A quantitative study on GRASS, gvSIG and QGIS Communities

V jornadas SIG Libre. 23-25 March, Girona
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The ecosystem of a software product

- Users
  - Power users
  - Leaders
- Leaders
  - Build the product
- Power users
  - Adapt it
  - Extreme use
- Users
  - Casual use

An application's ecosystem
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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
A quick overview: size and history of projects

Size of projects

- **gvSIG**
  - ~1.200.000 lines of code
  - 80 months of development

- **GRASS**
  - ~515.000 lines of code
  - 132 months of development [1]

- **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)
Developer trends (based on mailinglists activity 2008-2010)
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
Generational analysis (based on code contributions 1999-2010)
Could we guess some patterns?

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

**Casual users**
- GRASS is decreasing in adoption to general public.
- gvSIG seems to have some advantage and leads the way.
- QGIS has a slow and steady growing.
Further research

This study was a first step. For 1st 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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