

Intellectual Property in the World of Blockchain

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Housekeeping

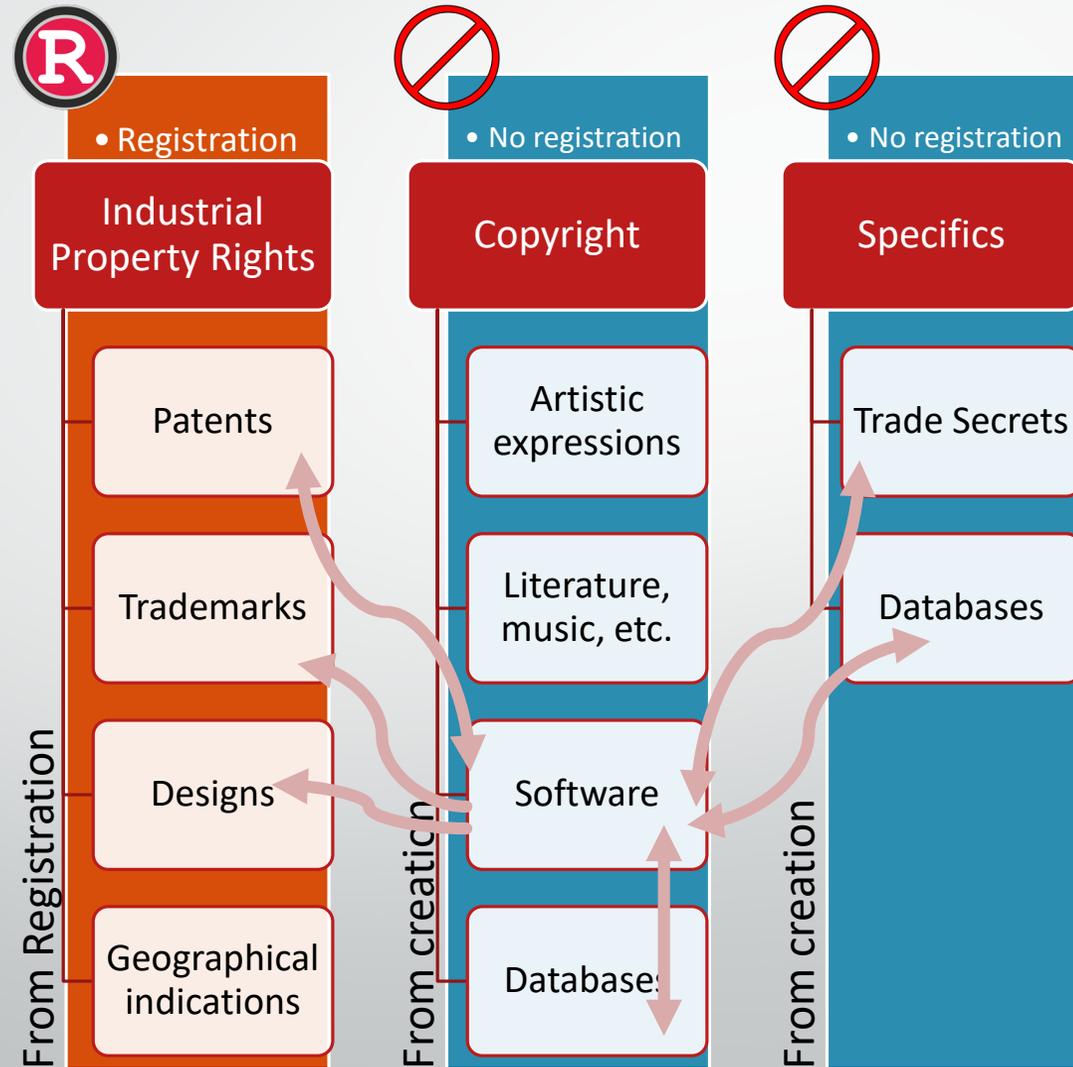
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Why should I care about IP ?

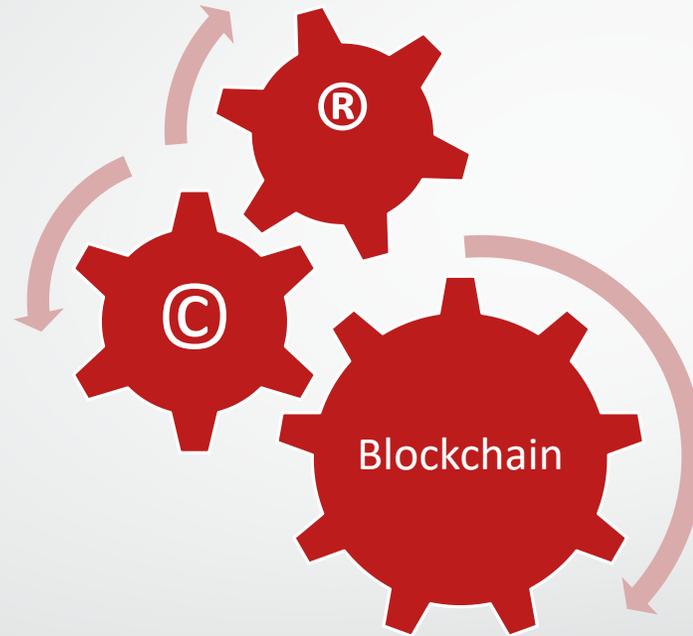
If you do not understand the basics of IP you will not be able to:

- Make the right business decisions when negotiate with your partners;
- Choose the correct IP model for your creations and be able to sell it to your clients;
- It is not everything about protection and/or profit, but mostly about safe access to IP and strategic business choices,

IP Basics



IP and Blockchain symbioses



- IP that is contained or deployed in applications in relation with Blockchain
- How Blockchain is changing Intellectual Property

IP Basics

Legal instruments for copyright protection

- **Berne Convention** for the Protection of Literary and Artistic Property (adopted in 1886, amended in 1979) is the basis for the international protection of software + WIPO Copyright Treaty (1996) art.4.
- **Directive 2009/24/EC** of 23 April 2009 on the legal protection of computer programs defines the minimum level of software copyright protection that Member States must have.
- Member **State level legislation** and regulations.

Case law

- **CJUE, 22 December 2010, C-406/10, *World Programming Ltd.*** – GUI is not software yet still protected by copyright.
- However, copyright protection covers only the **materialized expressions of ideas**, not the underlying ideas themselves. Implication: Algorithms not necessarily protected but code is.
- **CJUE, 11 June 2020, C-833/18, *Brompton Bicycle.*** - Grants copyright protection to industrial IP, prioritizing Copyright over all other forms of IP.

IP in Blockchain applications

Copyleft is indeed Copyright

Not the opposite of Copyright, but rather the opposite...

Copyleft licenses require that any change made to the original software code (derivative works) that is distributed outside of the organization, has to be made available on the same terms.

Copyleft maintains the original (copyright) terms on derivatives by restricting their use (GNU, Creative Commons etc). This license replication obligation is an excellent tool to force sharing of source code, but can be cumbersome to some businesses.

In reaction, the term of **permissive (free software)** describes licenses that only have minimal restrictions on how the software is modified and redistributed (BSD, MIT, Apache).

IP in Blockchain applications

Licenses

- The expression of the **author's freedom** as granted by Copyright laws to choose what can be done with his/her software.
- **Granting rights:** Everything that is not permitted by the license is otherwise forbidden (safe for legal exceptions, e.g. "fair/private use").

IP in Blockchain applications

Copyleft rules for derivative software

- If you distribute in binary you must:
 - Make the source code available to the binary recipients;
 - You can only license the modified source code under the same terms as the original code,
- The linking issue in GPL licenses:
 - **Dynamic** vs **static** linking (does dynamic linking creates a derivative work?),
 - GPLv2 vs GPLv3.

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Free Software vs Open source

- Meaning of “free” as “freedom” not as a price point
- Rereferring to FOSS as “Free and Open Source Software”
- The difference lies within the “distribution” terms.
- GPL requires all related code to be under GPL (Strong Copyleft)
- [Tivoization](#) & [GPL wrappers](#)

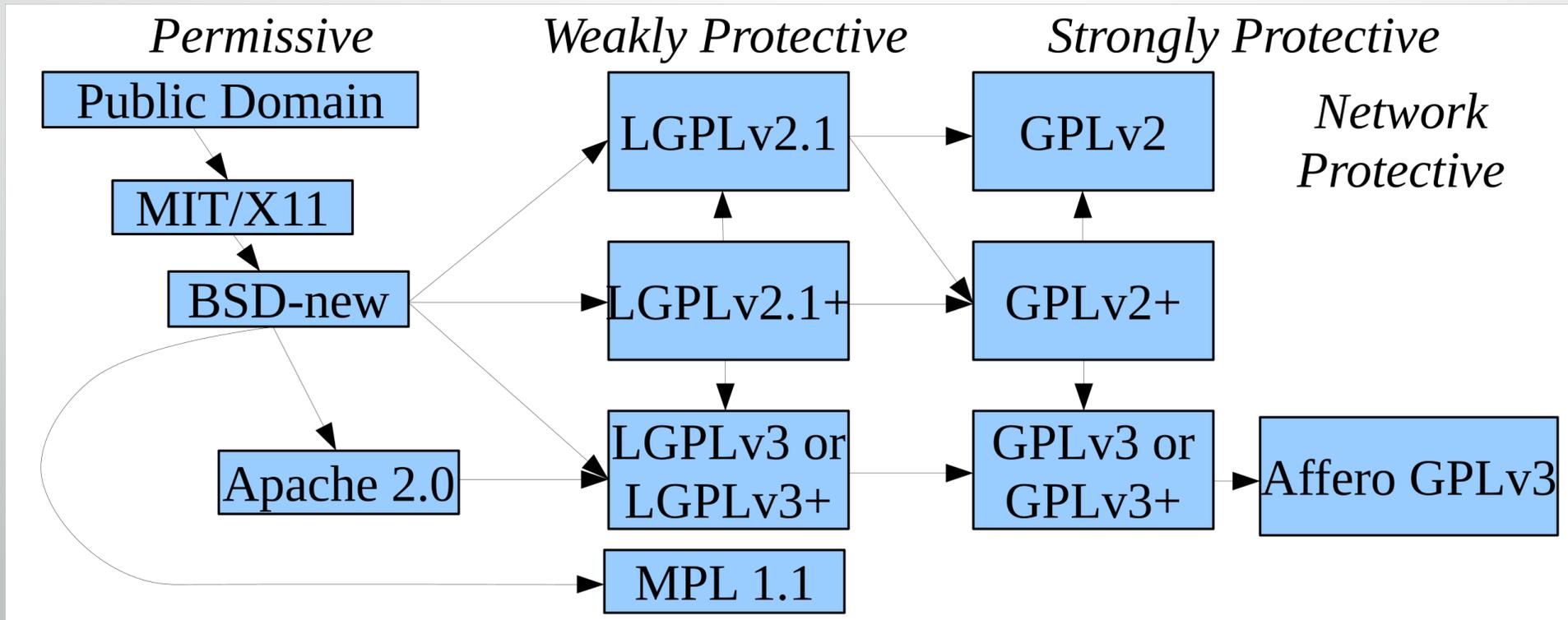
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Free Software vs Open source

| GNU (Free software foundation) | Open Source Initiative |
|--|---|
| The freedom to run the program as you wish, for any purpose | Free Redistribution with the Source Code |
| The freedom to study how the program works and change it so it does your computing as you wish. Access to the source code is a precondition for this. | Derived works , Integrity of The Author's Source Code No Discrimination Against Persons or Groups or Fields of Endeavor |
| The freedom to redistribute copies so you can help others | Distribution of License |
| The freedom to distribute copies of your modified versions to others | License Must : <ul style="list-style-type: none">• NOT Be Specific to a Product;• NOT Restrict Other Software;• Be Technology-Neutral. |
| https://www.gnu.org/philosophy/free-sw.html | https://opensource.org/osd |

IP in Blockchain applications

Permissive vs Protective



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Creative Commons licenses



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Creative Commons in NOT open source

- NOT recommended for software licensing:

We recommend against using Creative Commons licenses for software. Instead, we strongly encourage you to use one of the very good software licenses which are already available. We recommend considering [licenses listed as free by the Free Software Foundation](#) and [listed as “open source” by the Open Source Initiative](#).

Unlike software-specific licenses, CC licenses do not contain specific terms about the distribution of source code, which is often important to ensuring the free reuse and modifiability of software. Many software licenses also address patent rights, which are important to software but may not be applicable to other copyrightable works. Additionally, our licenses are currently not compatible with the major software licenses, so it would be difficult to integrate CC-licensed work with other free software. Existing software licenses were designed specifically for use with software and offer a similar set of rights to the Creative Commons licenses.

Source : <https://creativecommons.org/faq/#can-i-apply-a-creative-commons-license-to-software>

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Creative Commons versions

- Initial versions based on US law
- V 3.0 attempts porting to local jurisdictions
- V 4.0 is the current version:
 - Can be used without porting (although translations ?)
 - Based on international instruments (Berne Convention for the Protection of Literary and Artistic Works, Rome Convention of 1961, WIPO Copyright Treaty of 1996).
 - Can be applied to databases

IP in Blockchain applications

FOSS license issues

- No jurisdiction venue, no applicable law provisions
- Concept of derivative work may vary according to jurisdictions
- Some provisions may not be enforceable according to jurisdictions
- Granting of rights too vague ([WTFPL](#), [No Problem Bugroff License](#), ["Dont Be a Dick" Public License](#), [Good Luck With That Public License](#), [Don't Ask Me About It License](#))
- Some free software licensing conditions include amusing obligations ([The Chicken Dance License](#)).
- License forks or tweaks ([JSON](#))

IP in Blockchain applications

FOSS license issues

- Main issue : Licenses are often drafted by persons with no legal background or no understanding with how IP contracts are used in litigation.
- Broad freedom granted to copyright authors by the legal framework.
- Disparity in patent overlapping according to jurisdictions.
- There are very few case law that address the issues.

IP in Blockchain applications

European Union Public Licence

- Approved by the European Commission, [latest version 1.2, 2017](#), OSI certified
- Explicitly compatible with: GPL v2 & V3 & AGPL v.3, MPL v2, OSL v2.1 & v3, CPL v1, EPL v1, CeCILL v2 & v2.1, LGPL v2.1 & v3, LiLIQ-R & LiLIQ-R+
- Access to source code provision (art. 3) including networked usage
- It has a jurisdiction and applicable law provisions
- Limitation of liability and warranty exclusions

IP in Blockchain applications

Dealing with the patent issue

- **Licensor grant patent clauses** are included in several FOSS licenses (i.e. BSD).
- **Third party Patent indemnity** clauses are generally NOT included.
- **Patent retaliation clauses** are an alternative (if a licensee/sublicensee sues the licensor for patent infringement, the license to the software terminates). Their strong version are currently used by Apple and Facebook.

IP in Blockchain applications

Company policy for FOSS licenses

- Company policy may include:
 - Identify participants and project objectives;
 - Assessing legal risks and limitations;
 - Put in place a process for the identification and approval of OSS licenses (e.g. code scanning);
 - Put in place a compliance process for the approved OSS licenses;
 - Take into account contributions to OSS community;
 - Draft or modify internal contracts to take into account the above policies.

IP in Blockchain applications

Company policy for FOSS licenses

| Licenses deemed compatible and can be used in company projects | Licenses that should be reviewed according to use cases | Licenses that could/are against Company policy and may not be used in projects |
|--|--|--|
| Apache v2.0, 2004 | NASA Open Source Agreement | GNU Affero GPL v3.0, 2007 (e.g. the network usage is essential to customers, while the project is proprietary) |
| Python Software foundation license v3.9.1, 2020 | Creative Commons BY-SA v4.0 (e.g. for materials other than software) | Common Development and Distribution License v1.0, 2004 |

Examples of a company policy classifications of FOSS licenses used in company projects

IP in Blockchain applications

Which license for your blockchain project ?

- Choose a common standard (EURL v1.2, or GNU – [10+ licenses](#), or OSI [110+ licenses](#)).
- Make your own FOSS license version (Black Duck [currently tracking 2,650+ FOSS licenses](#)).
- Ask a lawyer to draft a your license, open source or proprietary, but according to your needs.

IP in Blockchain applications

Software Patents

- Eligibility of software patents is limited in EU due the exclusion of article 52(2) (c) of the European Patent Convention aiming “programs for computers”.
- However, German patent offices, backed by several case law, tend to push towards granting of certain software patents.

IP in Blockchain applications

Issues with software patents

- Patent conditions such as inventive step and non-obviousness are difficult to apply in a software context.
- There is no clear boundary between patentable and non-patentable software.
- Expensive to implement, maintain and litigate. Thus, favoring big-tech to the expense of independent developers.
- Practices of patent cross-licensing and patent-pooling tend to create oligopolies.
- Patent holdings (often referred as patent trolls) have become a threat to FOSS licenses ([NPE Rothschild Patent Imaging case](#), [Facebook's React patent license](#)).

Blockchain and IP applications

Blockchain as a ledger for IP

- Entries in blockchain can be used as proof of ownership of IP rights
- Blockchain can synchronise IP transactions and serve as a unified IP transactions ledger (licensing, SPA etc)
- Linearity of blocks can be used for versioning of digital IP assets

Trust vs Trustless

Resistance is futile, You will be Assimilated

With blockchain, we can imagine a world in which contracts are embedded in digital code and stored in transparent, shared databases, where they are protected from deletion, tampering, and revision. In this world every agreement, every process, every task, and every payment would have a digital record and signature that could be identified, validated, stored, and shared. Intermediaries like lawyers, brokers, and bankers might no longer be necessary. Individuals, organizations, machines, and algorithms would freely transact and interact with one another with little friction. This is the immense potential of blockchain.

« [The Truth About Blockchain](#) », Marco Iansiti and Karim R. Lakhani, Harvard Business Review, Jan-Feb 2017.

Except, that is not ... and they are missing the point !

Trust vs Trustless

Is it all about trust?



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Trust vs Trustless

The Blockchain future is here and now

- Contracts are control/anticipations over situations or human attitudes
- Intermediaries and oracles are a security feature for Smart Contracts
- Smart contracts are not a substitute of all contracts but an enhancement of the actual contracts (i.e. situations where trust cannot reasonably be achieved)
- Digital transition is about adoption not assimilation motivated by cost reduction

Blockchain and IP applications

NFT & copyright restrictions

- Non-fungible tokens (NFTs) rising in popularity based on Blockchain as a decentralised ledger for digital assets transactions: digital receipts for digital services recorded on a Blockchain.
- NFT cannot be replicated and are unique which allows for remarketing market after the first sale (provided that the licence authorizes it).

Blockchain and IP applications

Smart contract user case: TM registrations

- Client KYC and opening file
- Client payment (transaction)
- Client IP verifications (previous registrations, similarities etc.)
- Drafting of registration filing
- Client approval
- Official fees payment (transaction)
- Filing of documents
- Sending of filing proof to client

Blockchain and IP applications

Smart contract user case : TM registrations

```
if client_paid_fees = true
then
check_KYC(client)
open_file(client)
IP_verifications(client)
draft_of_registration_filing(client)
approve(client)
pay_official_fees(client)
fill_documents(client)
send_or_fill_proof_to_client(client)
end if
```

Thank you!

