

The FOSS GIS Stack

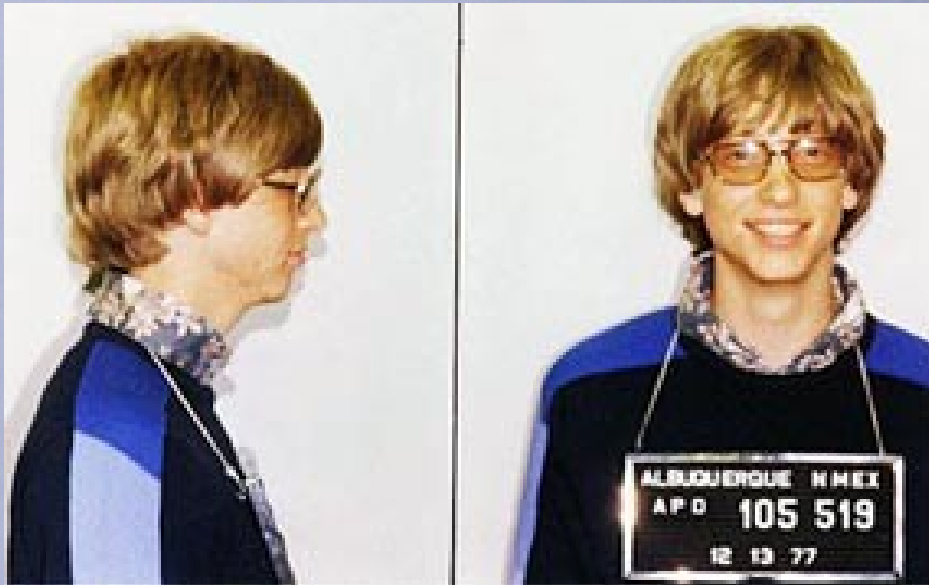


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Nobody cares about freedom until they realise they don't have it.

In the beginning...

- 1950s, 1960s and 1970s
 - Hardware focussed
 - Software (and its source code) bundled with computer
- Late 1970's, early 1980's
 - Proprietary software appears
 - Protect hardware secrets
 - Protect trade secrets



- The best way to prepare [to be a programmer] is to write programs, and **to study great programs that other people have written**. In my case, I went to the garbage cans at the Computer Science Center and fished out listings of their operating system.
- - Bill Gates

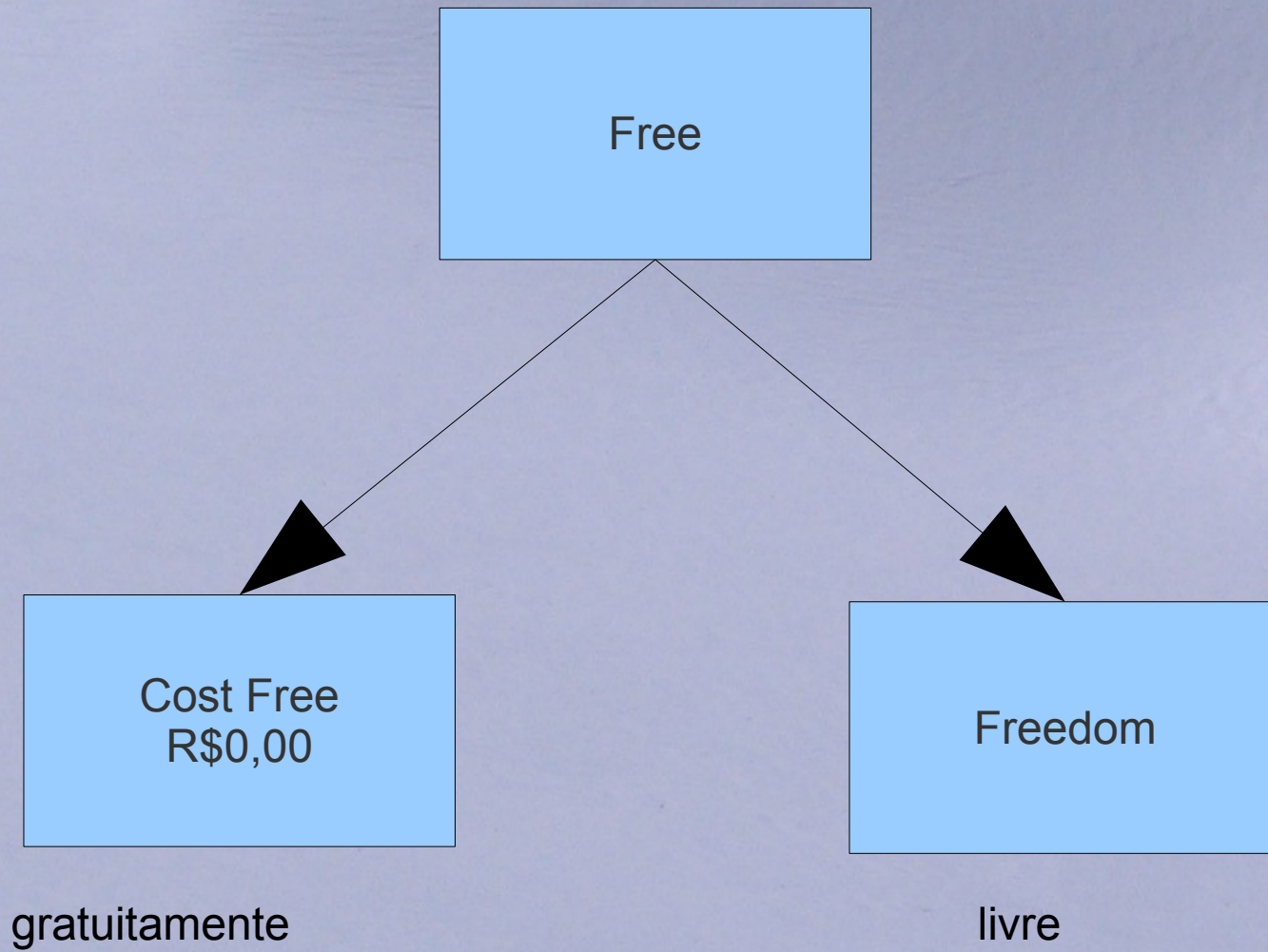
“As the majority of hobbyists must be aware, **most of you steal your software**. Hardware must be paid for, but software is something to share. Who cares if the people who worked on it get paid?” - Bill Gates 1976

The GNU Project



- 1983
- Richard Stallman
- Frustrated trying to fix his printer with no source code
- GNU (**G**nu is **N**ot **U**nix)
- A free UNIX like operating system
- Origin of the GPL

What does 'free software' mean?



Scratching an itch

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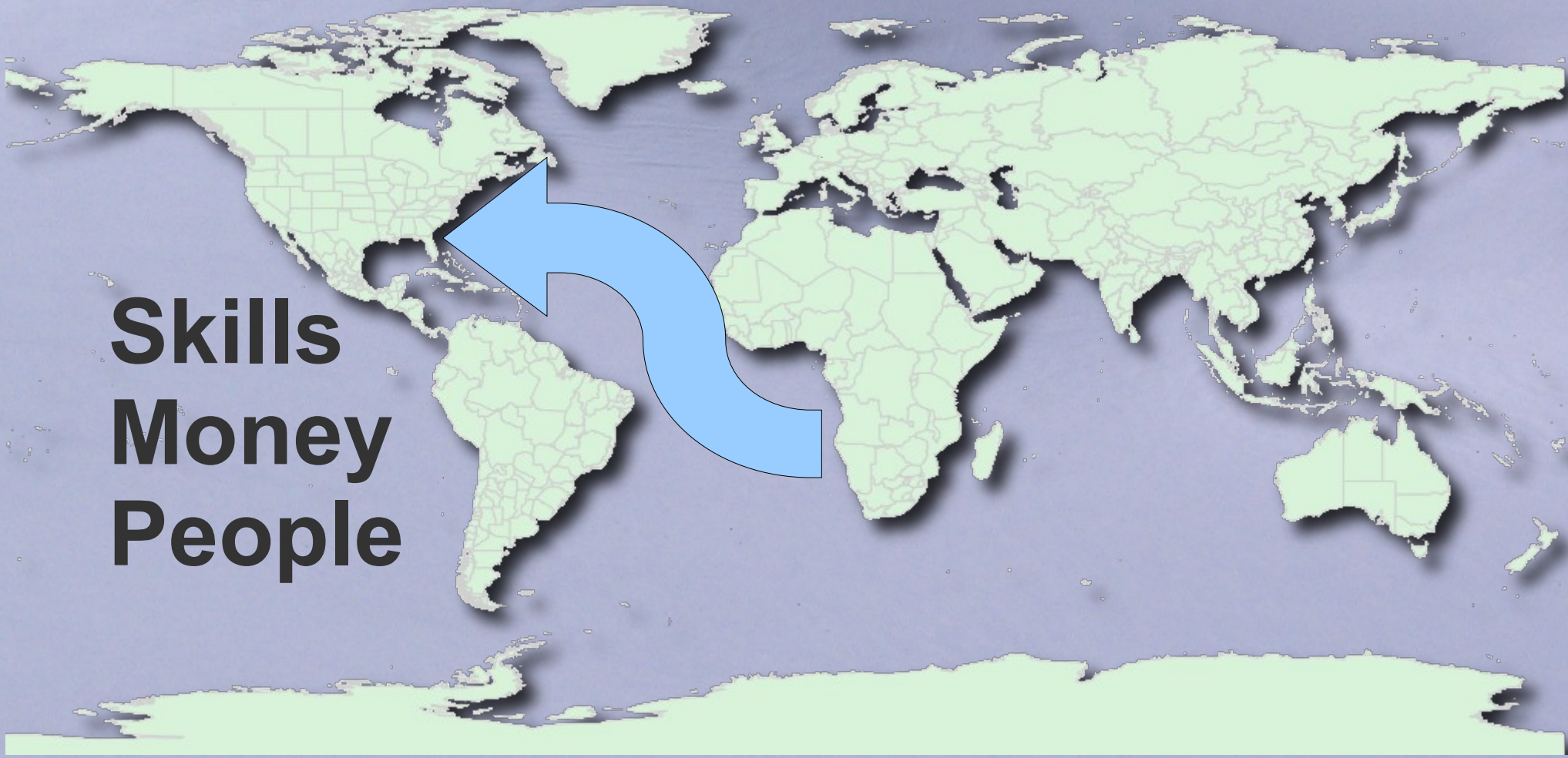


Hey guys, a dog friend has lent me his flea collar:
It's great, no more itching...

Stallman's Four Freedoms

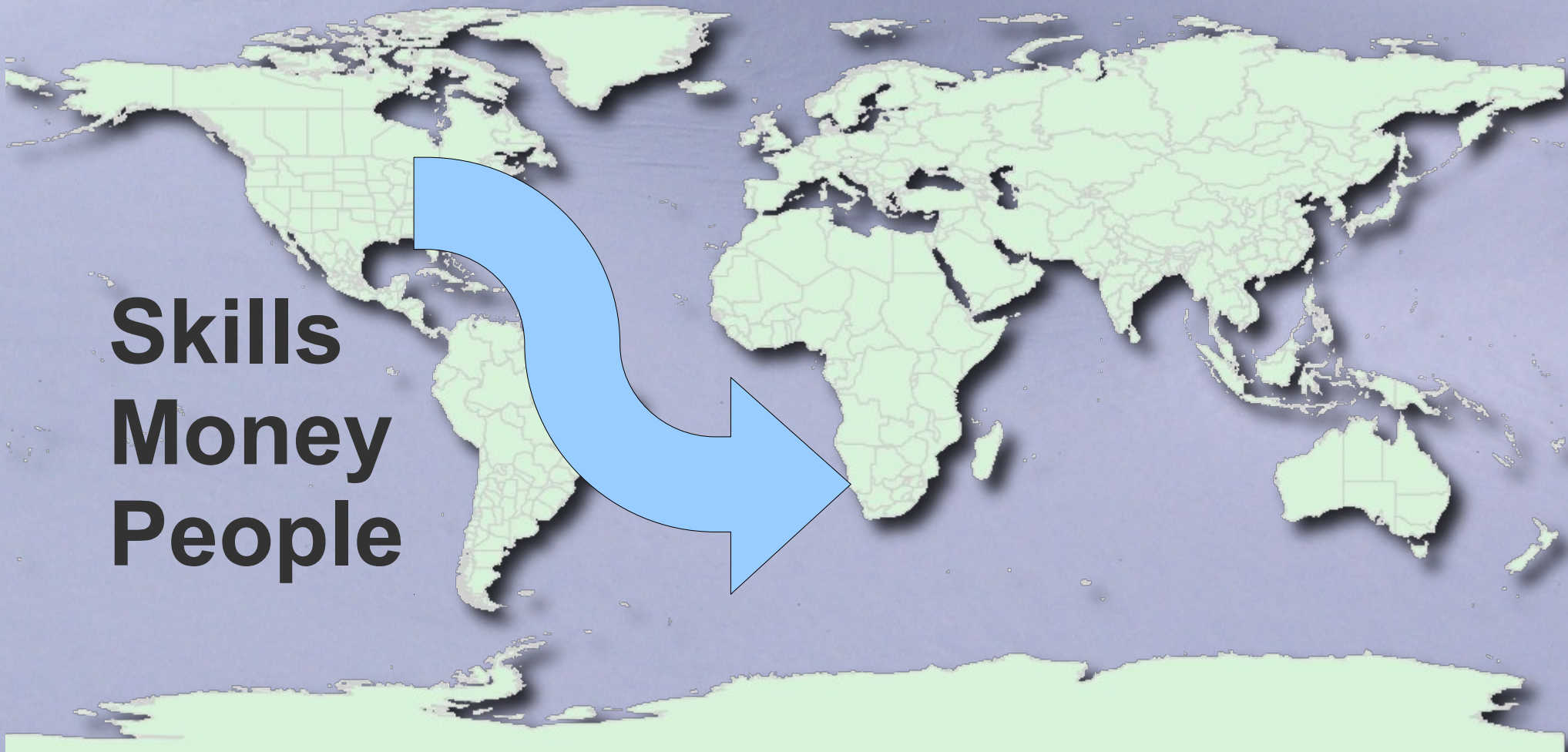
- Freedom to run the program for any purpose.
- Freedom to study and modify the program.
- Freedom to copy the program so you can help your neighbor.
- Freedom to improve the program, and release your improvements to the public, so that the whole community benefits.

How is all this stuff relevant?



Skills
Money
People

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Crack cocaine

- Free / Cheap != Free / Cheap
 - The first hit is free, you pay for the rest of your life
 - When you leave the educational system you take your addiction to the work place
 - The money your employer spends on Proprietary software reduces its profitability
 - When the going gets tough, fall back to what you know

Intellectual Freedom

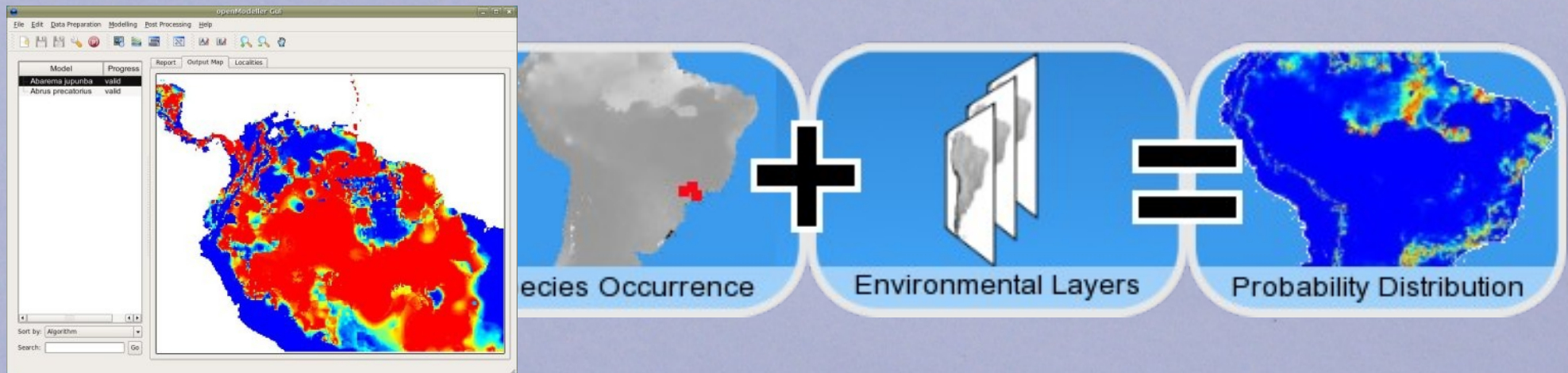
- Learn concepts not procedures
- Human capital – selling skills not software
- Freedom to innovate as you can change your environment to suite your needs
- First class citizenship – access to the intellectual property at all levels
- Ability to delve into the inner workings of the system

Human Capital

- We need to change the '**fallback**' position to FOSS instead of Proprietary software
- Schools – **introduce** free software early
- Universities (undergrad) – gain **professional** level skills in FOSS
- Postgrad – become **role players** (ability to change the landscape)

Case Study 0 - Brasil

- Government funds research in FOSS
 - Builds tools needed in society e.g. openModeller
 - Innovation is shared
 - Import skills and transfer to locals (e.g. Me!)



Case Study 1

- QGIS is being used in education
- High quality resources provide a foundation for learners to learn about GIS
- Tutorials, Screencasts, Sample Data
- Sponsored by the Office of the Premier, Eastern Cape, South Africa

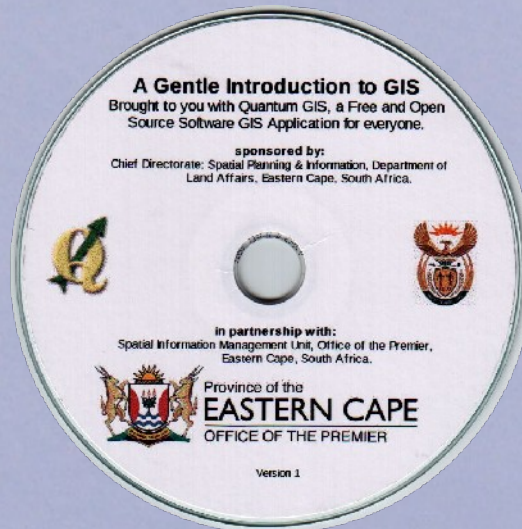


Province of the
EASTERN CAPE

OFFICE OF THE PREMIER

Case Study 1

- Target CD for lowest common platform
- Interactive videos lead users step-by-step through common GIS tasks
- All content released under open license (GPLD)
- Global interest and uptake of the resource



Case Study 2

- Canton Solothurn, Switzerland
- Replaced proprietary GIS stack with FOSS GIS
- Combine QGIS, GRASS, PostgreSQL, Mapserver and others
- Cater for all provincial GIS needs e.g. Cadastral management, street furniture, police dispatch



Case Study 2

- Business approach:
 - Reduce dependency on Proprietary vendors
 - Repurpose portion of license fees that would have been spent on proprietary GIS to sponsor the development of critical features in FOSS GIS
 - Contribute sponsored changes back to FOSS projects
 - Used open nature of source base to facilitate in-house customisation

”A rising tide raises all ships”

Open Data

- Whats the use of Free software without Free data?
 - Citizen mapping – taking over where our government and local government let us down
 - SA is quite good – CDSM vector data available for free
 - Open Street Map
 - Open Arial Map
 - Lots of free web services



Community & Support

- FOSSGIS is community based
 - OSGEO-Africa mailing list
 - Workshops
 - IRC Channel
 - Events e.g. FOSSGIS2008 in CT
- Commercial Support
 - Commercial support and training is available in SA
 - There are business and career opportunities



Conclusion

- You can do most everything you want in FOSS
- It is fun and a rising force
- There are opportunities to do real work with it and a real community
- There is an economic imperative – keep money in our local economy and build our own skills

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