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**FLOSS Communities**  
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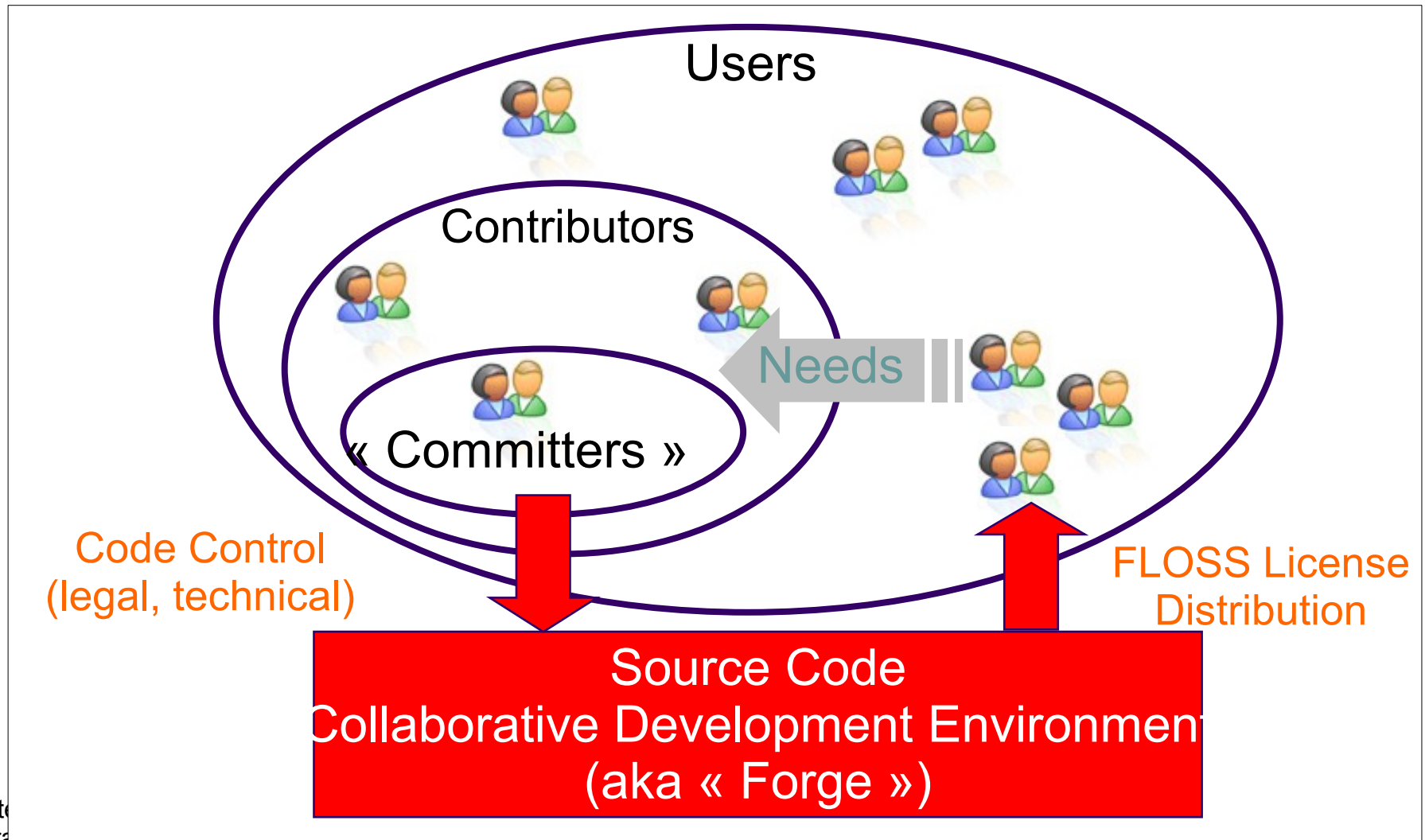
## *What we'll learn now...*

- Typical FLOSS communities
- The hacker and FLOSS culture
- Profile of the community members

# The FLOSS Project

- Project - the basic unit in FLOSS communities
  - collaborative development
  - technology driven - mostly code production
- Project leaders
  - often are at the origin of the project, oversee its major direction
  - personality and charisma are key
- Core members «(sometimes organised as PMC)
  - make significant contributions over time
  - usually less than  $\approx 15$  p (over this limit, the project is likely to give birth to subprojects)
- Active users (aka « contributors »)
  - report bugs, write documentation, occasionally patches

# Collaborative Engineering CDE (1/3)



# Collaborative Engineering

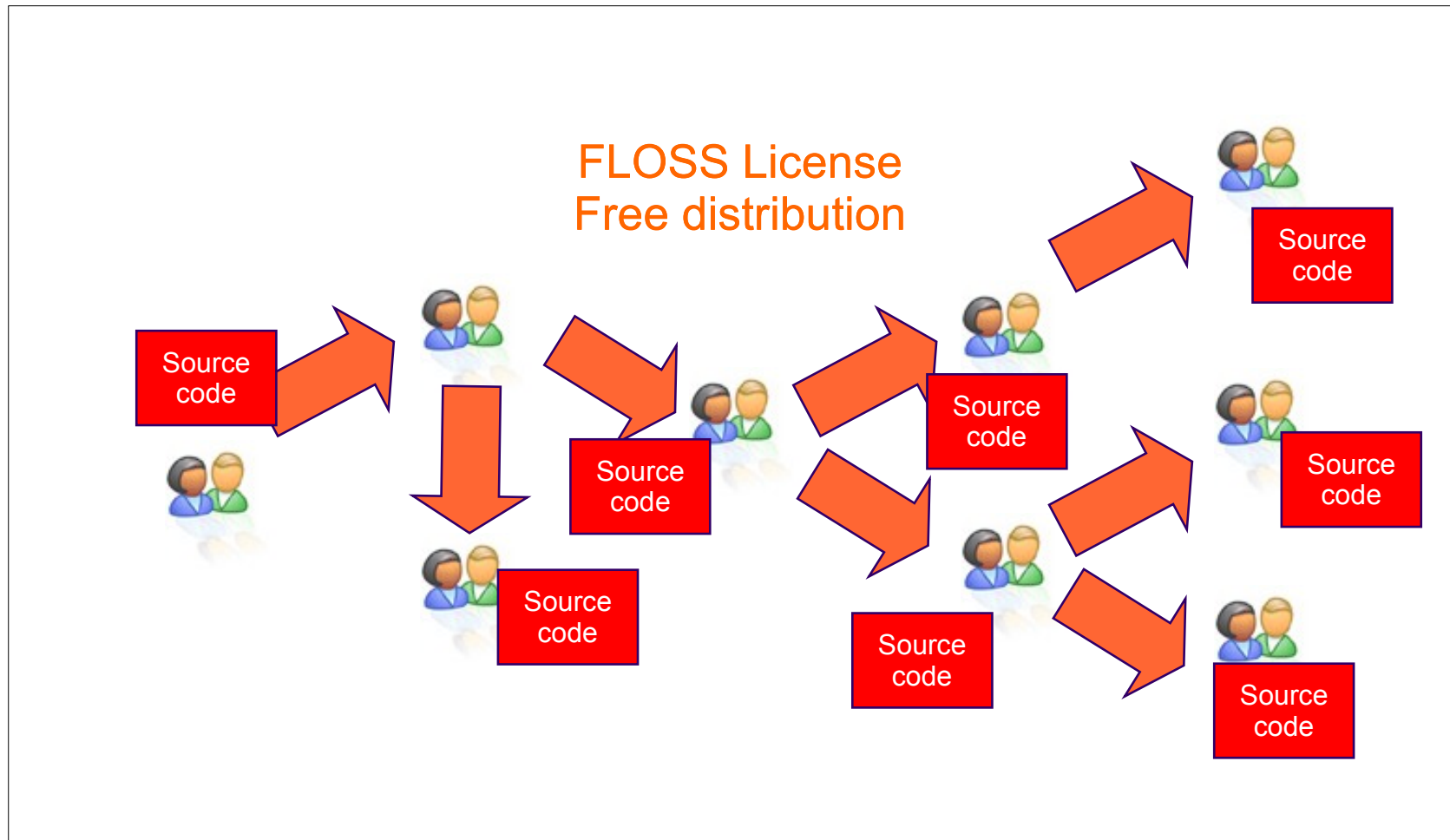
## CDE (2/3)

- Mailing lists, forums - form a knowledge base
- Wikis - online documentation
- Source code management - so concurrent development can happen
  - CVS, SVN
- Bug tracker
  - Bugzilla, TRAC
- Administration tools, user management, stats, continuous integration, ...

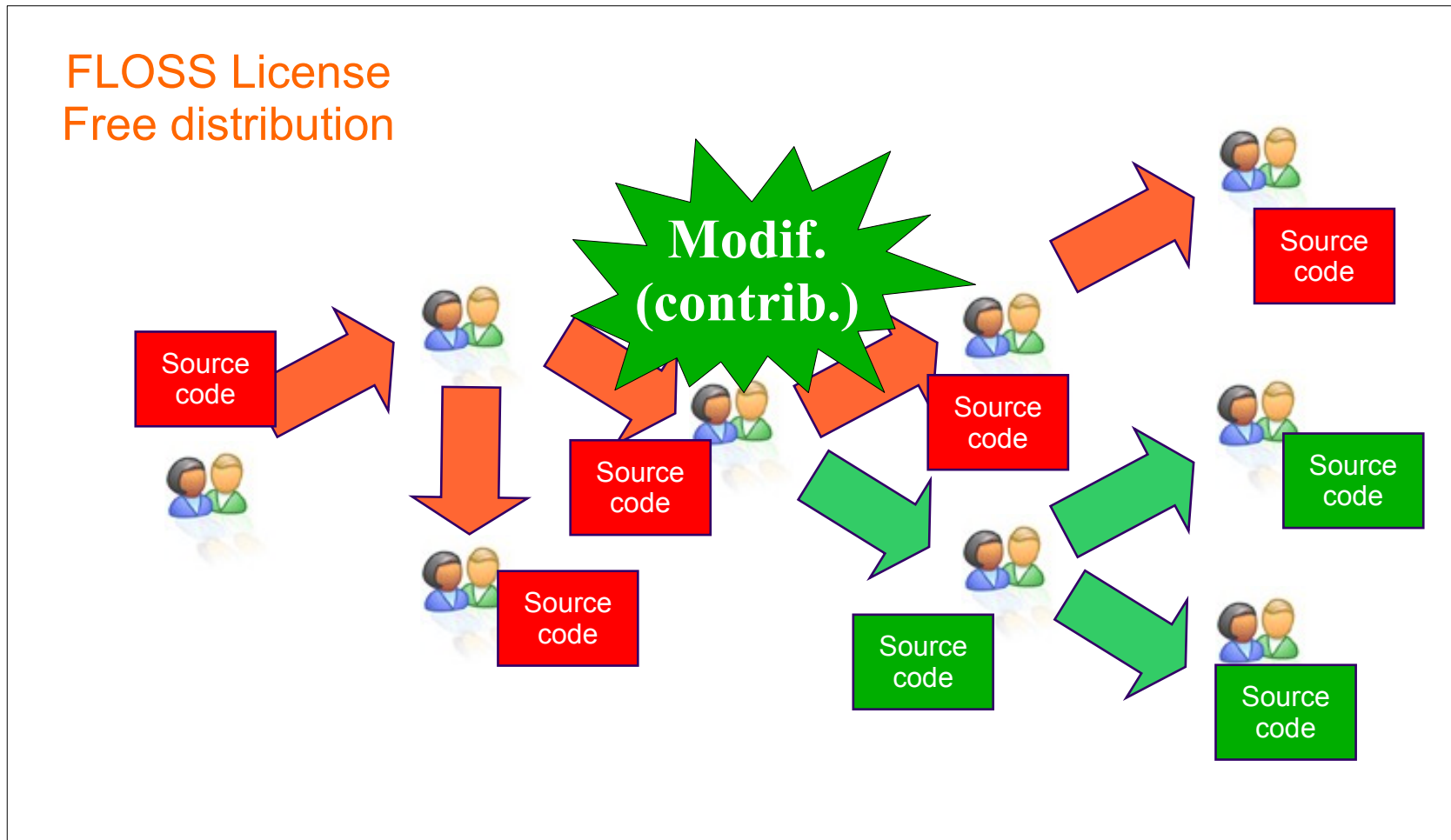
# Collaborative Engineering CDE (3/3)

- **Warning:** centralization of the code base is done for **practical** reasons
- The license **does not require** it (apart exceptions)
- As a consequence:
  - some projects' code base is not publicly accessible
  - some projects have a **distributed** code base
  - projects may **fork...**

# Project Forking (1/3)



# Project Forking (2/3)



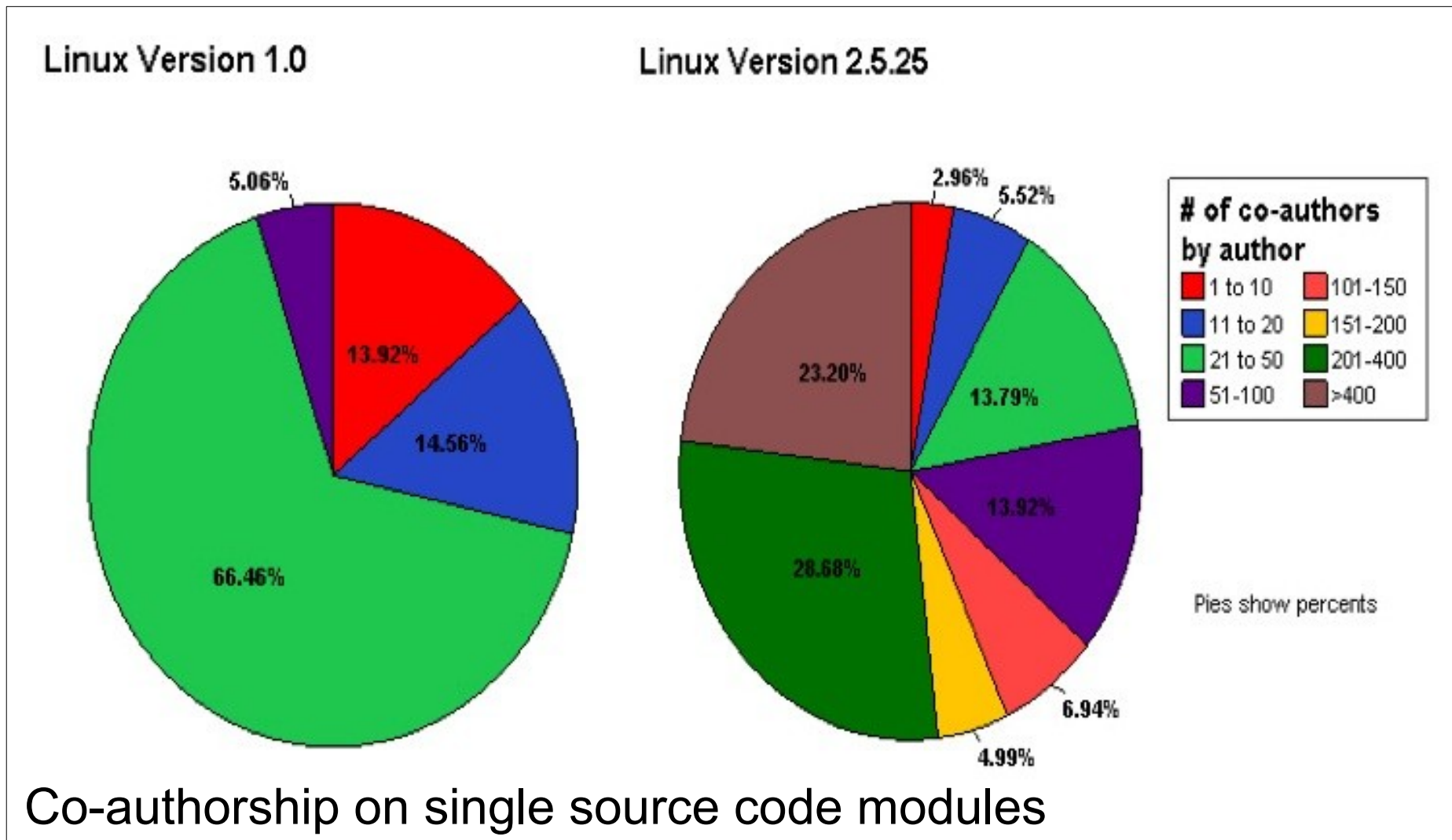
## Project Forking (3/3)

- When a project gives birth to two variants, which gradually diverge
- Various possible reasons
  - Technical (eg: port on # platforms)
  - Human (eg: lead conflict)
  - Business (eg: starting a new commercial offer)
- Forks are the best... and the worst thing
- « Survival of the fittest »

# FLOSS Communities Evolution

- Projects evolve
  - by adding new developers
  - through migration of developers from other existing projects
- The largest projects grow faster
  - hence the phenomenon of « critical mass »
- New projects form around a core of connected developers
- Information flows along project dependencies

# Collaboration on the Linux Kernel

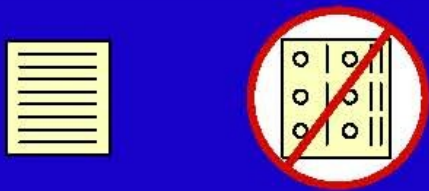


# FLOSS & the Hacker Culture

- The hacker *ethics* (Steven Levy)
  - Access to computers should be unlimited and total
  - All information should be free
  - Mistrust authority, promote decentralization
  - Hackers should be judged by their hacking, not bogus criteria such as degrees, age, race, or position
  - You can create art and beauty on a computer
  - Computers can change your life for the better
- Sense of responsibility as a counterpart to freedom
- The word « hacker » acquired a corrupted connotation in the 90's

# OPEN SOURCE PRINCIPLES

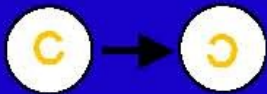
## Intellectual property



Code should always be open -  
“Free speech, not free beer”

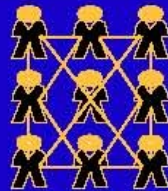


“Copyleft”



“Use copyright to  
ensure copyleft”

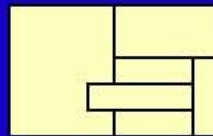
## Development paradigm



Extensive involvement of  
user/developer community



“Release early, release often”



Modularize code

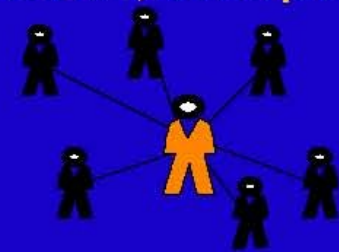
## Resource model



Good ideas come from solving  
a problem or scratching an itch



“The three obligations: to give,  
to receive, to reciprocate”



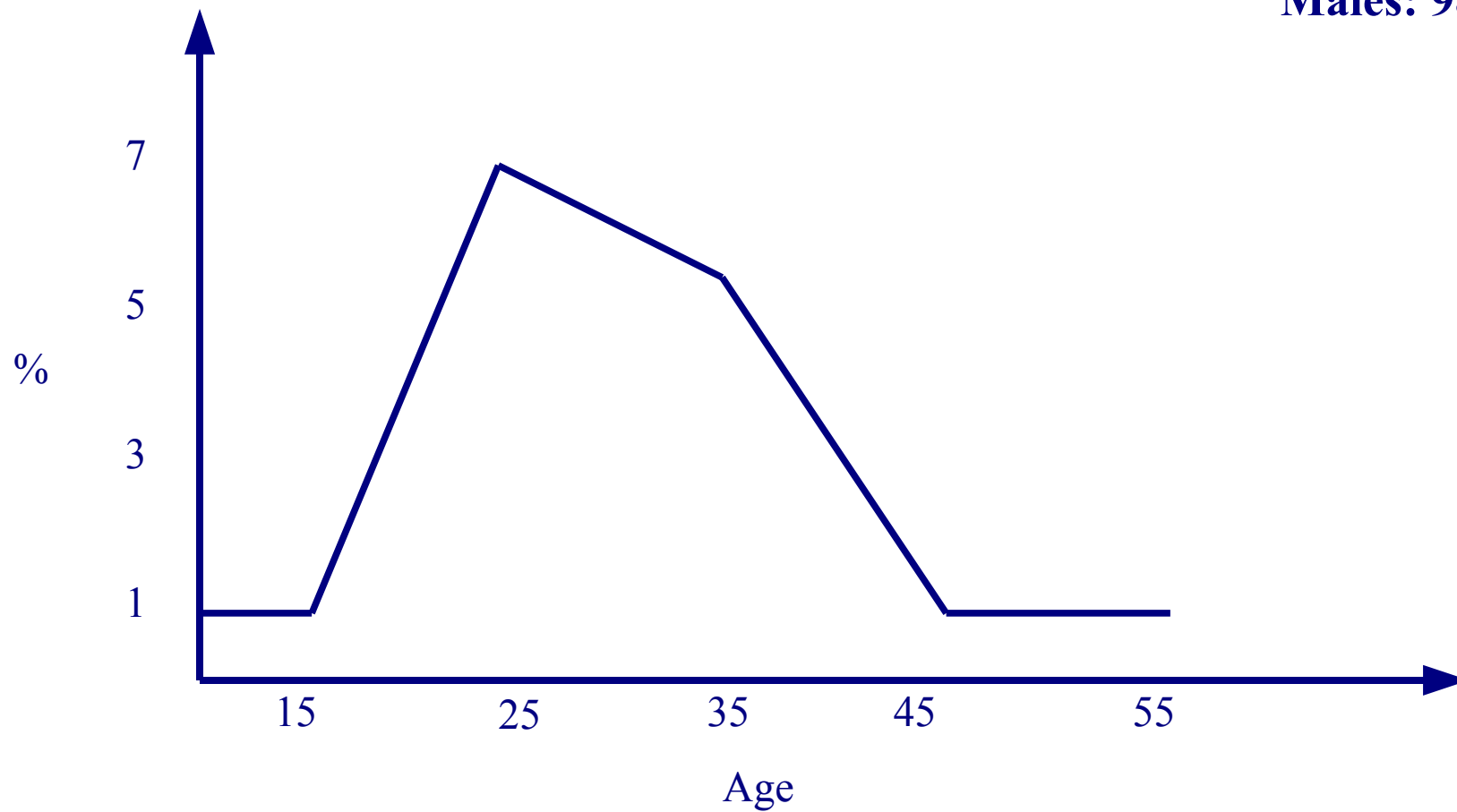
Peer leadership -  
vision, engagement, code

# Motivations and Profile of FLOSS Developers

- Main motivations (BCG Hacker Survey 2002)
  - Stimulated Learners - write code for both skill improvement and fun (29%)
  - Hobbyists - are all stimulated by the opportunity to develop skills for non-work activities (27%)
  - Professionals - involved in the OSS community to enhance their work skills, professionals (25%).
  - Community Believers - believe strongly that source code should be open (19%)
- 65% do not contribute from work - or without their hierarchy being aware of it

# The Typical FLOSS Developer, as of 2002

**Males: 98%**



# Gender Bias in FLOSS Communities

- % females: <2% in FLOSS / 28% in proprietary software
- Women are actively (if unconsciously) excluded of FLOSS communities rather than passively disinterested
  - the ‘hacker’ ethic, situates itself outside the ‘mainstream’ sociality, and equates women with that mainstream
  - FLOSS rewards the producing code rather than the producing software
  - women tend to engage later in their lives with computers. To join they have a larger amount of catching up work to do
  - flame-wars are accepted, with an off-putting effect, particularly pronounced in the case of women
  - men are usually freer to participate than women in long hours of intensive computing

# Recap

- The project is the basic unit in FLOSS communities
- Projects evolve, fork
- Often organized around a code base, members of the community have various levels of contribution
- Typical FLOSS developers follow personal motivations (not primarily making profit)
- Mostly men, 25-35, hacker culture



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