

Free Software

An Introduction

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Overview

- Introduction: About FSFE
- What is Free Software?
- A quick history + overview of terms
- Why software matters
- The Free Software economy
- Case study: CommunesPlone

The Free Software Foundations

The Free Software Foundations: A global network of equal, independent sister organisations

- FSF US (founded 1985)
- FSFE (founded 2001)
- FSF India (founded 2001)
- FSF Latin America (founded 2005)

Brief introduction of FSFE

- European NGO, est. 2001. Principles: Stability, reliability, transparency
- Active across Europe
 - 30+ core team
 - 15 General Assembly members from 8 countries
 - 4 full-time and 4 part-time employees, 3 interns, hundreds of volunteers and Fellows

FSFE's areas of activity:

- United Nations
- European Union
- National politics
- Legal work: Freedom Task Force
- Business / commercial aspects
- Fellowship

What is Free Software?

- Four freedoms:
 1. Use, for any purpose
 2. Study and adapt
 3. Share
 4. Improve, and share improvements

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- Four freedoms:
 1. Use, for any purpose
 2. Study and adapt
 3. Share
 4. Improve, and share improvements
- Free as in Freedom, not price!

What is Free Software? (2)

- Studying and modifying the software (freedoms 2 and 4) require access to the *source code*.
- Source code = human-readable form of a program
- Binary code = the form of a program that the computer executes

Source code

```
struct A {  
    virtual void f();  
};
```

Binary code

L^@^@0<D8>^M^H^W^@^@^@^R^@
^M^@}p^@^@<E8>M^O^H^T^@^@
^@^Q^@^X^@^@b^@^@^@<D8>^G
^H"^^@^^@^^@^R^@^M^@mt^@^^@

Licensing

Free Software is based on copyright

1. Assert copyright
2. Give others permission to do use, study, share, improve > license

E.g. GNU GPL (copyleft), BSD (permissive)

We'll talk about Free Software licensing tomorrow.

History of Free Software

- In the beginning, all software was free
- Software started becoming proprietary in the early 1980s
- In 1985, Richard Stallman (MIT) launched the Free Software Foundation...
- ...and started writing a free operating system: GNU

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History of Free Software



- ...and started system: GNU



History of Free Software (2)

- Other important Free Software projects:
 - Linux kernel (1991) > GNU/Linux operating system
 - Apache web server (1993) - >60% market share
 - Debian GNU/Linux (1995)
- Increasingly broad adoption since early 2000s

Free Software or “open source”?

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 - Clearly defined by four freedoms
- Open Source - 1998 (Rebranding effort for Free Software)
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- >> Same license base for all**

What Free Software looks like

- OpenOffice



- Mozilla Firefox (Web browser)



- More than 20,000 different programs - we can't really count!

Freedom to study in education

- No secret arts

everything can be learnt

- No built-in barriers

learn as much as you want

- No sand-box games

learn from the best at the state of the art

- Sustainable learning

learn principles, not products

Software is a cultural technique

- Software is *necessary* to communicate, create, work
- Software *shapes the way* in which we communicate, create, work
- Who controls this essential cultural technique?

Making money with Free Software?

- Yes!
- In any way you want

?

Making money with Free Software?

- Yes!
- In any way you want
 - Selling copies
 - Custom developments
 - Selling services
 - Solutions
 - etc...

Free Software economy: value

- Existing Free Software code – if a company were to recreate it, this would cost:
 - Euro 12 billion (substitution cost, till 2005)
 - 163 thousand person-years
 - Euro 100 billion (till 2010)
- Doubling in size every 18-24 months
- Actual investment by firms in code development: at least Euro 1.2 billion

Free Software economy: jobs

- Only 7% of programmers in the US work in packaged software companies
- 30% work in sectors producing mainly custom software / integration / support
- Almost 60% work in the “user sector” - finance, government, manufacturing, retail, etc

Free Software economy: spending

- 16% of software spending in the US is on packaged proprietary software (19% in EU)
- >50% is in-house software development (30% in EU)
- Rest is custom software

Free Software economy: Summary

- *Today's* economics of software: most people (and firms) who write software do *not* make money by selling software, but by selling their time!
- This is the economics of Free Software, not the economics of proprietary packaged software

Case study: CommunesPlone

- Belgium: Towns cooperate to develop software
- Development costs are distributed between members
- Municipalities share the benefits

Case study: CommunesPlone

- How do the municipalities in CommunesPlone work together?
- What advantages are they gaining?
- What difficulties do they face?
- How are they spending their budgets differently than before?

Thank you!

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Some further reading:

- Richard Stallman: “Why software should not have owners”
- Lawrence Lessig: “Code and other laws of Cyberspace”
- Rishab Ghosh et al.: FLOSSImpact (<http://flossimpact.eu>)