

The Open Source Movement



Information Technology and Social Life

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Why Brazil?

- Brazilian AIDS crisis
- 1996 - President Fernando Henrique Cardoso guaranteed AIDS retroviral drug cocktail to all AIDS patients.
- Drug companies Merck and Roche resist, but finally give in under Brazilian threat to break patent.

Restricted - one-to-one connection; doctors; druggists; businesses

Exchanges - more business traffic

Familiar functions -

New forms- sociability - home - women's use

Older technologies - telegraph; face-to-face; letter writing

authentication - not as permanent as writing



Tropicalismo

1556 – Bishop Pero Fernandes Sardinha and the Portuguese arrive in Brazil

1960s – Caetano Veloso and Gilberto Gil invent music style called Tropicalismo: embrace new ideas by eating them whole.

1968 – Veloso and Gil arrested, released but exiled to London.

Today – Gilberto Gil is the Brazilian Minister of Culture.
“To *Tropicalize*. Verb form of the noun. Tropicalismo in motion.”



Legal Basis

- 1680 – John Locke, *Two Treatises of Government*
- Invention of money creates moral basis for capitalism
- c. 1450 – Printing Press creates need for Copyright.
- 1790 – U.S. Constitution establishes patent and copyrights (not an intrinsic right like free speech)
- How is software different?
 - Nature of copying software (and the effect of the internet)
 - Has distinct source code and object code
 - Used rather than read and enjoyed



Why UNIX?

- 1913 – AT&T has a “natural monopoly” regulated by government. Not allowed to expand beyond phones.
- 1969 – Ken Thomson and Dennis Ritchie assigned to write MULTIX operating system
- MULTIX fails, but Thomson and Ritchie write UNIX
- UNIX cannot be sold – given away (but not *free*)
- 1984 – AT&T broken up. UNIX commercialized.



Richard Stallman

- Bill Gates of Microsoft argued against piracy.
- Richard Stallman dissatisfied with commercialization of software.
- 1984 – GNU – Gnu's Not Unix!
- GNU Manifesto
- Free Software Foundation
- Develops many tools needed for a system, like gcc, gmake, EMACS, etc., but no kernel.



Linus Torvalds

- University of Helsinki graduate student
- Takes MINIX and expands on it.
- Uses GNU tools.
- 1991 – Linux kernel.
- Becomes informal leader of Linux programming community – no official power, just respect of hackers.
- Rejects money from and jobs with Linux distributors in order to prevent bias.



Other open source projects

- Apache web server
- MySQL
- Mozilla Firefox
- FreeBSD
- GNU



Why does this work?

- Eric Raymond, “The Cathedral and the Bazaar”
- Studied how Linus Torvalds leads.
 - Cathedral: central core group doing all the work
 - Bazaar: a marketplace and free exchange of ideas.
- Some lessons:
 - Every good project starts as a personal itch
 - Rewrite and reuse
 - Plan to throw one away, you will anyhow
 - If you have the right attitude, interesting problems will find you
 - If you lose interest, hand it over to somebody else
 - Treat users as co-developers
 - Release early, release often