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Open Source Software for Cadastre and Land Registration – A Viable Alternative?

FIG-Working Week 2009 – Surveyors Key Role in Accelerated Development

Eilat, Israel, 3-8 May 2009

TS 8A – Software Application in Land Administration, 7 May 2009

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White Paper: Open Source Software

- Software is strategic resource:
  - IT is not just a "commodity" that satisfies functional specifications;
  - software is **know-how** and needs conscious care and maintenance.
- What is Open Source Software?
  - source code is openly available;
  - software can be copied, disseminated and used at random;
  - software can be adapted and passed on.
- Examples:
  - in office environment: Linux, OpenOffice.org, Mozilla Firefox, etc.
  - in database management: PostgreSQL, PostGIS, MySQL, etc.
  - in GIS: GRASS, Quantum GIS, uDIG, GvSIG, OpenJUMP, ILWIS, TerraView, etc.
  - in web applications: Joomla, CartoWeb, MapBender, etc.

White Paper: Advantages of OSS

1. long-term cost savings
   - independence from a specific producer puts software client in a better position
   - cost savings of up to 90% in first year
2. protection of investment
   - proprietary solutions create direct dependency on the producer
3. stimulation of innovation and economy
   - local producers can participate in value creation chain
   - benefits for local economy as well as local innovation potential

White Paper: Advantages of OSS

4. security and transparency
   - due to open source code, errors and security holes can be better detected and quicker eliminated
   - distributed quality control
5. equal opportunities
   - educational institutions, public administration, financially disadvantaged regions can benefit

White Paper: Factors that constrain the spreading of OSS

- too strong dependency on existing solutions
- low publicity of OSS

White Paper: Prejudices

"Open Source Software und die öffentliche Hand", White Paper, March 2009 www.ch-open.ch

- There is no professional support !
  - ➢ not true, many ICT companies have long standing experience in OSS solutions.
- Open source products are not suitable for mission critical applications !
  - ➢ not true, Linux and Apache Server are in service for many years.
  - ➢ large user community is very efficient for testing.
- Legal situation is not clear !
  - ➢ not true, OSS is only published with a clear licence certified by Open Source Initiative (OSI).
- Open Source Software is free of cost !
  - ➢ not true, development, maintenance and support cost as much as for commercial products.

FLOSS-Cadastre Project by FAO

(in cooperation with World Bank and FIG-Commission 7)

Reason for project: several projects in developing countries failed, mainly because of high licence costs.

Aim of project: explore the field and initiate the development for a Cadastre and Land Registration OSS platform.

Phases of project:

1. **Exploratory phase** → scoping paper by G. Pieper in 2007 (see presentation at FIG-WW 2008)
2. **Input from potential users** → Conference in Dunedin, NZL in May 2008
3. **Developing modules** → OSCAR (see presentation by Hay and Hall)
4. **Country case studies** → to get first experiences
5. **Getting recognition** as an official Open Source project → e.g. OSGeo

Experiences and Perspectives with OSS

Strengths:

- OSS allows cost effective solutions with high potential of added value;
- further developments benefit all;
- no limitations in terms of scalability.

Challenges:

- more difficult and different challenges for the users, they have to master the technology (including the source code and documentation);
- user has to initiate further developments and – if a module does not yet exist – to pay for it.

Perspectives:

- consolidation (architecture, code, user interface);
- further developments according to user needs.

OSS vs COTS

It is crucial for both OSS and COTS:

- to have local support available;
- to have education and training possibilities established;
- to have a national contact person or institution in place to:
  - open the access to the international OSS community
  - make translations from and to English
  - establish documentation in the national language
  - organize and support trainings

Differences:

- license fees;
- flexibility and scalability;
- users have to formulate their needs and commission their realization

Commonalities:

- requirement analysis;
- system specification;
- technical and management capacity;

POTENTIAL BENEFIT for developing countries: local know-how is being established locally and remains there.

Open Source Software – An FIG Perspective

OSS is an issue of today's life, we cannot keep our eyes closed.

But:
- FIG needs to provide an unbiased view;
- FIG is not into promoting or favouring OSS against other software.

WGr 7.3 plans to prepare a publication for the FIG-Congress in Sydney.

OSS: A Viable Alternative ? → too early to be answered.