



# Software law



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# A few notions on the economy of immaterial goods...

To copy is not to steal...

# Digital revolution (1)

- Software is the first mechanized tool of Mankind that extends our mind and not our body
  - Major revolution in the way to produce and process knowledge
- The digital revolution follows two previous revolutions in the field of knowledge
  - The revolution of writing
  - The revolution of printing
- Its engine and object is software
  - Same role as the one of the machine during the industrial revolution

# Digital revolution (2)

- The increase in network bandwidth, coupled to the diminution of access costs, allows everyone to access the Internet
  - “Horizontal” exchanges, not only “vertical” ones
  - Revolutionizes the economic model of production and distribution of digitized knowledge and works
- Creates new tools and uses
  - Internet as a new common good
  - Majority of self-produced content
    - We are all authors
    - Collective creation of informational goods

# Economy of immaterial goods

- The economy of immaterial goods fundamentally differs from that of material goods
  - Non rival goods
    - The cost of copying is null
    - Any software can be distributed gratuitously as soon as its development has been funded
  - Network effects are paramount
    - The value of a good increases along with the number of its users
    - Highly volatile markets
      - Very quick obsolescence
      - An unused software is a dying software

# Value of software



- Every software has a cost
  - Means used to produce it
    - Easy to quantify
- Every software has a value
  - Value of use
    - Derives from the service it delivers
  - Intrinsic value
    - Expertise embodied in the source code
    - Maintainability, upgradeability, reusability
  - Very difficult to quantify!
    - Uncorrelated with respect to production cost



# Author rights

# Rights on immaterial goods

- There is no such thing as “intellectual property”
  - The term is an oxymoron!
- Hierarchical organization of the legal framework:
  - Literary and artistic works rights
    - Author rights
    - “Neighboring” rights, e.g., performer rights
  - Industrial rights
    - Patent rights
    - Trademark rights



# Author rights



- Created in France by the end of the Royalty (1791), at the incentive of Beaumarchais
  - Continuously adapted to the evolution of techniques and practices
- Hierarchical organization of author rights in the EU:
  - Patrimonial rights
    - Attached to the work
  - Extra-patrimonial / moral rights
    - Attached to the author (or his/her descendants)
    - Do not exist in the copyright system

# Author rights in Romania

- Rights on “works of the mind” defined in Romania by the “*Lege privind dreptul de autor si drepturile conexe*”
  - Law n° 8/1996 (in *Monitorul Oficial al României*, 26/03/1996, p.2-21)
  - Amended by law n° 587/2004, GEO n° 123/2005 and law n° 329/2006

<http://www.legi-internet.ro/en/copyright.htm>

<http://www.legi-internet.ro/en/romanian-itc-legislation-and-articles/drept-de-autor/>

[romanian-copyright-law/romanian-law-on-copyright-and-neighboring-rights-no-81996.html](http://www.legi-internet.ro/en/romanian-itc-legislation-and-articles/drept-de-autor/romanian-copyright-law/romanian-law-on-copyright-and-neighboring-rights-no-81996.html)

# The work



- The work is a creation of form
  - It is the form that is protected, neither the ideas nor the concepts
    - “Ideas are of free ride” !
- Non exhaustive list (“*such as*”) of works susceptible to be covered by author rights (Art. 7) :
  - “(a) literary and journalistic writings, lectures, sermons, pleadings [...] and any other written or oral works, and also computer programs; (b) scientific works, written or oral [...]; (c) musical compositions [...]; (d) dramatic [...] choreographic and mimed works; [...] (e) cinematographic [...] (f) photographic works; (g) works of three-dimensional art [...]”

# Criteria for coverage

- Notion of “originality”, reflecting the “personality of the author”
  - Sometimes reworded as “intellectual contribution” in the case of software works
- A non-original work is not susceptible of being covered
  - E.g., a plain photograph of a painting will create no right for the photographer
    - While a blurry picture may do so!
  - E.g., “non artistic” photographs of cooking recipes

# Irrelevant criteria



## ■ “Novelty”

- E.g., “*yet another story of musketeers!?*”
- E.g., different web browsers are original works

## ■ “Merit”

- Who still remembers the “official” painters of the beginning of the XIX<sup>th</sup> century?
  - Hopeful fate for many of today's “conceptual artists” ;-)
- In the United States, rights are granted « *To promote the Progress of Science and useful Arts* »
  - Some works, considered as “indecent”, have been considered as unworthy to receive protection by *copyright*
  - Argument used by porn movie file sharers!

# Creations escaping coverage (1)

- A creation of form that does not reflect the personality of its creator is not eligible to coverage by author rights
  - E.g., mathematical tables, tide tables, etc.
- However, graphic presentation of this creation might be eligible if it is original
  - E.g., logos, decorations, etc.

# Creations escaping coverage (2)

- Some works escape coverage since their inception
  - Part of the “initial public domain”
  - Art. 9 : “The following shall not benefit from the legal protection accorded to copyright: (a) the ideas, theories, concepts, discoveries and inventions contained in a work [ ...]; (b) official texts of a political, legislative, administrative or judicial nature, and official translations thereof; (c) official symbols of the State, public authorities and organizations, such as armorial bearings, seals, flags, emblems, shields, badges and medals; (d) means of payment; (e) news and press information; (f) simple facts and data.”
    - It is the case for official texts of judicial nature, yet not the case of some technical standards!

# Automatic coverage (1)

- Coverage is acquired since the conception of the work
  - Art. 1-1: *“The author right copyright in a literary, artistic or scientific work and in any similar work of intellectual creation [...] vests in the author and embodies attributes of moral and economic character.”*
  - Art. 1-2: *“A work of intellectual creation shall be acknowledged and protected, independently of its disclosure to the public, simply by virtue of its creation.”*



# Automatic coverage (2)



- No registration is necessary
- It is wise to build up in advance proofs of authorship and anteriority:
  - Bailiff's report
  - Deposit in a notary
  - Registration with specialized bodies
    - E.g., authors' associations
  - Self-addressed unopened postal mail
  - etc.

# Patrimonial rights (1)

- Materialization of the right granted to the author to benefit from the uses of his/her work
  - Economic protection of the work
- Three distinct rights: (Art. 13)
  - Reproduction right (Art. 14)
  - Public performance right (Art. 15)
    - For the concerned works only
    - Aforementioned rights sometimes merged as an “exploitation right” (Art. 12)
  - Resale royalty right (Art. 21)
    - For sculptural works
    - Only applies to the commercial circuit

# Patrimonial rights (2)



- Patrimonial rights do not relate to the physical ownership of the work
  - One only buys the “material part” of the picture, not what it represents
  - The transfer / licensing of reproduction rights has to be explicit
- Patrimonial rights are:
  - Transferable
  - Temporary

# Duration of patrimonial rights

- The duration of patrimonial rights depends on countries and on specific situations
- World standardization under the pressure of entertainment industries
- To date, within the European Union, this duration is of 70 years after the death of the author (Art. 25-1)
  - After then, the work enters the public domain
  - 50 years for neighboring rights
- Some countries may have specific clauses
  - E.g., in France, “war years”, “died for France”, etc.
  - Inextricable situation in the age of Internet

# Moral rights



- Apply to the creation
  - Both the work and the act
- Three distinct rights: (Art. 10)
  - Right to recognition of authorship
    - Ghostwriters contracts have been ruled illegal
  - Right to the integrity of the work
    - Sometimes, a specific right covers the name of the work
  - Disclosure right
- Moral rights are:
  - Inalienable
  - Perpetual

# “Exceptions” to author rights (1)

- Defined by law
  - They are not individual exceptions, but rights !
- Exhaustive list, including: (Art. 33)
  - Private copy for the copy maker's sole use (Art. 34-1)
  - Use in the “family circle” (Art. 34-1)
  - Citation
  - Parody
  - etc.

# “Exceptions” to author rights (2)

- Created by the lawmaker according to the “three-step test” (TST) established by the Berne Convention (Art. 9-2):
  - Special cases
  - Does not adversely affect the normal exploitation of the work
  - Does not unjustifiably prejudices the legitimate interests of the author or the owner of the exploitation right
- The TST is an instrument for the lawmaker, not for the judge!
  - Misconceptions regarding the TST in some legal systems, e.g. Romania (Art. 34-1)

# The work created by several authors

## ■ Three legal categories

### ■ Collaboration work (Art. 5)

- Work created by several co-authors in collaboration
- Shared rights

### ■ Composite work (or “derived work”) (Art. 8)

- New work to which is incorporated a preexisting work, without the collaboration of the author of the latter

### ■ Collective work (Art. 6)

- Work in which the personal contributions of the co-authors form a whole, without it being possible, in view of the nature of the work, to ascribe a distinct right to any one of the co-authors in the whole work so created.

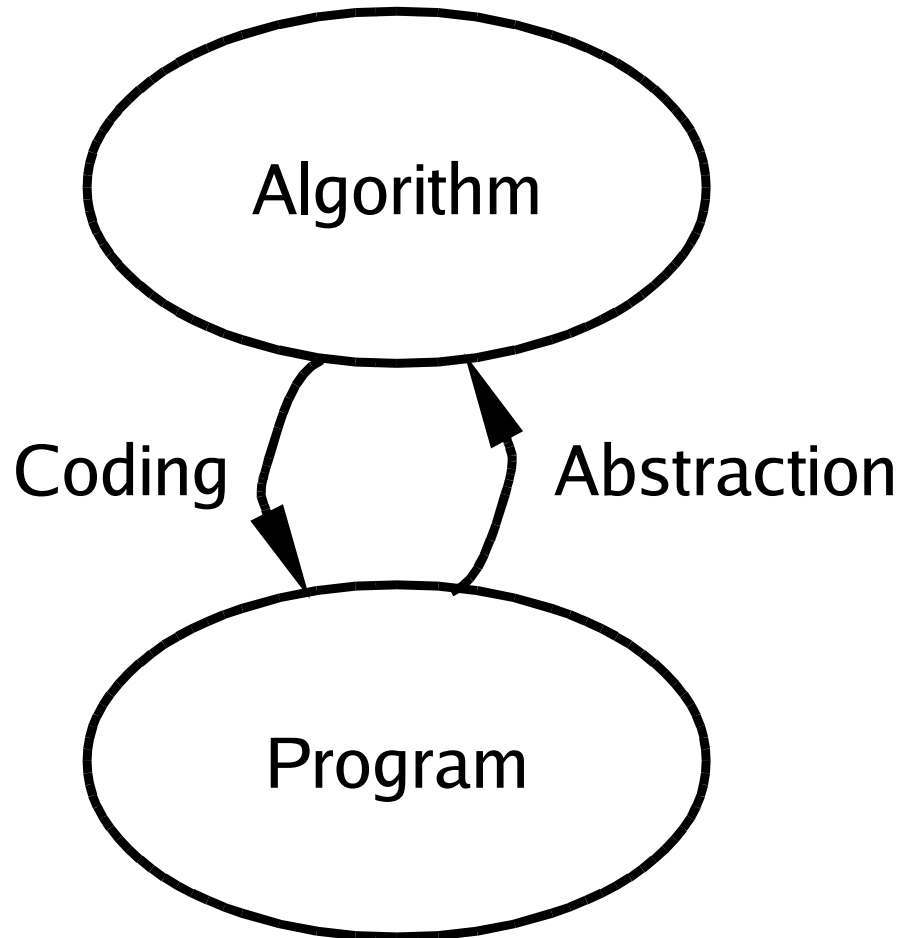
- Patrimonial rights belong to the person at the origin of the work





# The author right adapted to software

# Nature of software



- Algorithms are:
  - Ideas
  - Mathematics
- Programs are:
  - Works of the mind
  - Speech
    - Human → computer
    - Human ↔ human
  - Processes, whenever executed

- Similar to the process of literary creation

# What rights for software?

- Question asked since the end of the 1960's, when software started to be charged separately
  - “Unbundling” set up by IBM to fight its hardware cloners
- Three paths open to the lawmaker:
  - Patent
    - Ill-fitted tool in terms of scope, breadth, transaction cost, etc.
    - But some players still promote them
  - *Sui generis* right
    - Delay in drafting and passing national laws and conventions
  - Author right
    - Some marginal problems but immediate applicability

# Adapted author right

- By its integration in author right, software is considered as a work of the mind
  - In Romania, law n° 8/1996
  - European Directive 91/250/CE (1991)
  - Article 10 of TRIPS agreements (1994)
  - Article 4 of WIPO WCT treaty (1996)
- However, software is also a substitutable good destined to provide a service
  - Adaptation of author right (“adapted author right”)
  - Question of guarantee

[http://www.wto.org/english/docs\\_e/legal\\_e/27-trips\\_04\\_e.htm](http://www.wto.org/english/docs_e/legal_e/27-trips_04_e.htm)  
<http://www.wipo.int/documents/fr/diplconf/distrib/94dc.htm>

# Adaptation of patrimonial rights (1)

- Addition of new “exceptions”:
  - “Acts necessary to use the software”
  - “Observation of the operation of software”
    - Recall of the spirit of the law (Art. 77-1)
  - Reserve copy
    - If no other means provided by the publisher
  - De-compiling
    - Forbidden, save for “purpose of interoperability”
- Removal of the exception of personal copying
  - Need for a license for each copy of the software

# Adaptation of patrimonial rights (1)

- The patrimonial rights of authors that are employees or civil servants are automatically transferred to their employer
  - It is up to the employer to decide on the life of the work:
    - Divulgation, choice of license, etc.
    - Apparition of a status of “proletarian author”
- Authors that are not employees retain the patrimonial rights to their software works
  - Need to transfer the patrimonial rights of subcontractors
  - Problem of unpaid interns

# Adaptation of moral rights



- Weakening of moral rights
  - Employee or civil servant authors cannot oppose the modification of their work
  - Only remains the right to recognition of authorship
    - More commonplace in the world of video gaming than in that of accounting



# Licenses

Code is law  
Code is poetry  
Code is life !



# License



- The license is a tentative offer from the supplier, which defines the terms of use of a work
  - The exact legal term is: « pollicitation »
- Based on author right or copyright
  - Berne Convention of 1886
- Classically, a license restricts the rights to use a work:
  - Prevents public diffusion
  - Prevents reproduction, even partial
  - ...

# Software licences (1)

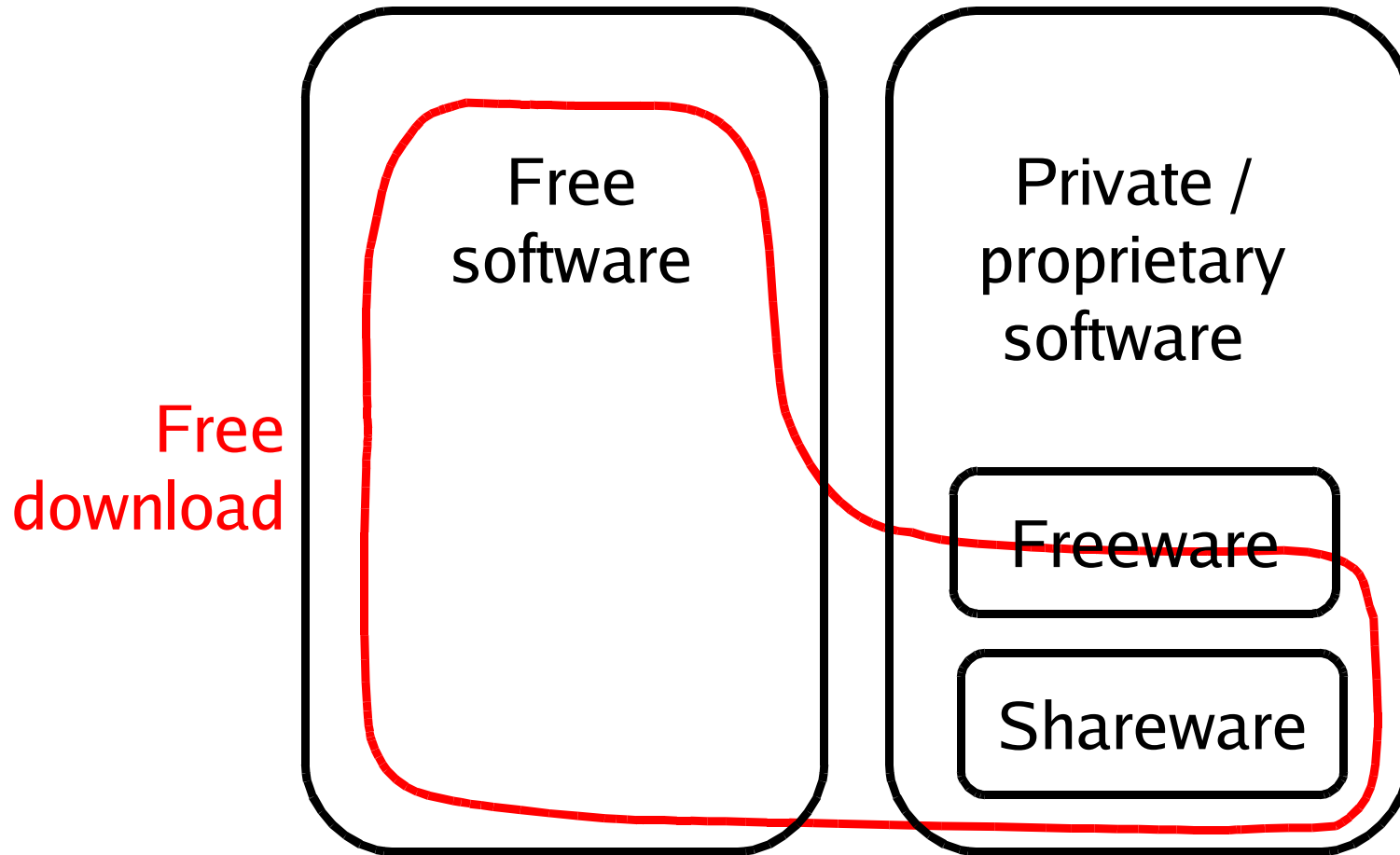


- There exist many types of software licenses:
  - “proprietary software” (“private”): all rights are reserved by the right holder
    - Case of most of marketed software
    - In almost all cases:
      - The customer only owns the medium, not the software it contains
      - The provider disclaims all responsibility in case of defects (bugs)
        - Not in accordance with European right
      - The provider can stop maintenance at any time

# Software licences (2)

- “Shareware”: private software that is distributed gratuitously but for which a monetary sum is asked for after a trial period
  - Private software that differs by its distribution mode
- “Freeware”: gratuitous private software that does not necessarily grant other rights
  - Not even the right of redistribution
- “Free software” (as in “freedom”): software whose license grants many rights to its users
  - Is not equivalent to a “*freeware*”!
  - Not necessarily gratuitous

# Sketch of license types



<http://www.gnu.org/philosophy/categories.html>



# Free software and free licenses

Free, Free,  
Set them free (waoooooah...)

# Free software



- Free software is a legal innovation, not a technical one
  - Based on the mechanism of author right adapted to software
  - Grants users some rights but also some duties
- Allows for the emergence of decentralized economic models well fitted to the economy of immaterial goods
  - Negligible technical transaction costs thanks to the Internet
  - Negligible legal transaction costs thanks to free licenses

# Free software licenses



- Have in common the “four freedoms”:
  - Freedom to execute the program for any use
  - Freedom to redistribute copies of the program
  - Freedom to study the operations of the program and to adapt it to one's needs
    - Need to have access to the source code
  - Freedom to redistribute the modified software
    - Capitalization of knowledge and work
    - Pooling of software developments
- The differences between free licenses concern the conditions of redistribution of the modified software

# Free software economy (1)



- Free software can be “commercial” software
  - Any software can be freely copied as soon as it has been funded
- Monetization of software supply
  - Obtainment of software from its initial creators or from other entities
  - Negotiation of maintenance and/or service contracts



# Free software economy (2)



- Economic models based on:
  - Pooling:
    - Through offer: consortia (infrastructure software)
    - Through demand: coalitions of users (specialized software)
  - Service: maintenance, improvement
    - Yet service activities produce little new code
  - Know-how: freedom of choice
    - Free licenses make rent-seeking models impossible
    - Yet software entry costs can be important
    - The existence of a living ecosystem is of paramount importance
  - Decentralization: service as close as possible to the end user



# Types of free software licenses

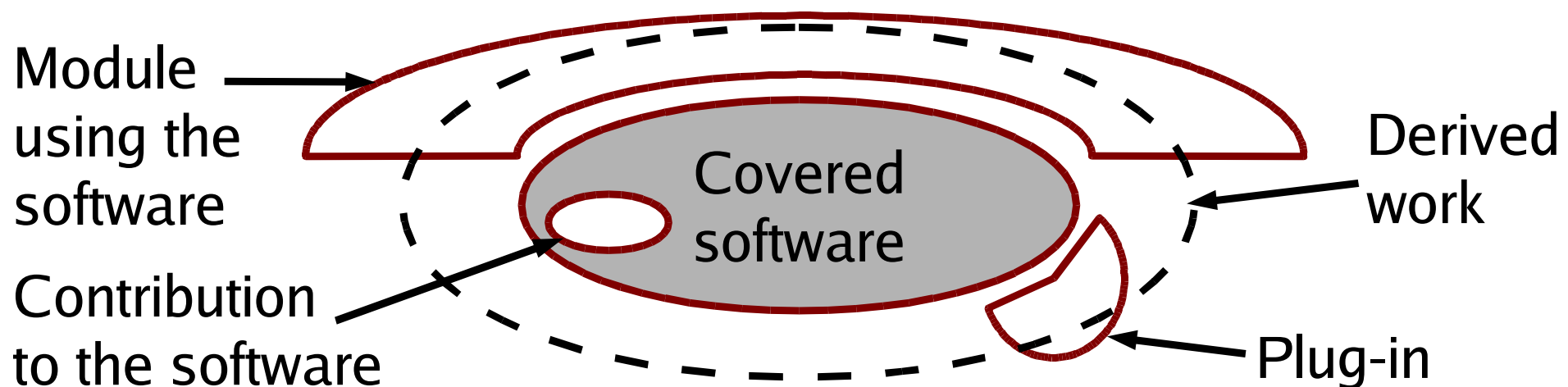
# Free software licenses (1)



- Have in common the “four freedoms”:
  - Freedom to execute the program for any use
  - Freedom to redistribute copies of the program
  - Freedom to study and modify the program
  - Freedom to redistribute the modified software
- The differences between free licenses concern the conditions of redistribution of the modified software:
  - If persistence of the obligations to redistribute source code: “*copyleft*”
  - If absence of this obligation: “*non copyleft*”
  - Matter of collective vs. individual freedom

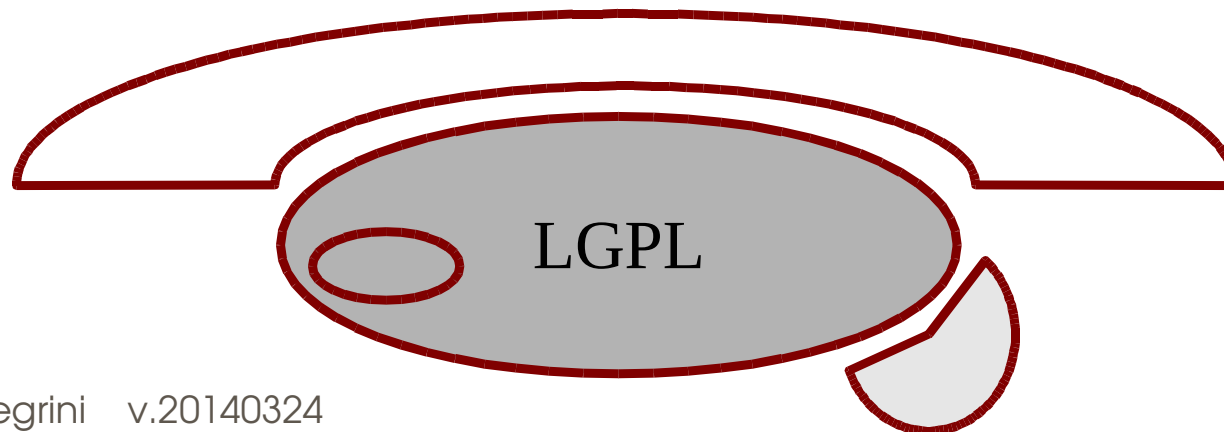
# Free software licenses (2)

- Three main types of free software licenses:
  - “Persistent” licences
  - “Evanescent” licenses
  - “Diffusive” licenses
- Licenses apply to three entities, most often through the notion of “derived work”:



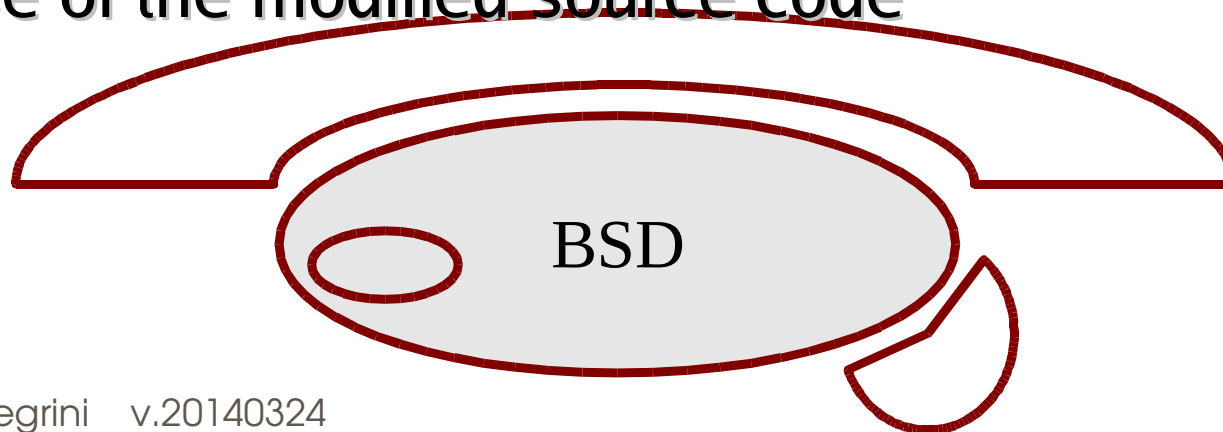
# “Persistant” licenses

- Also called: “perennial”, “weak copyleft”
- Examples : LGPL, CeCILL-C
- The source code of modified versions must be redistributed when they are distributed (permanence)
- However, it can be combined with software subject to other kinds of licenses, including private, closed-source licenses



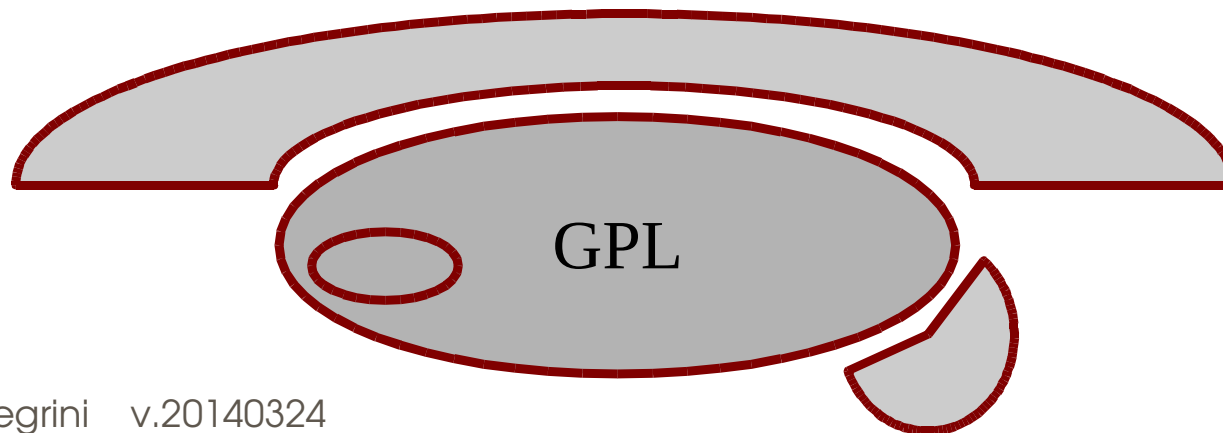
# “Evanescent” licenses

- Also called: “permissive”, “non copylefted”
- Examples : BSD, CeCILL-B
- The modified software can be distributed on binary form under any type of licenses
  - A software can be “closed-up” and redistributed without its source code
  - The CeCILL-B license even allows one to change the license of the modified source code



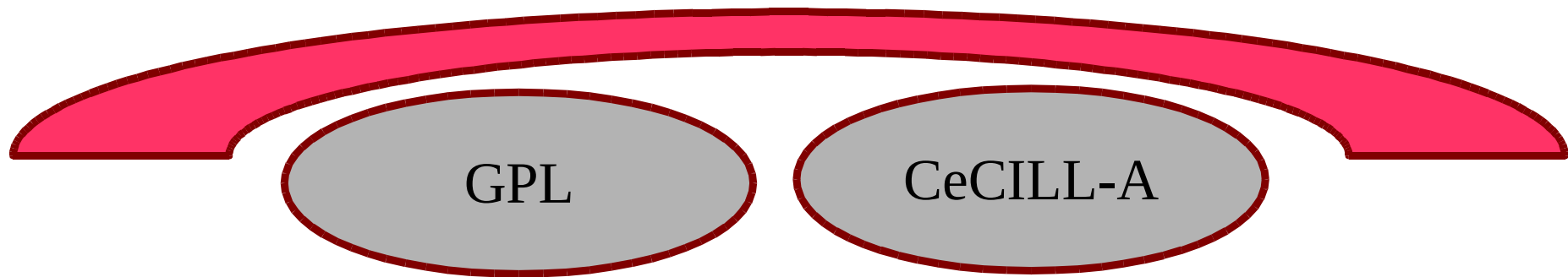
# “Diffusive” licenses (1)

- Also called: “strong copyleft” or sometimes “contaminant” (biased term, to avoid!)
- Examples : GPL, CeCILL(-A)
- The source code of modified versions must be available to anyone receiving the object code
- Strongly connected third-party software have to be diffused according to the same license



# “Diffusive” licenses (2)

- Diffusive licenses can induce conflicts when one tries to link two modules covered by two different diffusive licenses



- In all cases, need for a prior legal analysis of the software components that one wishes to integrate within her/his software, with respect to considered modes of diffusion



# Free software licenses (3)



- The right holder of a software may choose to release it with the license of her/his choice
- She/he can also release the same software, through two different channels, with two different licenses
  - Multi-licensing policy (e.g., “dual licensing”)
  - Be careful with the tracking of external contributions in successive versions!



# Cas pratiques

# Typical case: free download

- Software whose market is very big, made of non-competing entities or for which the software is not part of their core business
- Possibility to create a community of users and contributors
  - The freedoms of use increase their size and value
- Pooling of maintenance and of further developments
- Diffusion under persistent or diffusive free licenses
- Case of libraries and infrastructure software

# Typical case: closed consortium

- Industry software whose market is narrow
- Pooling of development effort among consortium members
  - Right ownership according to the respective inputs
  - Complete freedom to involve new members to future upgrades of the common work
  - No desire to give gratuitously what cost to produce
    - “Free” does not mean “gratuitous”!
- Release under persistent or diffusive free licenses

# Typical case: privileged partnership

- Industrial software or library potentially usable by a larger community
- Selection of a privileged partner that provides a return over experience
- Release under two types of free licenses:
  - Software provided to the partner under an evanescent free license so that she/he can embed it into products whose characteristics are hidden to competitors
  - Free download under a diffusive license to foster contributions from the community and creation of analogous software whose source code is accessible to all

# Why to develop under free licenses

- Ideal tools for the preservation of intellectual assets
- Zero cost
  - The addition of license text into every source code file is enough to benefit from the terms of the license
  - Registration to specific bodies (for a small fee) brings further proofs of anteriority
- Pooling of development effort
- Better durability for customers
  - Becomes an advertising argument



# Right of database producers

This is not free-base...

# Data bases



- Defined by EU Directive 96/9/EC
- Refers to “*literary, artistic, musical or other collections of works or collections of other material such as texts, sound, images, numbers, facts, and data [...], collections of independent works, data or other materials which are systematically or methodically arranged and can be individually accessed*”



# Right of database producers (DBPs)

- *Sui generis* right specific to the European Union
- Concerns producers:
  - The producer of a database, understood as the person who takes the incentive and the financial risk of the corresponding investments, benefits from a protection of the contents of the base, when the constitution, the verification or the presentation the latter evidences a substantial investment in terms of finance, hardware or personnel
  - This protection is independent from, and applies without prejudice of, rights resulting from author right or any other right on the data base and of its constitutive elements

# Rights of DBPs (1)



- The database producer has the right to forbid:
  - The extraction, by permanent or temporary transfer to another medium of the whole or of a qualitatively or quantitatively substantial part of the contents of a database, by any means and under any form
  - The re-use, by making available to the public, the whole or of a qualitatively or quantitatively substantial part of the contents of a database, under any form

# Rights of DBPs (2)



- The database producer has also the right to forbid:
  - The repeated and systematic extraction of qualitatively or quantitatively non substantial parts of the contents of the database, when these operations clearly exceed the normal conditions of use of the database
- Aims at the targeted siphoning of specific portions of data bases
  - E.g., a city telephone directory



# Interoperability

# Data formats (1)



- Beyond hardware and software, the immaterial assets of an entity consists of its data
  - Data represent a cost of creation and collection that is several orders of magnitude higher than that of hardware
  - Sometimes simply irreplaceable

# Data formats (2)



- The digitization of data conditions their access to the use of software that handle the format under which these data are stored
  - Closed data formats enable customer lock-in
- The durability of data is conditioned by the existence of software as well as of storage media
  - The older the medium, the higher the cost

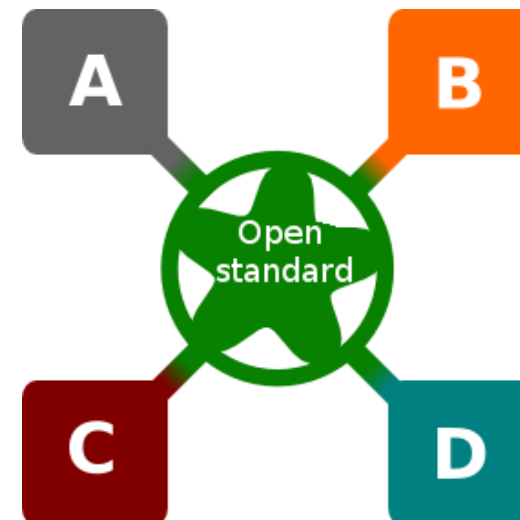
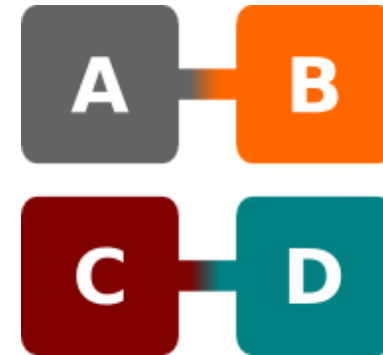
# Interoperability



- Interoperability is the ability, for any two information systems or software, to interact and to exchange data
  - Assumes that the data format be known and implemented by both entities
- Critical in time and space:
  - Durability of administrative data
  - Very existence of the Internet

# Compatibility is not interoperability!

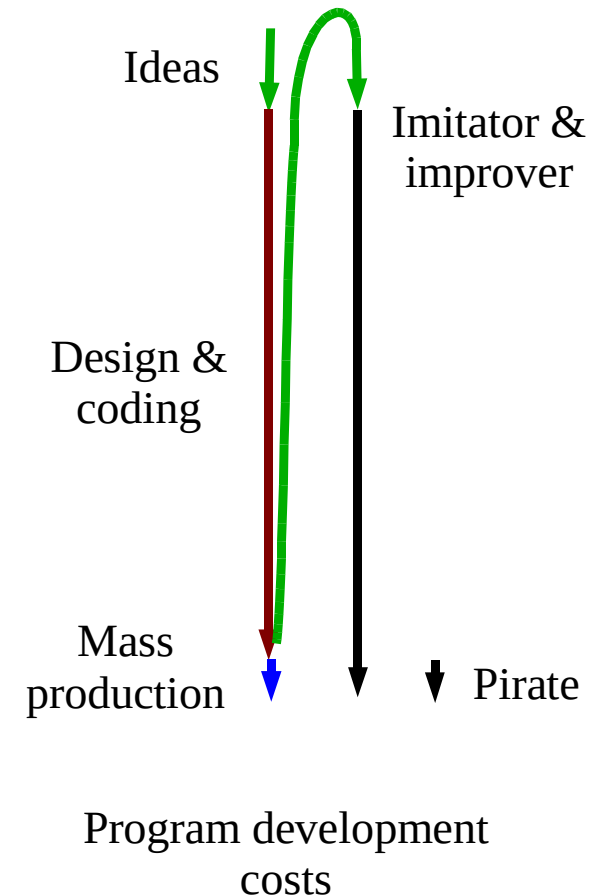
- Compatibility exists when two products can work together
  - Contract between parties
  - The party that controls the “compatible” format extends its monopoly
- Interoperability exists when two products can work together and one knows how





# The quest for interoperability (1)

- In order to foster innovation:
  - Investments of prior innovators must be rewarded
  - New entrants must not be barred from an existing software market
- In order to set up a free and unbiased market:
  - Servile copy should be forbidden
  - Redesign should be legally possible
- Vendor lock-in is an undesirable effect that has to be fixed



# The quest for interoperability (2)



- Most welcomed specificity of European Union right
  - Established by European Directive 91/250/CE
- De-compiling a software is forbidden, save for the achievement of interoperability
- Strictly restricted by three conditions:
  - Acts accomplished by a legitimate software user or mandated by such a person
  - Information should not be already available
  - Acts restricted to relevant parts of the software
- Information gathered through this process cannot be used for other purposes and “harm author right”

# Open formats



- Interoperability has to be based on open formats
  - Else, it is difficult to achieve
  - Question of governance
- Such data formats may be subject to standardization
  - E.g., the *OpenDocument* format promoted by IBM and many other players, including the free software community
    - Used by StarOffice, OpenOffice.org, LibreOffice.org, ...
  - Supposed to protect the format from maneuverings from private interests
    - Community governance for the sake of public interest

# The battle for open standards



- Many States and administrations wish to enact laws that require the use of normalized formats, thus open
  - Direct threat to the rents of publishers that rely on customer lock-in through closed formats
- Fierce resistance from some prominent publishers
  - Delays in the enacting of rules of procedure
  - Normalization of closed source formats
    - Means that they can forbid their subsequent use
  - Legalization of “software patents”



# “Software” patents

A matter to laugh at,  
If it weren't a matter to cry about...

# Scope of adapted author right



- The adapted author right ensures that one cannot:
  - Copy a program to sell it or give it away
  - (Try to) modify it
  - Use it in a way that is not allowed by its license
- However, adapted author right does not prevent one to write a new program that:
  - Provides similar features
  - Is compatible in terms of input / output formats
  - Is interoperable with the previous software

# Rights covering software in Europe

- Computer programs are protected by author right
  - European Directive 91/250/CE
- Software is explicitly excluded from patentable subject matter by article 52§2c of the Munich Convention of 1973, like games and maths
  - Exclusion limited to these subjects “as such”
  - Innovative industrial processes controlled by software are patentable, provided that the innovation (novelty) does not reside in the software itself. Yet, the embedded software itself (“as such”) is excluded from the patent claims

# Scope of software patents

- Software patents do not deal with “software” itself
- They deal with intellectual methods such as:
  - What a program does
    - What algorithms the program implements to solve a specific problem, that is, which “business method” it implements
    - E.g., Amazon's “1-click” patent
  - How it does it, and particularly:
    - What data it takes as input, what data it produces on output, how it interacts with other programs and users
    - E.g., file formats (MP3, etc.), communication protocols
    - E.g., algorithms (RSA, etc.)
  - These concepts are logically inseparable



# Examples of invalid patents granted by EPO

L'Urgence du E-Commerce Européen

<http://webshop.ffii.org/>

## Votre boutique web est **BREVETÉE!**

**1** **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13** **14** **15** **16** **17** **18** **19** **20**

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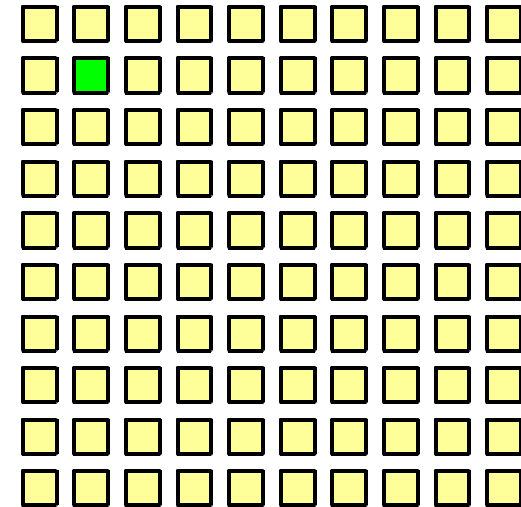
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# Software patent economy (1)

## ■ Dreams of fortune

- My patented “invention”
- Obvious programming techniques

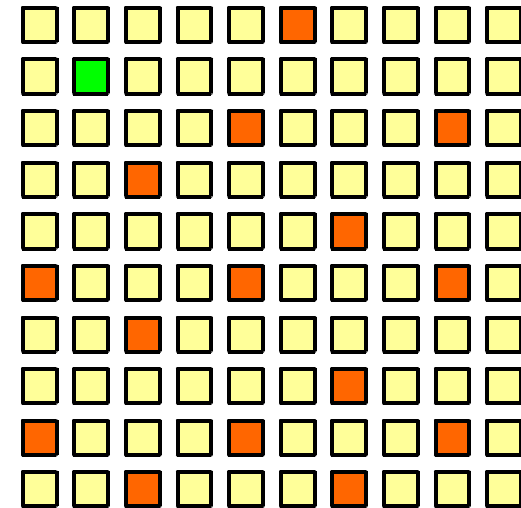


$$\text{Profit} = \text{Sales} - \text{Develop} + \underbrace{\text{Rent} (\text{■}) - \text{Cost} (\text{■})}_{> 0}$$

# Software patent economy (2)

## Software patent battles

- My patented “invention”
- Non patented techniques
- Risk of infringement lawsuit



$$\text{Profit} = \text{Sales} - \text{Develop} + \underbrace{\text{Rent (■)} - \text{Cost (■)} - \text{Cost (■)}}_{< 0}$$

# Software patent economy (3)

$$\text{Profit} = \text{Sales} - \text{Develop} + \underbrace{\text{Rent (■)} - \text{Cost (■)} - \text{Cost (■)}}_{\text{On average } < 0}$$

**Small publisher:**  
Must pay

$$\underbrace{\text{Rent (■)} - \text{Cost (■)}}_{< 0} - \underbrace{\text{Cost (■)}}_{< 0}$$

**Big publisher:**  
Neutralizes competitor's patents

$$\underbrace{\text{Rent (■)} - \text{Cost (■)}}_{< 0} - \underbrace{\text{Cost (■)}}_{\approx 0}$$

**Patent fund:**  
Lives off the system

$$\underbrace{\text{Rent (■)} - \text{Cost (■)}}_{\text{In principle } > 0} - \underbrace{\text{Cost (■)}}_{= 0}$$

# Who survives?



- **Big companies**
  - Cross-licensing of patent portfolios
    - Pretend to live in a world without patents
  - Oligopoly position
- Patent funds (“patent trolls”)
- Small companies willing to get bought
  - Their patents increase their apparent value
  - No personal desire of sustained innovation
- Lawyers, patent experts, patent offices
  - Waste between 10 and 40% of the resources initially devoted to innovation

# Who withers?



- Small software publishers, generally poorly prepared for legal battles, because of:
  - Lack of funds (average lawsuit cost is 2 M\$ per side)
  - Lack of patent portfolios to share
- Companies that use « in-house » software to solve their business problems, even if:
  - They do not belong to the software industry
  - They do not sell their software
- Free software developers
  - Source code is available to the attacking party



# Threats to innovation and interoperability



- If the holder of a software patent refuses to grant licenses:
  - It is illegal to write programs that read or produce data structured according to some patented format
  - Users can no longer switch to other products to process their existing data
  - Market entry of new players is reduced
  - Choice of products and providers is reduced

# Assessment of software patents



- Instrument designed for the industry of material goods, abusively extended to intellectual methods
  - Monopolizes algorithms (= mathematics!)
- Illegal in Europe but granted by patent offices, that live off patent granting and renewal fees
- Economic nonsense
  - Anti-competitive instrument
  - Expensive to obtain and maintain [Bessen & Hunt]
  - Threatens return on investment of software authors
  - Promotes off-shoring
- They have to be canceled