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A Comparative Study of Legal Protection Mechanisms for Architectural Works in Light of Moral Rights in Iranian, French, and German Law

1. Masoomeh. Mobarakian[1] : Ph.D. student, Department of Law, CT.C., Islamic Azad University, Tehran, Iran
2. Morteza. Shahbazinia[2*]: Associate Professor, Faculty of Law, Tarbiat Modares University, Tehran, Iran
3. Sattar. Zarkalam[3]: Associate Professor, Department of Law, Shahed University, Tehran, Iran

*corresponding author's email: shahbazinia@gmail.com

ABSTRACT

Intellectual property rights are among the fundamental and significant rights of every individual in society. Today, with the increasing expansion of inventions, discoveries, authorship, and intellectual and cultural productions, the scope and influence of these rights have grown remarkably. Moreover, in advanced and democratic societies, intellectual property rights are placed alongside other inherent and inalienable human rights, such as the right to life and the right to freedom. The aim of the present study is to examine the characteristics of moral rights afforded to the creators of architectural works. The research method is descriptive-analytical and relies on library-based sources. Findings indicate that in Iranian law, architectural works fall under the general protection of intellectual property and copyright law; however, the concept of moral rights in architectural creations has not yet been fully developed. In this respect, architects are entitled to rights such as attribution and the prevention of distortion or alteration of their designs, although the practical enforcement of these rights faces numerous challenges. In France, the moral rights of architectural works are fully and clearly protected, with an emphasis on safeguarding the identity of the creator. French moral rights include the right of attribution, the right to object to distortion or modification, and the right to preserve the integrity of the work. These rights remain independent of the material ownership of the work, and the architect continues to enjoy them even after transferring ownership of the design. In Germany, the moral rights of architectural designs are likewise protected under copyright law, with an emphasis on the principle of safeguarding the authenticity and integrity of architectural works. In this country, architects may invoke their moral rights to oppose unauthorized alterations to their works and have the right to be identified as the creator in all subsequent uses of their designs. Ultimately, this comparative analysis demonstrates that while France and Germany possess advanced systems for the protection of the moral rights of architectural works, Iran is still in the process of developing a more comprehensive legal framework in this regard. The aforementioned countries provide more extensive and structured protection for architects and their architectural works compared to Iran and may serve as valuable models for the enhancement of the Iranian legal system in the domain of moral rights in architectural creations.

Keywords: *Moral rights, architectural works, architectural designs, intellectual property, French law, German law.*

Introduction

Most countries around the world recognize legal rights for the creators of building plans and architectural designs within their intellectual property systems (1, 2). Knowledge, skill, the use of technology, and innovation in creating

architectural drawings and designs have led to the recognition of certain rights for architects under intellectual property law (3). The legal protection of architectural works covers their external appearance and façade, regardless of the method of construction, purpose, materials used, or quality of workmanship (4). Architects and engineers depend on copyright law to protect their original works (5). Regarding protection, there are differing views: some believe that a design must be executed to qualify for protection, while others hold that the submission of a plan, model, or drawing is sufficient for protection without actual construction. The comparative analysis of literary and artistic property laws related to architecture in most countries shows that execution of the design is not necessarily a prerequisite for protection (6).

Architectural works typically consist of plans, designs, drawings, and models that form the basis for completed structures such as buildings, bridges, and other constructions. The term “architectural works” appears in the non-exhaustive list of literary and artistic works under Paragraph 1, Article 2 of the Berne Convention (5). The extent of legal protection for architectural designs, plans, and structures varies across legal systems (7). Some jurisdictions extend copyright protection for architectural designs and technical drawings to the actual constructed buildings (8). In Iran, the *Law on Translation and Reproduction of Books, Publications, and Audio Works* (1973) primarily protects translated works. The *Law on the Protection of Computer Software Creators* (2000) and its Executive Regulation (2004) were enacted to protect software developers and classify software as literary works (9). Architectural designs are sometimes created using design software and are therefore also covered under this law. Likewise, the *Electronic Commerce Act* of 2003 sought to safeguard intellectual property rights in electronic transactions. Accordingly, architectural works in the form of plans and designs are recognized and protected under Iranian law (10).

The exclusion of architectural ideas and concepts from literary and artistic copyright protection does not imply that the ideas of a person can be freely exploited by others. Rather, the creator of an idea may protect their rights under civil liability and, particularly, through the principles of competition law (11). The distinction between an idea and its expression is often difficult to determine; therefore, some legal systems have allowed limited protection for ideas under competition law in specific cases.

Article 1 of the 1969 Iranian Copyright Law does not explicitly address the non-protection of ideas; however, it stipulates that the emergence, expression, and creation of a work are prerequisites for legal protection. Hence, works that remain at the idea stage without an external manifestation are not protected. Paragraph 12 of Article 2 and Paragraph 8 of Article 2 of this draft bill refer to the protection of architectural and artistic works. Designs that are neither new nor original, those resulting solely from technical functions, or those containing official symbols or contrary to public order and morality are not eligible for protection (12). With respect to painting, the legislator has provided limited protection in specific articles. Considering the broad scope of architectural works, including painting, sculpture, and numerous technical and artistic creations, these elements collectively constitute an architectural work. Such works can be protected as architectural works or as independent creations, provided that legal conditions for protection are fulfilled. Based on the above discussion, the purpose of this study is to examine the characteristics of moral rights of the creators of architectural works.

Conceptual Explanation of Moral Rights

Moral rights do not protect the material interests of the creator but rather safeguard their personal connection to the work as an expression of their individuality (13). Under the author’s rights system, moral rights include the right of disclosure, the right of authorship, the right to integrity, and the right of withdrawal or retraction (14). In the case

of architectural works, modifications such as reconstruction or alteration without the creator's consent are permissible only when required by technical considerations or the nature of use (5).

Moral rights are not limited by time or place and are non-transferable. Even if economic rights are transferred, the assignee must credit the creator when exploiting the work (9). Under Iranian law, non-transferability and the absence of temporal or spatial limits are considered defining characteristics of moral rights (1). To ensure and preserve both moral and material rights, a *Bill for the Registration of Intellectual Property* has been proposed in cooperation with the Ministry of Culture and Islamic Guidance and the Judiciary, which encompasses all categories of intellectual property rights, including inventions and literary and artistic works (6).

It is important to note that prohibiting changes to a work applies only to those alterations that harm the reputation or honor of the creator. Iranian law requires the consent of the author for any form of modification. Regarding the destruction of works, legal systems and judicial practices differ in their interpretations. Article 19 of the *Law on the Protection of Authors, Composers, and Artists* (1969) prohibits any alteration or distortion. In cases of infringement, general civil liability principles apply: anyone who damages another's property, liberty, reputation, trade name, or any other legally protected right, thereby causing material or moral harm, is liable for compensation (15). Recourse to general legal principles is therefore effective in such matters.

Considering the scope of moral rights—which include the right of attribution, the right to publish or withhold publication during the creator's lifetime, and the exclusive right to determine the fate of the work—after the death of the creator, moral rights cannot be transferred. Heirs have no right to publish the work under their own name or to omit the creator's name. Although they may exploit the economic aspects of the work through publication and distribution, they cannot alter or withdraw it. What is transferred to heirs or legatees is the duty to preserve the creator's moral reputation and integrity, not the ownership of moral rights in the conventional sense (9).

German Law

Regarding the duration of moral rights, Article 6bis of the Berne Convention stipulates that such rights endure after the death of the creator for as long as the economic rights subsist, which is 50 years posthumously, while also granting member states the discretion to terminate moral rights upon the creator's death in accordance with their domestic laws (16). Article 6bis of the Berne Convention identifies moral rights as those belonging to the reputation, personality, and honor of the author. It obliges member states to recognize the author's right of authorship and the right to object to any distortion, mutilation, or modification of the work that would prejudice their honor or reputation (8). Under the final part of Article 9 of the *Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)*, members of the World Trade Organization (WTO) are not obligated to recognize or enforce moral rights under Article 6bis of the Berne Convention (17). However, when a country is a member of both the WTO and the Berne Union, the obligations of the Berne Convention remain binding, as the TRIPS Agreement does not diminish such pre-existing commitments (1).

Moral rights in German law include the rights of publication, attribution, and integrity of the work. The creator has the exclusive right to determine whether and how their work is made public and retains the right to be identified as the author, including the choice of whether their name appears on the work (18). These rights are not geographically limited and can be exercised in any jurisdiction that recognizes such protections. The right to prevent false attribution also allows a creator to oppose any misrepresentation that attributes to them a work they did not create.

According to Article 12 of the German Copyright Act (*Urheberrechtsgesetz*), the author has the exclusive right to decide whether and how their work will be published. Article 13 further provides that the author has the right to be identified as such and to decide whether the work shall bear their name and in what form. Article 14 grants the right to object to any distortion, modification, or other impairment of the work that may endanger the author's legitimate personal or moral interests (18).

The concept of moral rights in architectural design under German law is governed by specific statutes that protect architectural works as artistic and creative products (19). Moral rights in this legal system emphasize the creator's right to preserve the identity and integrity of their work, which cannot be completely waived or transferred. In other words, even if ownership of the physical architectural work is transferred, the author retains the right to protect it against unauthorized alterations or distortions (5). Architectural works in Germany are treated as artistic creations under copyright protection, encompassing both the right of attribution and the right to the integrity of the work (4).

The right of attribution ensures that the architect or designer is recognized as the creator, and this right persists even after the sale or transfer of the material ownership of the work. No person may alter or use the architectural work in a manner that damages its authenticity or the reputation of its creator (15). Another key feature of moral rights in German law is the broad right to prevent alterations or distortions. Architects may prohibit any manipulation or modification of their works that undermines their originality or diminishes their artistic identity, even when such changes occur in projects incorporating the architectural design (12).

In addition, German law affords heightened protection to architectural works possessing artistic merit, including exceptional building designs, bridges, or other structures that embody creativity and innovation (3). Moral rights allow architects to safeguard their works against any unauthorized or inappropriate use. Significantly, moral rights always coexist with economic rights; even if the latter are transferred, moral rights remain vested in the creator. This principle is particularly important in large-scale urban development projects, where architects must ensure that their designs are used fairly and in accordance with their creative intent (2). Ultimately, moral rights in German law serve as a vital instrument for protecting the personal and artistic identity of architects and ensuring the integrity of their works. These provisions support both the artistic and functional aspects of architecture, enabling architects to defend their creations against unauthorized alterations and infringements (1).

French Law

Article 121-1 of the French *Intellectual Property Code* affirms that the author enjoys the right to respect for their name, authorship, and work. This right is personal, perpetual, inalienable, and imprescriptible. Upon the author's death, moral rights are transferred to their heirs, and their exercise may be entrusted to a third party designated in the author's will (4). Only the author has the exclusive right to publish their work and determine the conditions of such publication. After the author's death, this right may be exercised by the persons designated in the will, or, in their absence, by the author's descendants or spouse, provided that no legal judgment of separation or remarriage invalidates this authority. Heirs who are not descendants but inherit part or all of the estate, or those to whom the entire estate has been gifted during the author's lifetime, also inherit these rights under Article 121-4 (20).

This right may be exercised even after the expiration of economic rights. The author, despite transferring exploitation rights to others, retains the right of withdrawal or reconsideration, provided that any damages resulting from exercising this right are compensated. Should the author later decide to republish the work, they must first offer the exploitation rights under the same conditions to the original transferees (12).

In the case of audiovisual works, completion is deemed to occur when the final version is approved jointly by the performer, the co-author (if any), and the producer. The destruction of the original version is prohibited, and any alteration—whether by addition, deletion, or modification—requires the consent of all parties involved. Similarly, the transfer of an audiovisual work to a new format for alternative modes of exploitation is subject to prior consultation with the performer (17).

Regarding software, unless otherwise agreed and provided it does not harm the author's honor or reputation, the author cannot prevent necessary modifications made by lawful transferees of rights (7). In the context of architecture, alterations such as reconstruction or modification of a work without the creator's consent are permissible only when dictated by technical necessity or the nature of use (5).

Moral rights are unlimited in time and space and are non-transferable under Iranian and French law alike (9). Even when economic rights are assigned, the transferee is obligated to acknowledge the creator's name when using the work. The non-transferability and unlimited duration of moral rights are well-established features of Iranian and French jurisprudence (1). In both legal systems, moral rights remain inalienable during the creator's lifetime and pass to heirs or executors after death. The right of paternity entitles the author alone to decide whether their real or pseudonymous name appears on the work or any reproductions thereof. The right of integrity allows the creator to object to any alteration, distortion, or modification of the work's content, form, title, or distinctive elements without consent (8).

Although the destruction of a work is not explicitly prohibited under French copyright law, judicial precedents have held defendants liable for damages in such cases (15). In French law, the moral rights of architectural works are explicitly protected under copyright law. These rights enable the architect to identify themselves as the creator and to safeguard their work from unauthorized modifications or distortions. They persist even after the sale or transfer of material ownership, ensuring the architect's continued association with the work (19).

The right of attribution, one of the fundamental moral rights, ensures that the architect's name appears in connection with every use or reproduction of the design. The right of integrity allows the architect to prevent unauthorized alterations that may affect the authenticity or artistic value of the work. This protection is particularly vital for prominent architectural works with significant creative and artistic merit (3). Even when ownership of the architectural design is transferred, the moral rights remain with the creator, enabling them to prevent misuse or distortion (2).

These provisions aim to preserve the artistic integrity and cultural value of architectural works, ensuring that architects can resist unauthorized alterations or exploitations of their creations. Thus, moral rights in French law serve not only as mechanisms for safeguarding the personal identity of architects but also as instruments for upholding the broader cultural and artistic values of society (1).

Moral Rights of the Author: Attributes of Moral Rights

Moral rights (ethical rights) of the author have the following characteristics:

Inalienability

Moral rights pertain to the personality of the creator; intellectual works arise from the mental creations of human beings and reflect their personality. Personality rights fall outside the realm of commerce (not because they lack pecuniary value) and are inalienable (10). The nature and purpose of moral rights require—like other personality

rights—that they be inalienable and outside the sphere of trade. In other words, they cannot be transferred to another by contract. Transfers of economic rights have no effect on the observance of moral (ethical) rights, and any transferee is, by operation of law, obliged and committed to respect the creator's moral rights.

This is also explicitly stated in Article 4 of the *Law on the Protection of Authors, Composers, and Artists*. On this basis, under German law, and pursuant to Paragraph 3 of Section 21 of the German Copyright Act, the moral rights in architectural works are non-transferable (19).

Absence of Temporal and Territorial Limits

The creator's moral rights are not limited by time; therefore, they are perpetual and do not lapse with the passage of time. Moral rights are considered the continuing bond between the creator and the work. They are also not limited territorially; that is, the creator's domicile, or the place of publication or dissemination of the work, or any other geographical factor has no effect on them.

It should be noted that the protection of the creator's personality requires that their moral rights be exercised after death by those who succeed to the creator. Given that heirs continue the personality and safeguard the dignity of the creator, the exercise of moral rights after the author's death belongs to those who inherit the creator's economic rights. Of course, the heirs' powers regarding moral rights are more limited than those the creator personally possessed.

The creator's moral prerogatives must be used for the decedent's moral interest, not for the heirs' benefit. Consequently, any act by heirs or anyone else that harms the creator's scholarly personality or the content of the work is impermissible and unlawful; however, actions aimed at preserving and guarding the form of the work are unobjectionable and do not conflict with the creator's moral rights (6). Hence, some jurists have said that although heirs possess a power of guardianship over the work and a right to the respect of the creator's name and title, their right to publish is not absolute: they may not publish a work the creator wished to keep confidential, nor may they prevent publication of a work the creator intended to publish (13). Some jurists argue that certain rights the author has in relation to their writings are transferable and constitute an exception to the rule of the inalienability of non-pecuniary rights. The supposed evidence is the discretion heirs have regarding the author's writings to grant publication and exploitation to whomever they wish. However, the author's right can be analyzed as two distinct rights:

1. The right to publish and exploit the work, which is pecuniary and, like other assets of the author, passes to the heirs; and
2. The moral right in the work, which is exclusive to the author and is in fact part of their personality. Heirs may exercise the moral right as it stands, but the right itself is not transferred to them. Thus, while the author may radically revise, contradict earlier theories, or even destroy the work, the heirs have no such power; their duty is to preserve the legacy and, through the enforcement mechanisms of the law, enjoy its pecuniary benefits (6).

In German law, the moral rights in architectural works, pursuant to Paragraph 5 of Section 21 of the German Copyright Act, are not limited in time or place; they are always preserved (15).

Accordingly, moral rights pass to survivors in the form of a duty, and this does not constitute an exception to the rule that non-pecuniary rights are inalienable.

Comparative Examination of the Protection of Intellectual Property in Architectural Designs

In this section, we undertake a comparative analysis of how legal protection of intellectual property related to architectural designs is afforded in German and French law.

Protection of the Intellectual Property of the Architectural Author in German Law

Although the legislature may extend *ownership* beyond its traditional domain, it is not obliged to do so. The institutional guarantee in Article 14 of the Basic Law (GG) covers only material property and does not compel the legislature to provide property-type rights outside that sphere, nor can it dictate how any exclusive rights should be designed if the legislature elects to create them. Accordingly, rights such as “intellectual property” lie wholly outside the scope of the institutional guarantee. In general, Article 14 GG imposes no duty to create maximal property rights; the legislature need only provide such rights within the bounds of the institutional guarantee and may decide whether to emphasize private ownership in other fields. There is no constitutional mandate to create or preserve property rights in the realm of ideas (21).

Because the legislature is under no obligation to provide property rights, Article 14 GG cannot command the protection and promotion of such rights. Only where the legislature has created rights in favor of owners can a “spillover” effect arise from Article 14 GG, requiring interpretation of those laws to the owners’ benefit. Outside the sphere of the institutional guarantee, relevant protections follow from fundamental rights (7).

In a second step, the court reasoned that copyright law does not fulfill the constitutional requirements of the concept of property unless it is structured so that the financial result of a service is assigned to its creator, thereby qualifying as “private property.” This reasoning is not decisive. The Federal Constitutional Court initially evaluated enforceable copyright as “property,” then recognized that enforceable copyright cannot be assessed as such unless and to the extent the legislature has so prescribed. Properly understood, intellectual property rights fit within the institutional guarantee of Article 14 GG only insofar as they are *positively created* by statute (7).

As a matter of legal policy, the use of criminal law against large-scale copyright infringement—often linked to organized crime—is necessary; conversely, criminal law should not be used against end-users who infringe privately. Civil-law protection generally exceeds criminal-law protection: while §§ 97 et seq. UrhG provide broad civil defenses, damages, and other claims against any form of infringement, criminal law chiefly protects exploitation rights and, by reference to civil provisions, is considered “civil-law-primary.” In practice, criminal sanctions in Germany for protecting the rights of the creator of a painting incorporated into an architectural work appear available chiefly where the work is misused publicly, exploited extensively without authorization, or used on a very broad scale in a structure without prior coordination with the right holder (21).

In light of the foregoing, German law employs highly systematic mechanisms to safeguard intellectual creations, so that once one deficiency in the protection of creators of paintings used in architecture is prevented, other deficiencies are likewise recognized by law and backed by default remedies. As the German Copyright Act—particularly its later provisions—underscores, any use of the author’s work requires the author’s consent, and any transfer of rights must be grounded in an enforceable agreement in order for the law to recognize it (15).

In France, protection of the moral rights of performers predates the 1985 *Intellectual Property Code*. Jurisprudence—e.g., a judgment of the Third Chamber of the Paris Tribunal de grande instance on September 27, 1979—has recognized harm to a performer’s artistic reputation and prohibited radio and television broadcasts of a

performance without the performer's explicit consent. With the 1980 legislation, performers' moral rights were expressly protected in Article L.212-2. Under that provision, the performer enjoys the right to respect for name, title, and performance; this right is inalienable and imprescriptible, and it passes to the performer's heirs to protect the performance and the memory of the deceased. Civil-law systems of the Roman–Germanic family (such as France) have paid greater attention to performers' moral rights and sometimes deem them perpetual. Upon France's accession to the WIPO Performances and Phonograms Treaty, natural-person performers obtained rights to the respect of name and performance. In addition, Article 121-5 provides that if a literary and artistic work is fixed in an audiovisual work, any alteration by deletion of one of its elements requires the consent of the author of the literary and artistic work, not the producer of the audiovisual work (3).

The French Intellectual Property Code is silent on certain aspects of fault; accordingly, some French jurists, relying on the fault-based principle of liability, require proof of fault. In older case law, a presumption of fault by the infringer of literary and artistic rights was sometimes accepted, a view endorsed by those jurists. Under this approach, if the defendant proves they could not have foreseen the harmful nature of the act, trial judges may acquit. Article L.332-1 of the French *Intellectual Property Code* provides that where the aim of seizure is to delay or suspend ongoing or previously announced performances or public exhibitions, a special authorization in the form of an order from the president of the tribunal is required. That provision also authorizes various interim measures: suspension of any construction intended to reproduce a work unlawfully; seizure of copies resulting from unlawful reproduction already made or in production; seizure of revenues obtained from such reproduction; and seizure of copies used unlawfully, at any time of day, as well as seizure of revenues from any reproduction, performance, or distribution of an intellectual work used to infringe copyright—subject to the posting of appropriate security if so ordered by the president of the tribunal. Article L.331-1 further allows the president of the tribunal, where the proceeds of exploitation of a creative work are subject to provisional attachment, to order that a portion or percentage of the seized sums be paid to the author as maintenance.

Protection of the Intellectual Property of the Author of an Architectural Work in French Law

Protection of the intellectual property of the author of an architectural work in French law—particularly through copyright (droit d'auteur) and related rights—is deeply structured and comprehensive. French law treats architectural works as artistic creations with unique characteristics and places them under specific legal protections. In this framework, artists, architects, and others involved in creating such works may enjoy exclusive rights over the use and exploitation of their creations (2, 4). Within French law, architectural works fall under copyright protection. This means that architects and designers who create buildings, structures, bridges, and other architectural works hold exclusive rights to use and exploit these works; yet, unlike many other artistic works, architecture is shaped by technical and aesthetic criteria and must be realized within practical and structural requirements. Accordingly, the design of a building or architectural work must comply with building and urban-planning regulations while also incorporating artistic and creative elements in order to qualify for copyright protection (19).

A salient feature of protection for architectural works in French law is the centrality of "moral rights." In France, moral rights—specifically the right of attribution (recognition as the creator) and the right to integrity (to prevent any alteration or distortion that may harm the work's nature and character)—permanently belong to the author. Thus, even after selling the work or transferring the economic rights to others, the architect retains the right to prevent unauthorized changes to the work. This approach ensures that, over time and even upon changes in ownership,

the author's identification with the work and the preservation of its authenticity remain respected (1, 5). Since many architectural works involve multiple contributors, the French system also accounts for collective rights among creators and designers. In other words, architectural rights are often shared among the architect, engineers, and other contributors; each participant enjoys exclusive rights corresponding to their role and receives a proportionate share of economic and moral interests based on their contribution (10).

French law also recognizes the concept of "neighboring (related) rights" to protect those involved in the creation and performance or realization of architectural works—for example, builders and contractors—allowing them, where applicable, to benefit legally from rights related to these works. This is particularly significant for large, multifaceted architectural projects because it enables the recognition and protection of participants who may not directly benefit from moral rights but contribute materially to realization. At the same time, French law provides exceptions to protection of architectural works. In specific circumstances, architectural works may be used for public purposes such as education, research, or public projects without a specific authorization from the right holder; these exceptions are generally discussed under the rubric of fair dealing/fair use, especially where public rights and interests are at stake (7).

Finally, in safeguarding architectural works, French law actively engages with emerging legal issues and technologies such as digital technologies, augmented reality, and monitoring systems designed to protect against copyright infringement and counterfeiting. In the modern marketplace—particularly in online marketing and sales of architectural works—specialized norms are needed, and the French legal system addresses these needs by endorsing advanced monitoring tools to track uses of architectural works and to identify infringements, thereby strengthening the protection of authors' rights. Overall, French law is among the most advanced and comprehensive systems worldwide in protecting architectural works, striving to balance personal and public interests while shielding artistic and creative architectural output from unauthorized exploitation and harmful alterations (3, 17).

Comparative Analysis: Protection of Architectural Designs as Software Subject to Copyright

In this part, we offer a comparative exposition of a specific facet of protecting the intellectual property in architectural designs, namely, treating the architectural design as software subject to copyright under Iranian, German, and French law.

Iranian Law

Article 1 of the *Law on the Protection of the Rights of Computer Software Creators* provides that the name, title, and distinctive mark identifying the software are protected, and no one may use them for another software of the same or similar kind in a way that causes confusion. The statute does not define "computer programs" in that article. Article 2 of the *Executive Regulations for Articles 2 and 17 of the Law on the Protection of the Rights of Computer Software Creators* defines software as a set of computer programs, procedures, instructions, and related documentation, as well as information related to the operation of a computer system, with a specific application recorded on a computer carrier. Note 1 of that article extends the regulation to textual, audio, and visual software products processed with software and prepared and presented as independent outputs. Note 2 clarifies that creating a software operation mentally, or merely expressing a mental creation without drafting the actual program, documentation, and instructions, is not "software" and creates no rights for the creator. Article 3 defines the software author as the person(s) who, based on their knowledge and creativity, perform all stages of analysis, design,

development, and implementation of the software (6). The *Law on the Protection of Authors, Composers, and Artists* and the *Law on Translation and Reproduction of Books, Periodicals, and Audio Works* (1973) do not specifically address protection of computer software. Clause 11 of Article 2 of the *Law on the Protection of Authors, Composers, and Artists* refers to a "technical work" with innovative and inventive character; some have (controversially) read this as extending to software. While author's rights statutes allow reproduction for non-profit purposes, such reproduction in the context of software can undermine the software author's rights. The non-mandatory registration of literary and artistic works can also jeopardize right holders, which has prompted emphasis on software registration (11, 22).

Many designs in painting and architecture are produced using computer software because processing speed and precision favor such tools. Consequently, registration of software is emphasized by lawmakers. Where intellectual property—especially when registration is treated as an indicium of validity—anchors protection, creators are incentivized to complete and register their intellectual works promptly (2). One of the fundamental transformations of the last three centuries has been the advent of machinery and technology, moving from manual tools to mechanized power; ideas and inventions only become socially effective once realized externally. The growth of science and technology is sustainably achieved through legal protection of innovation within intellectual property systems—especially in jurisdictions with robust scientific infrastructures and market institutions. With the expansion of industry and the proliferation of software, it is crucial to clarify whether software falls within the domain of patent law or copyright law (8).

Recognizing the IP status of architectural software is directly relevant to software protection because it affects other dimensions—especially financial terms, liabilities, and remedies. Software is a composite of multiple elements, not all of which are protected: the preliminary design methodology (the software "methodology") expresses the process of designing and producing the software product, and only the protectable expression, rather than abstract ideas, is eligible for protection (10).

German Law

The 2009 European Directive on the legal protection of computer programs provides in Article 4 that, subject to Articles 5 and 6 (exceptions and decompilation), the exclusive rights within the meaning of Article 2 include the permanent or temporary reproduction of a computer program, in whole or in part, by any means, and if storage, display, execution, transmission, or loading of the program necessitates reproduction, such acts are permissible only with the authorization of the right holder. Translation, adaptation, arrangement, and any other modification of the program, and the reproduction resulting therefrom, are likewise acts reserved to the right holder, without prejudice to the rights of a person who lawfully makes such changes (7).

Article 2 of the 2001 EU Directive on certain aspects of copyright and related rights in the information society treats both direct and indirect reproductions as restricted acts; reproductions of software may occur in written or electronic form, including in computer memory. The possibility of permanent and temporary reproductions of software by any means and in any form is recognized. Under Article 4(1) of the 2001 Directive, transient and incidental copying constitutes an exception where the reproduction is temporary, purely transitional or incidental, forms an integral and essential part of a technological process, and has the sole purpose of enabling a transmission in a network between third parties by an intermediary or a lawful use, and has no independent economic significance (20).

With respect to distribution, Section 17(1) of the German Copyright Act defines distribution as the right to offer to the public or to place on the market the original or copies of a work. Article 4(1) of the 2009 Software Directive recognizes all forms of public distribution—including rental of the original or copies of software—as part of the economic rights in software. Because EU directives have been transposed, with variations, into member-state IP laws, these norms are particularly significant. Under Article 4(2) of the 2009 Directive, the first sale in the EU of a copy of a computer program by the right holder or with their consent exhausts the distribution right for that copy within the Union; however, the right to authorize subsequent rentals of the program or copies thereof is excluded from exhaustion. Consequently, once the protected product has lawfully entered into circulation, the author/right holder no longer retains control over further sales of that copy within member states, and parallel imports cannot be blocked merely by exclusive-license objections, provided the initial placement on the market was by or with the consent of the right holder (17).

Article 9(2) of the Berne Convention leaves exceptions to the reproduction right to domestic legislation, provided that special cases do not conflict with normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author (7).

Regarding interfaces, software “interoperability” concerns the connection of one program to others, to different hardware, or to user interfaces. If an external user interface satisfies originality, it may be protected by copyright, in which case “compatible” reproduction is not freely permitted; by contrast, non-original interfaces are denied protection. Nonetheless, to avoid undermining the rights of original interface developers, it may be appropriate to secure limited protection for the external appearance of interfaces under certain conditions (15).

French Law

According to Article L.122-6 of the *French Intellectual Property Code*, the exploitation rights of the software author include the right to perform and reproduce the software, in whole or in part, permanently or temporarily, by any means and in any form. Where storage, display, execution, transmission, or loading of the software entails reproduction, such acts may be performed only with the author’s authorization. The same applies to the translation, adaptation, arrangement, and any modification of the software, as well as to the reproduction resulting from such acts. The author also retains the exclusive right to place the software on the market—whether for free or for a fee—and to authorize copies or versions of the software in any form. However, the first sale of a software copy within the territory of a European Union member state or a state party to the European Economic Area Agreement by the author, or with their consent, exhausts the distribution right for that copy throughout the territories of all member states, except that the author’s right to authorize subsequent rentals remains reserved. A distributor who possesses the source program of software may not modify the software to satisfy end users and then exploit it commercially (17).

Subparagraph (b) of Article L.122-6-1 provides that the lawful user of software may make a backup copy for the purpose of preserving and ensuring continued use of the program. Subparagraph (c) of the same article allows the lawful user to reproduce or adapt the software where necessary to obtain the information required for interoperability between an independently created program and other software, without authorization from the author, provided that certain conditions are met: (1) the acts must be performed by the lawful user of a copy of the software or by a person authorized by that user; (2) access to the necessary interoperability information must not be readily or quickly available to the persons referred to; (3) such acts must be limited to those parts of the original software necessary

for interoperability; and (4) the information thus obtained may not be used for purposes other than achieving interoperability of the independently created program, nor disclosed to others except where necessary for that purpose.

Pursuant to the *Decree of the Council of State* of February 1996, any advertisement or notice regarding devices that enable the destruction or neutralization of technical protection measures for software is prohibited unless it explicitly states that unlawful use of such devices constitutes an infringement subject to the penalties prescribed for counterfeiting (23).

Article L.122-6-2 reinforces this provision by declaring that unlawful use of such devices is punishable by the same penalties as counterfeiting. Concerning correction and modification of software, French law permits the author, under Article L.122-6-1, to reserve the right to correct errors through express contractual stipulation (1).

The *Council Directive of 1993* on harmonizing the term of protection of copyright and certain related rights, in Article 1(1), establishes the duration of protection for literary and artistic works as the life of the author plus seventy years post mortem, consistent with Article 2 of the *Berne Convention* (8). Although this provision concerns literary and artistic works, the *2009 EU Directive on the Legal Protection of Computer Programs* explicitly declares in Article 1 that member states are required to protect computer programs and software as literary works within the meaning of the Berne Convention (20).

Article 12 of the *TRIPS Agreement* provides that if the term of protection is not based on the life of a natural person, the duration shall be at least fifty years from the end of the year of authorized publication or, failing such publication, fifty years from the end of the year of creation. This is consistent with European provisions, since Article 12 applies to cases where the term of protection is not determined by the author's lifetime. Thus, the French legal framework—aligned with EU and international conventions—ensures a robust, harmonized protection of computer software, including architectural design software, as intellectual property under copyright law (2).

Conclusion

Based on the examination of enforcement mechanisms within the intellectual property systems of Iran, Germany, and France, it appears that each of these three countries follows its own internal model. However, the overall framework for guaranteeing rights and enforcement is derived from the international treaties and conventions governing intellectual property. A closer analysis of these systems reveals that France possesses a more harmonized criminal and civil enforcement structure, which not only secures the rights of creators—such as those of painters whose works are incorporated into architectural designs—but also provides an effective framework for the application of these rights through preventive civil and criminal measures against misuse.

German law, as discussed in detail, has also undergone significant reforms, adopting a rigorous approach to protecting creators' rights, thereby ensuring the preservation of moral and artistic integrity in architectural and artistic works. In Iran, although the laws concerning authors and composers have provided a certain degree of recognition for creators' rights, the enforcement mechanisms remain insufficient, largely due to the incomplete implementation of copyright legislation.

In general, intellectual property rights, though originally developed on the foundation of exclusive privileges and economic entitlements for right holders, have gradually evolved under the influence of theories emphasizing personality and moral justification in property rights. This evolution, shaped by the contributions of legal scholars, has led jurisdictions such as France to recognize intellectual creations as extensions of personal identity.

Consequently, judicial practice in France has integrated these concepts into its interpretation of moral rights, offering legislators a broader framework for legal reform.

Conversely, in common law systems, the approach remains primarily utilitarian and profit-oriented, often restricting or even questioning the scope of moral rights. Nonetheless, the dichotomy between moral and economic rights has been firmly established, confirming the conceptual independence of moral rights from material ownership. Moreover, moral rights in literary and artistic works often take precedence over economic rights due to their inherent connection with the creator's individuality and integrity. In common law systems, however, the recognition of such rights remains limited and pragmatic, often justified on alternative grounds rather than philosophical or personal ones.

Regarding the originality criterion, the creator's personal contribution must be evident in parts of the software—such as the preliminary design, code, thematic structure, or program architecture—and must not simply replicate others' work. In the legal systems of Iran, Germany, and France, originality serves as a fundamental condition for protection, though it is expressed through different terminologies, all ultimately reflecting the same conceptual standard. Allowing reproduction of a work for non-commercial purposes may, in some cases, undermine the creator's rights. The protection of software under intellectual property law generally involves formal procedures, such as the issuance of a technical certificate, which constitutes a formality required to validate legal protection. The coexistence of formal protection for software with the informal protection of literary and artistic works highlights a potential inconsistency in the legal structure. Optional registration of literary and artistic works, likewise, may lead to the weakening of creators' rights by creating uncertainty in enforcement and recognition.

In conclusion, while France and Germany have established coherent and effective systems for protecting both the moral and economic aspects of architectural and software-related works, Iran's framework still requires comprehensive legislative and institutional reform to ensure full recognition and enforcement of intellectual property rights in line with international standards.

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Transparency of Data

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