based on mailinglists activity 2008-2010)

| Project | # subscribers |
|---------|---------------|
| gvSIG   | 729           |
| QGIS    | 440           |
| GRASS   | 316           |

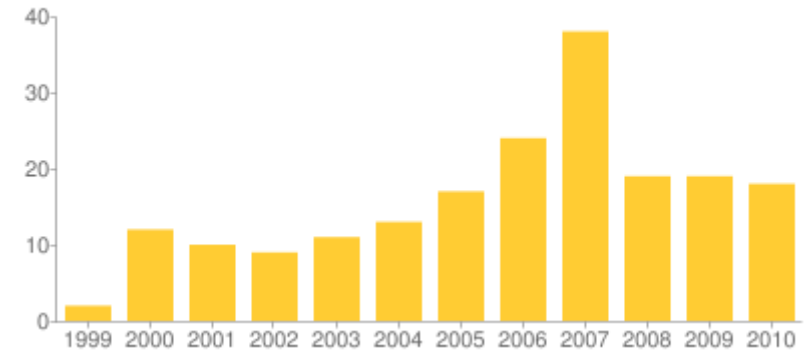


# Activity and manpower (based on code contributions 1999-2010)

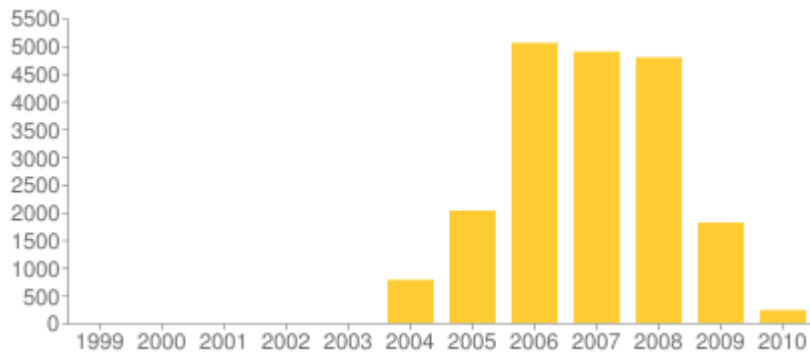
GRASS - # of commits/year



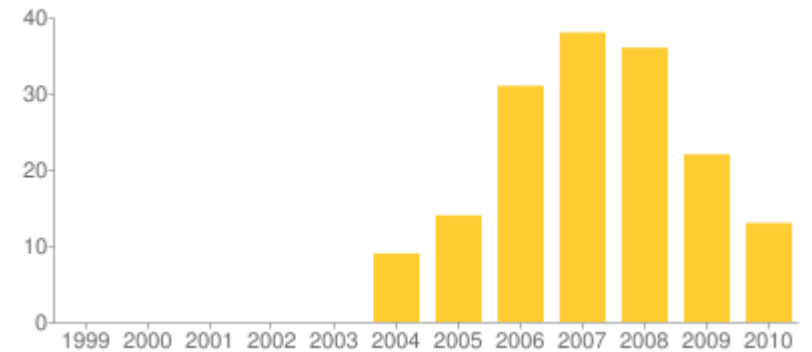
GRASS - # of developers/year



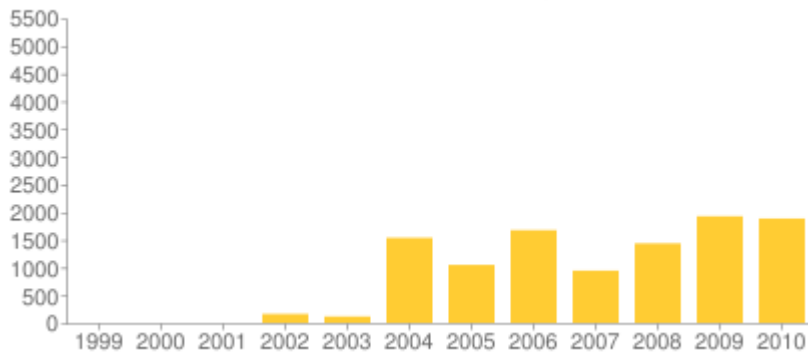
GVSIG - # of commits/year



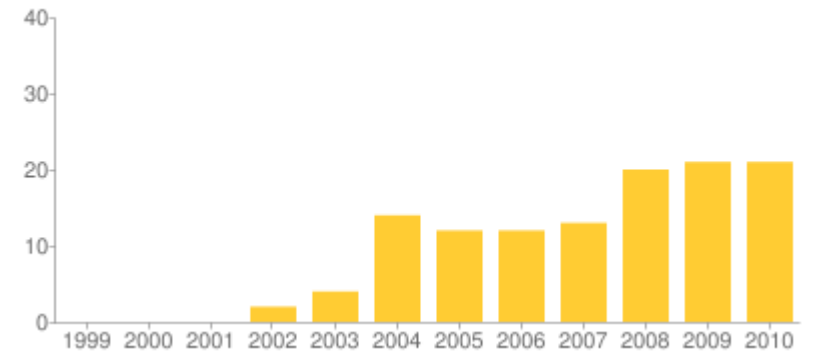
GVSIG - # of developers/year



QGIS - # of commits/year

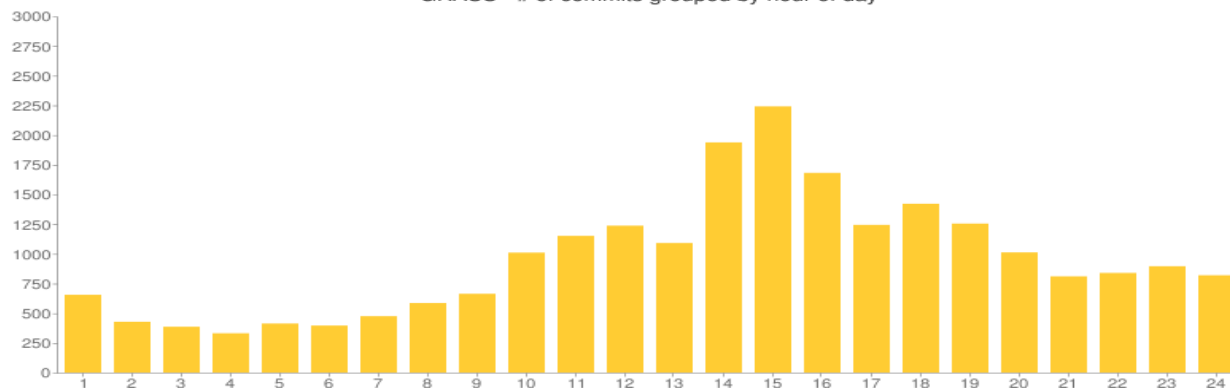


QGIS - # of developers/year

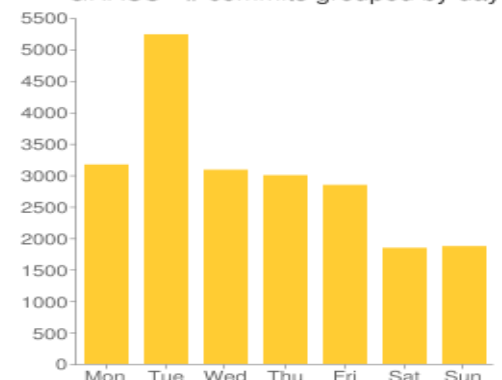


# Community workhours (based on code contributions 1999-2010)

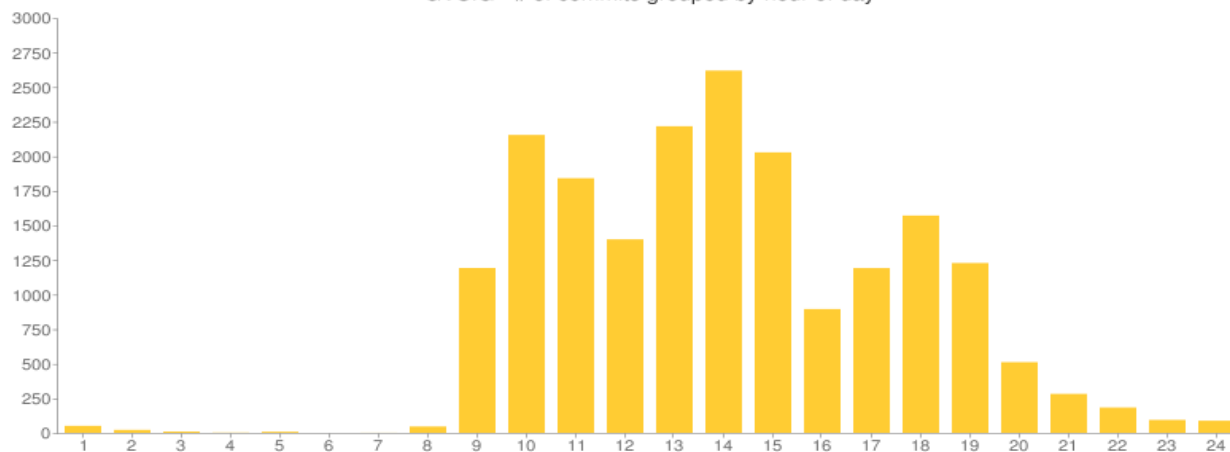
GRASS - # of commits grouped by hour of day



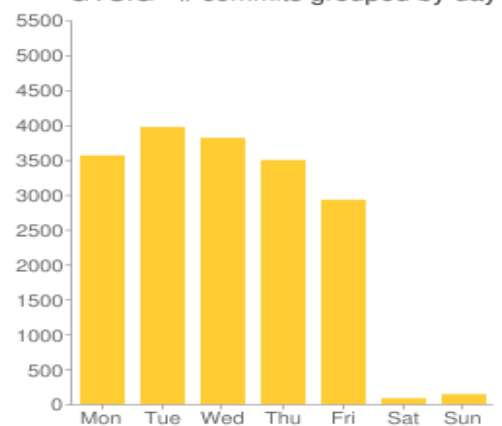
GRASS - # commits grouped by day



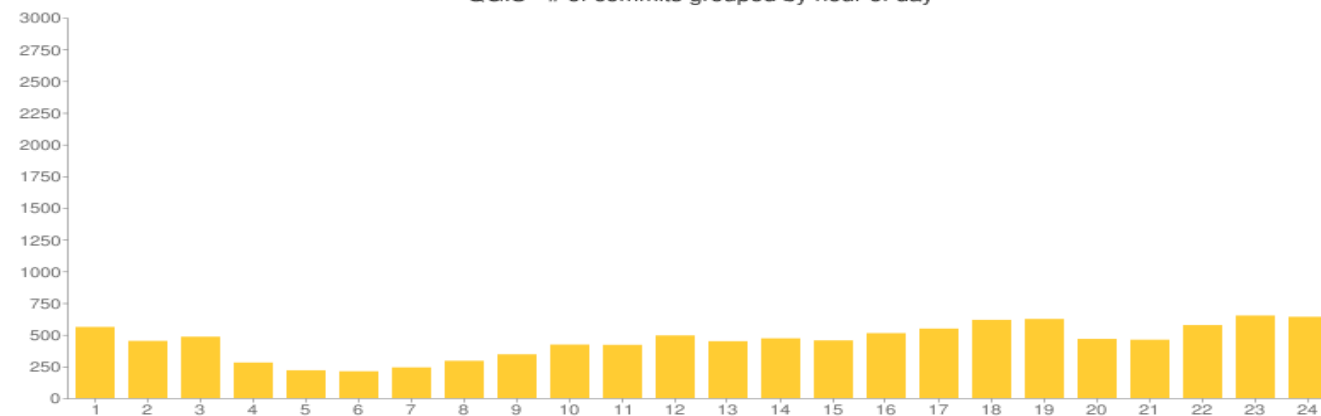
GVSIG - # of commits grouped by hour of day



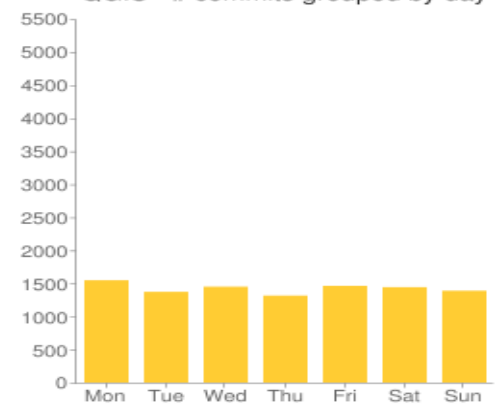
GVSIG - # commits grouped by day



QGIS - # of commits grouped by hour of day



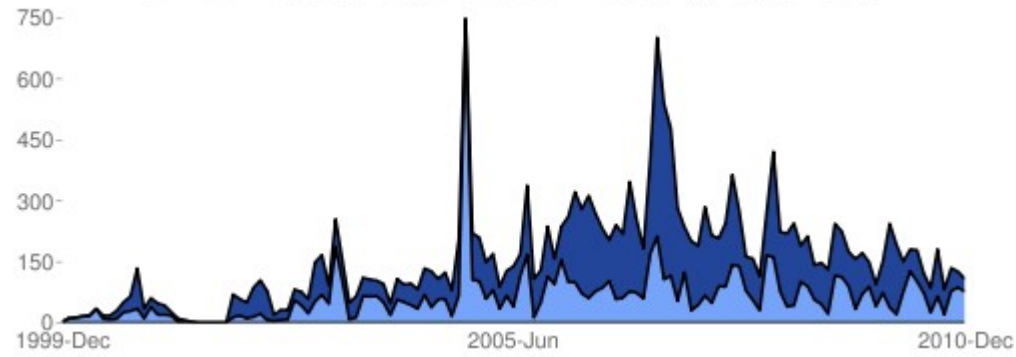
QGIS - # commits grouped by day



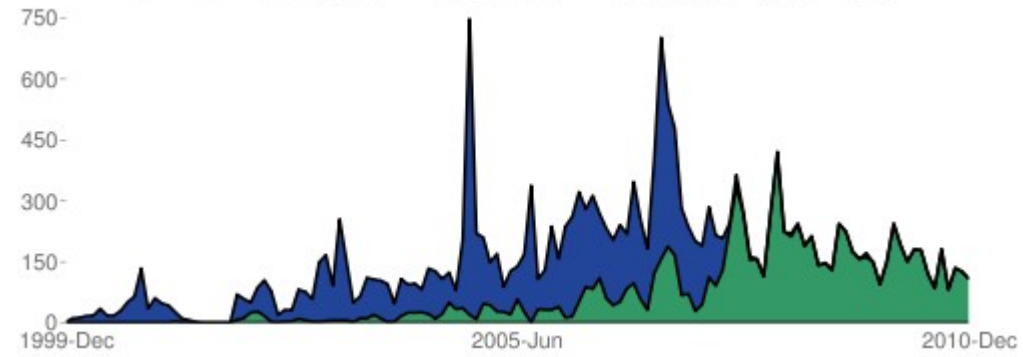


# Generational analysis (based on code contributions 1999-2010)

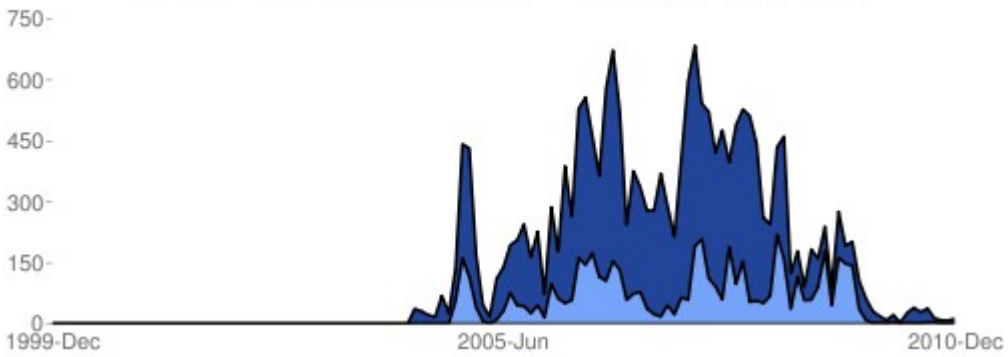
GRASS - Top3 developers: % commits along project history



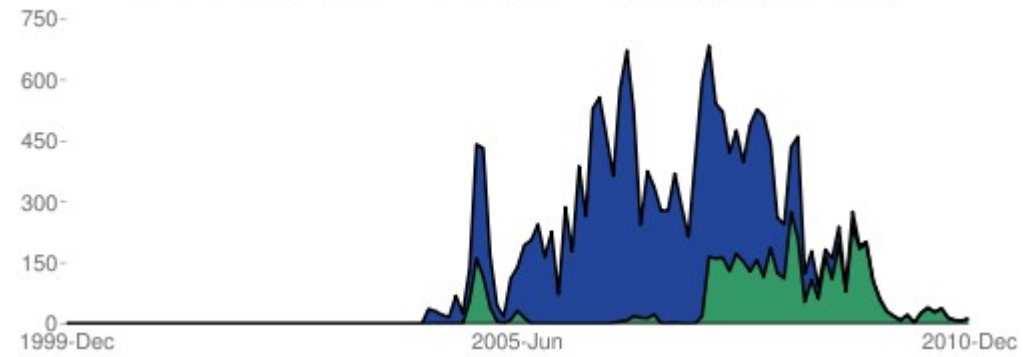
GRASS - developers in 2010: % commits along project history



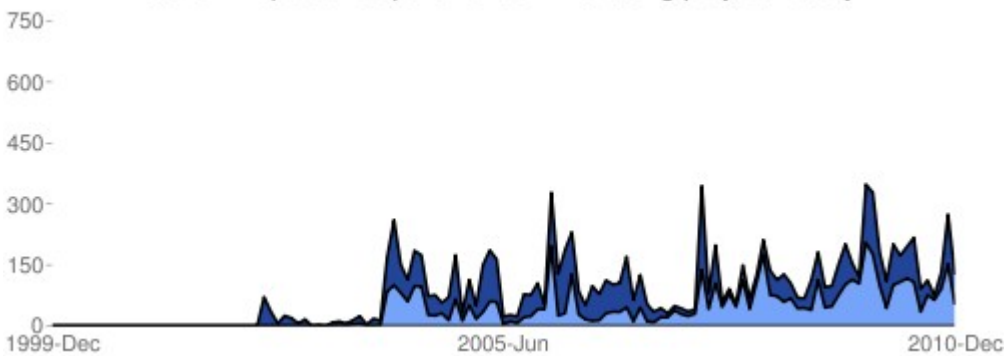
GVSIG - Top3 developers: % commits along project history



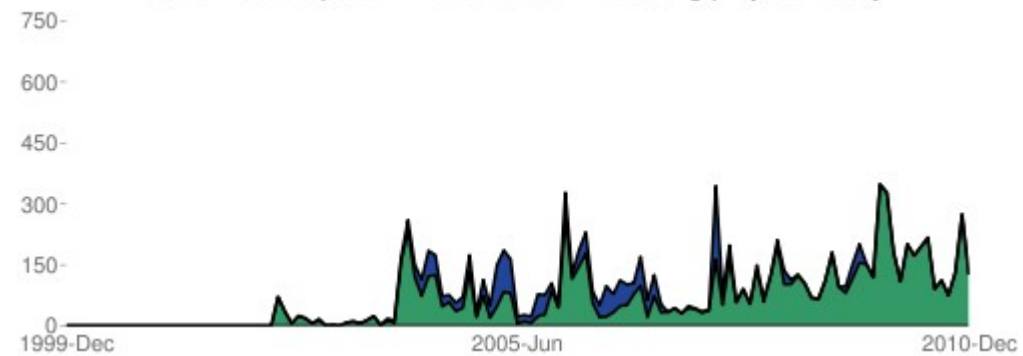
GVSIG - developers in 2010: % commits along project history



QGIS - Top3 developers: % commits along project history



QGIS - developers in 2010: % commits along project history



# Could we guess *some* patterns?

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## Lead users

- GRASS current leaders have grown internally in the project and have broad expertise in it.
- gvSIG development seems to be led *by contract*. No signs of external contributions and volunteer development are shown in the *core*.
- QGIS development seems to be led by a large volunteer and highly distributed base. It has aggregated around it 3 different generations of people. Signs of a *hacker-friendly* culture.

## Power users (not enough data)

- GRASS contributors *seems* to be slowly decreasing.
- gvSIG *seems* to have a stabilized contributors base.
- QGIS *seems* to have *momentum* as more and more people is participating the community.

## Casual users

- GRASS displays a slowly decreasing in general public.
- gvSIG has some advantage and leads the way.
- QGIS shows a slow and steady growing.

## Further research

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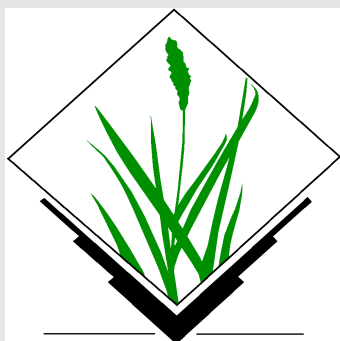
This study was a first step. For 1<sup>st</sup> time we can learn how our communities work based on facts, but, needless to say, it needs further work.

Some ideas we have:

- Same analysis for other branches of the product (future versions, ...).
- Include more sources of information: issue tracking analysis.
- How active and big is the “power users” community? # of plugins, ...
- Which and how many companies support the product?
- Trends for users and developers disaggregated by regions.

*Let us know more analysis you see interesting and help us to build them!*

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