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Phone : +91 94896 71437 - info@iledu.in / Chairman@iledu.in

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LEGAL CHALLENGES IN OPEN-SOURCE SOFTWARE AND IPR

AUTHOR - AMBRESH KUMAR PATEL* & C.S. MONICA SURI**

* STUDENT AT AMITY LAW SCHOOL, NOIDA

** ASST. PROFESSOR (GRADE-III) AT AMITY LAW SCHOOL, NOIDA

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ABSTRACT

The rapid growth of open-source software (OSS) has revolutionized the technology landscape, offered immense collaboration opportunities and fostering innovation. But there are a lot of IP issues with OSS because of how open it is. Considerations regarding copyright protection, licensing intricacies, patent rights, and guaranteeing conformity with diverse IP laws across nations are among these obstacles. The ownership and allocation of rights becomes more complicated in open-source projects due to the frequent involvement of different contributors. There are concerns over the enforceability of intellectual property rights when proprietary software and open-source contributions come together. To help open-source software developers navigate the intellectual property (IP) hurdles they encounter, this article looks at the laws that regulate these issues and offers advice on how to keep the OSS community's spirit of transparency and cooperation alive while protecting IP rights.

KEYWORDS - Software development, source code, licensing methods, open-source software, and intellectual property rights

INTRODUCTION

Open-source software (OSS) has become a cornerstone of modern technological advancement, driving innovation, collaboration, and cost-efficiency across industries. By facilitating collaborative development and providing open access to source code, the OSS model gives programmers the freedom to alter, distribute, and expand upon preexisting codebases. Strong and scalable software solutions, made possible by the widespread availability of technology, now run everything from personal apps to multinational corporations.

But there is a myriad of IP issues that come with the fundamental openness of OSS. Because of the interconnected nature of contributions in an open-source setting, issues of copyright, patent rights, and licensing agreements are magnified. There is a fine line to walk between encouraging innovation and safeguarding intellectual property rights when proprietary software and open-source software coexist; disagreements about ownership, compatibility, and legal compliance are common. Examining the ways in which open-source software development faces complex intellectual property (IP) difficulties, this article explores the ways in which licensing models, industry practices, and legal frameworks all interact with one another. It aims to provide insights into navigating the complicated IP environment in the OSS ecosystem by analyzing real-world scenarios, which in turn shed light on the growing nature of these difficulties.

DEFINITION

In an "open source" software licensing model, the program's source code is normally made accessible to users 'royalty-free, with conditions permitting additions, changes, and

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redistribution—though frequently with limitations. Through commercial agreements, many different types of businesses can provide software services such as support, training, upgrades, and more. Although it is not always the case, many people work together to build open-source software, each bringing their own unique skills and knowledge to the table. Software companies are increasingly providing programs and paid programming time to the open-source community.

Owners of literary and artistic works, inventions, designs, names, symbols, and pictures utilized in commerce are legally protected by what is known as intellectual property rights. This includes authors, artists, and inventors. Authors are able to benefit from their works and prevent others from utilizing them without their consent because to these rights.

OPEN SOURCES SOFTWARE

The standard view of IP holds that in order to encourage the production of new works, creators require some form of protection. Without this safeguard, imitators would have an easy time stealing their ideas, which would discourage them from spending money and effort on innovation. So that creators can earn money, intellectual property rules either stop or postpone copying. This conventional wisdom is being challenged by open-source software. The goal of open-source software is not to maximize profits through the exploitation of intellectual property rights, but rather to keep software free and available to everyone. Instead of making money off of the product itself, open-source software developers may find success with associated services, such as consulting. Disagreements have arisen around the open-source paradigm. Others view it as a deviation from the profit-driven market system, while proponents of the new kind of cooperation say it has the potential to spread to other fields. Economists investigate whether individuals work on open-source projects for monetary compensation from companies that gain indirectly, or if their motivation is more altruistic, such as a desire to learn or gain respect from their peers.[1]

Copyrights and patents are common ways to safeguard software as intellectual property. The two have distinct functions, yet they both have the common goal of protecting innovators' work from unauthorized use. Copyrights safeguard the outward manifestation of an idea, such as the code, but do not safeguard the ideas themselves. Software programs are copyright protected literary works according to the TRIPs agreement of the World Trade Organization. This means that the owner of the copyright can prevent anyone from using, copying, selling, or distributing the program without their permission once it has been produced and documented. Trade secret laws, which serve to conceal specific information, are another kind of software protection alongside copyrights. Additionally, software's technical components can be protected through patents. Software can also be protected by other legal means, such as trademarks, technical protection measures, and licensing. It is not necessary for developers to employ all possible protection techniques; they are free to select and choose.

INTELLECTUAL PROPERTY RIGHT CHALLENGES IN OPEN-SOURCE SOFTWARE AND CASE LAW [2]

COPYRIGHT ISSUES

Software IP protection has been a hotly debated subject among lawmakers, computer scientists, and attorneys ever since the advent of writable media and high-level programming languages made software creation, adaptation, and reproduction possible. Under copyright law, the sole proprietor has the limited but exclusive right to make copies of their work. It is considered copyright infringement when someone else makes a copy of someone else's work without the owner's permission. One important idea in OSS is copyleft, which lets programmers share their code but makes any changes or derivatives open-source too, under the same licenses. The old copyright system, in which writers limit who can duplicate and distribute their works, is distinct from this. The

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General Public License (GPL) is a common license used by open-source software (OSS) developers to control the use, modification, and distribution of their software.

When thinking about software sharing, it's crucial to consider the connection between public access and copyright protection. The open-source paradigm, according to OSS advocates, can solve the problem of proprietary software limiting society benefits by making software accessible to more people. **SCO v. IBM Case**[3],SCO claimed that IBM breached copyright and trade secret laws by unlawfully integrating proprietary UNIX code into the open-source Linux OS. A license for the UNIX code was required by SCO from Linux users. The court's decision highlights the power of copyright laws to enforce open-source licenses by ruling that 326 lines of code in the Linux kernel were proprietary. Even in an open-source setting, copyright rules are used to safeguard software creators' rights, as this case shows**.**

SOFTWARE SOURCE CODE IS PROTECTED BY COPYRIGHT LAW, WHICH SERVES TWO PURPOSES IN THE CONTEXT OF OSS

- **Preservation of Original Work**: Legal protections afforded by copyright law enable creators to exercise agency over licensing terms and conditions.
- **Compliance Monitoring**: Enforcing compliance with open-source licenses can be challenging, especially when users violate the terms of the license, whether knowingly or not.

In the well-known case of **Jacobsen v. Katzer, [4]** In a decision that affirmed the copyright enforcement of open-source licenses, a U.S. court recognized the monetary and reputational harm that results from non-compliance.

PATENT ISSUES

The Open-Source Community's Software Patent Concerns

Many in the open-source software (OSS) movement hold patents for software in low regard. Supporters of open-source software argue that the present patent system is necessary because of the success of OSS. Particularly in the context of software development, they believe a comprehensive evaluation of the patent system is required. Software patents are believed to pose a significant danger to the creation and distribution of open-source software**.**

THE OPEN-SOURCE COMMUNITY'S FEARS ABOUT SOFTWARE PATENTS

The open-source software (OSS) movement tends to be wary of software patents. The success of open-source software, according to OSS advocates, indicates that the patent system is necessary. They believe the patent system needs a complete overhaul, particularly as it relates to software engineering. Many believe that software patents pose a significant risk to the creation and distribution of open-source software.

FREE AND THE MODEL OF OPEN-SOURCE SOFTWARE LICENSING

A license model that allows software to be freely altered and redistributed has been devised by the open-source community as a reaction to these challenges. Software source code should be freely available to the public so that it can be distributed and modified without expensive licenses, according to this idea. The GNU General Public License (GPL) is one such license that requires any software modifications to be shared under the same license. "Copyright" is the process that ensures software sharing and modification rights are maintained.

ISSUES WITH OSS PATENT PROTECTION

The fact that it provides a cheaper alternative to expensive proprietary software licensing is one of the key benefits of OSS for customers. Nevertheless, this benefit could be rendered useless if patents are granted for methods that are encompassed by the code. When source code is distributed under an open-source license, the ability to patent its methods is

usually invalidated, which lessens the value of patent protection. Due to the time and effort needed to manage patent sharing, many of the open-source community would prefer not to have patent protection at all. It is damaging to the open-source idea and they think it is unnecessary.

Patents are a major problem for open-source software since they protect the working portions of programs. The OSS community as a whole and individual contributors could be at risk of legal action in the event of an unintentional patent infringement.

As an example, the complex connection between open-source software (OSS) and patents was highlighted by the famous Google–Oracle legal battle over Android's usage of Java APIs.

TRADEMARK CHALLENGES

In open-source software (OSS), trademarks serve to safeguard a project's reputation. Brand dilution or confusion can result from the unauthorized use of trademarks. It is still difficult to strike a balance between trademark protection and the open spirit of OSS.

Example: The Mozilla Foundation's strict control over the Firefox trademark while allowing the source code to be freely used exemplifies this tension.

Due to its descriptive nature, the word "open-source" cannot be used as a trademark for software. The Open-Source Initiative (OSI) has developed the OSI Certified certification mark in response to consumer demand for a credible method to determine if software is actually open-source. This seal attests that the open-source license has been publically and OSI-approved, and that it satisfies the Open-source Definition. Instead of highlighting a particular software product, certification marks highlight the open-source philosophy. This permits greater leeway and shared accountability amongst developers while sidestepping certain problems with trademark law, such as keeping tabs on the mark and making sure it's being used correctly.

COMPATIBILITY OF LICENSES

Incorporating code from many sources, each with their own license, is a common practice in open-source software (OSS) projects. When these licenses aren't compatible, it can limit who can use or distribute the program. Combining proprietary and GPL code, for example, can lead to a number of practical and legal complications.

CONTRIBUTOR AND GOVERNANCE AGREEMENTS

When there aren't explicit contributor agreements and governance structures in place, disagreements may emerge around who owns what and how much. Contributor License Agreements (CLAs) are commonly used to address such issues, but they can also discourage involvement.

MORAL RIGHTS

Since open-source software projects prioritize visibility and acknowledgment over monetary compensation, moral rights play a significant role in this space. Some nations' legal systems protect these rights, whereas others either ignore them or provide programmers the option to forego them. There are jurisdictions that set restrictions on software developers' moral rights. In India, for instance, there is a copyright law that recognizes the right to be named as the author and to safeguard the work's integrity, but it restricts this safeguard when changes are done for compatibility or backup purposes.

There may be more safeguards for open-source software in nations that acknowledge moral rights. While the open-source license may permit alterations, the author may assert moral rights in Germany to prohibit such modifications. In some cases, this allows the creator to prevent others from making changes to the program.

OPEN-SOURCE SOFTWARE'S EFFECT ON INTELLECTUAL PROPERTY

Intellectual property has been greatly affected, particularly in the software development and

distribution industries, by open-source software, which permits everyone to access, alter, and share the code without limitations. In contrast to the old approach, where businesses kept their source code secret and collected licensing fees, open-source software encourages cooperation and innovation by making the code accessible to consumers. On the other hand, because open- source code is freely available for everyone to copy and share, it can make it more difficult for companies to safeguard their intellectual property. Firms whose revenue model is dependent on their software will find this especially difficult. However, there is a method to safeguard intellectual property using open-source licenses. To protect the rights of the original creator, some licenses stipulate that any changes or derivative works must also be released under the same license.

When it comes to intellectual property, open-source software is generally a mixed bag. Although it encourages teamwork and new ideas, it poses problems for IP protection and conventional software development practices. Consequently, companies should think long and hard about the effects of open-source software on their IP and look into other forms of IP protection.[5]

RECENT DEVELOPMENTS COMPLEXITIES OF LICENSING AND COMPLIANCE

Distribution of OSS is governed by a variety of licenses, each with its own set of conditions and limitations. The MIT License is an example of a permissive license; it allows for extensive use with minimal restrictions and typically only requires attribution to the original authors. Copyleft licenses, such as the GNU General Public License (GPL), stipulate that modified versions of the software must be distributed under the identical license conditions in order to maintain the software's open-source status. To avoid legal trouble, it is critical to understand and follow these licenses. Failure to comply may lead to intellectual property infringement claims, which in turn can cause legal trouble and financial responsibilities.[6]

REUSING CODE AND VIOLATIONS OF COPYRIGHT

The collaborative nature of OSS encourages code reuse, which is beneficial yet raises concerns about copyright infringement. Developers run the risk of legal trouble if they integrate proprietary code into open-source projects by accident. To mitigate these risks, it is essential that any code contributions be compliant with license requirements and do not violate any copyrights that may already be in existence.

RISKS ASSOCIATED WITH PATENTS AND COUNTERMEASURES

Within the OSS ecosystem, patent-related concerns hold significant weight. Patent trolls, groups that acquire patents for the express purpose of profiting from litigation rather than invention, pose a threat to open-source software initiatives. To protect themselves from baseless claims of patent infringement, organizations might take defensive measures including joining patent pools or entering into cross-licensing arrangements.

TRANSPARENCY AND OPEN-SOURCE AI

As open-source AI has grown in popularity, new concerns about intellectual property have emerged. Full code access, transparency in training data, and disclosure of training weights and settings are all things that the Open-Source Initiative (OSI) has outlined as principles for "open" AI. "Open washing," in which companies claim their products are open source but don't actually adhere to open-source standards, is what this move is aimed at preventing. For instance, due to commercial constraints and an absence of publicly accessible training data, Meta's Llama model has been criticized for not meeting OSI's open-source criteria.[7]

FINANCIAL AND ETHICAL CONSEQUENCES

The aggressive data scraping strategies employed by AI firms such as Open AI and Anthropic have increased the operational costs for small website owners. Without compensation, these entities experience

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increased bandwidth demand and server pressure, which raises ethical questions about the responsibilities of large AI companies towards smaller digital entities.[8]

ABUSE OF THE LABEL "OPEN-SOURCE"

A rising tide of people are worried about the term "open-source" being misused. Meta and other companies have drawn criticism from the Open-Source Initiative (OSI) for marketing their artificial intelligence models as open source while in fact they do not fully comply with open-source principles. Deceiving users and compromising the integrity of the open-source community are two possible outcomes of such acts.

RECOMMENDATIONS

The following actions are suggested in order to remedy these issues:

1. Global Standardization: Bringing together worldwide regulations on IPR and OSS licensing.
2. Education and Awareness: Raising OSS users 'and contributors 'knowledge of the significance of IPR.
3. Sturdy Contributor Agreements: Creating precise contracts that outline accountability and duties.
4. Patent Reform: Implementing changes to lessen the possibility that OSS would be the target of baseless patent claims.

CONCLUSION

Software development has been transformed by the open-source software (OSS) concept, which promotes innovation, cooperation, and broad accessibility. Copyright, trademarks, patents, and license compliance are just a few areas where its transparency presents special difficulties in IP protection. These difficulties emerge as a result of the interplay between various legal systems, the ever-changing character of open-source software projects, and the necessity to strike a balance between transparency and the preservation of artists' rights. Discussions around open-source software (OSS) revolve around copyright issues, particularly as they pertain to copyleft licenses, which cast doubt on developers' ability to make changes and redistribute code. The open-source community is also vulnerable to software patents, which can limit innovation due to the dangers of patent violation. Even though trademark issues are rarely brought up, they are important since open-source software projects still need to handle brand management while staying true to their open-source principles.

Developers and organizations must be careful to ensure compliance with the licensing models, especially with the intricacies of copyleft and permissive licenses. The proliferation of open-source AI also poses new intellectual property (IP) difficulties, such as software "open washing," which threatens the very foundations of the open-source movement.

Global harmonization of open-source software (OSS) IP rules, improved developer understanding of their IP rights, stronger contributor agreements, and patent reforms are all necessary to lessen the impact of these threats. By following these measures, we can make open-source development a more stable and long-lasting place, where artists' rights may be protected and the spirit of collaboration and innovation can flourish.

Taking all of this into account, it's easy to see how open-source software has a huge effect on IP law, which in turn affects software development trends and the overall state of digital innovation. The open-source software (OSS) community may maintain its success while protecting intellectual property by responding to current legal obstacles and taking preventative actions.

It is crucial for businesses and developers to stay updated on intellectual property concerns and best practices as the open-source landscape keeps changing. Stakeholders can effectively negotiate the complexity of intellectual property in open-source software

development by establishing clear standards for license compliance, actively managing patent risks, and communicating with the larger OSS community. Adopting these practices can keep the open- source ecosystem thriving with new ideas and partnerships while safeguarding people's rights.

REFERENCES

1. Mark A. Lemley and Ziv Shafir, Who Chooses Open-Source Software, Vol. 78, No. 1 (Winter 2011), The University of Chicago Law Review, pp. 139-142, 2011

2. Eric Ludwig, Open-Source Software: Licensing Compliance, and Intellectual Property Issues, Ludwing APC, https://ludwigiplaw.com/open-source-software-licensing- compliance-intellectual-property-issues/.

3. Aaron Hall, The Impact of Open Source on Intellectual Property Rights Explained, https://aaronhall.com/the-impact-of-open-source-on-intellectual-property-rights-explained/.

4. https://www.theverge.com/2024/10/28/24281820/open-source-initiative-definition-artificial-intelligence-meta-llama.

5. Darius Rafieyan, like digital locusts, Open AI and Anthropic AI bots cause havoc and raise

6. Jacobsen v. Katzer, 535 F.3d 1373 (Fed. Cir. 2008).

7. Oracle America, Inc. v. Google Inc., 886 F.3d 1179 (Fed. Cir. 2018).

8. European Commission, "Open-Source Software Strategy 2020-2023," available at EU Website.

9. Mozilla Foundation, "Trademark Policy," available at Mozilla Website.

10. Karen Sandler, "Copyleft Compliance," Software Freedom Conservancy, 2020.

11. 4JusCorpusLJ46 (1).pdf

12. **Lerner, J., & Tirole, J. (2005).**" The Scope of Open Source Licensing." *The Journal of Law, Economics, and Organization, 21*(1), 20-56.

13. **Graham, M., & Roberts, D. (2013).**" Open Source Software Licensing: Software Freedom and Intellectual Property Law." *Prentice Hall.*

End notes

1. Mark A. Lemley and Ziv Shafir, Who Chooses Open-Source Software, Vol. 78, No. 1 (Winter 2011), The University of Chicago Law Review, pp. 139-142, 2011

2. Aayush Garg & Nisha, Open-Source Software and Intellectual Property Rights, 4 JUS CORPUS L.J.

3. SCO Group, Inc. v International Business Machines Corp. 879 F.3d 1062

4. Jacobsen v. Katzer, 535 F.3d 1373 (Fed. Cir. 2008).

5. GLOBAL INTELLECTUAL PROPERTY CONVENTION, Intellectual Property Challenges in the Digital Age – GIPC, (last visited Jan. 20, 2025).

6. Eric Ludwig, Open Source Software: Licensing Compliance,& Intellectual Property Issues, LUDWING APC (Jan. 20, 2025, 1:16 PM), https://ludwigiplaw.com/open-source-software- licensing-compliance-intellectual-property-issues/.

7. Kylie Robison, Open- Source AI must revel its costs for websites, BUSINESS training data, per new OSI definition/ Meta's

Llama does not fit OSI'S new definition,20th January 2025, 1.29 PM, https://www.theverge.com/2024/10/28/24281820/open-source-initiative-definition-artificial-intelligence-meta-llama.

8. Darius Rafieyan, Like digital locusts, OpenAI and Anthropic AI bots cause havoc and raise costs for websites, BUSINESS INSIDER, (Jan. 20, 2025, 1:36 PM) https://www.businessinsider.com/openai-anthropic-ai-bots-havoc-raise-cloud-costs-websites- 2024-9.