

Digital Copyright Management Systems: Comparative Legal Analysis of Uzbekistan And Selected Foreign Jurisdictions

Abdumalikov Sharof Mirzaxid o'g'li
Independent Researcher, Uzbekistan

Received: 10 April 2026; **Accepted:** 04 May 2026; **Published:** 31 May 2026

Abstract: The rapid expansion of digital content has fundamentally changed the way copyright works are created, distributed, licensed and monetized. Traditional copyright administration mechanisms, which were largely designed around identifiable physical copies and territorially limited markets, are increasingly challenged by online dissemination, user-generated content, streaming services, digital platforms and cross-border exploitation of creative works. In this environment, digital copyright management systems are becoming an important institutional and technological instrument for identifying works and right holders, documenting rights, facilitating licensing, monitoring uses and distributing remuneration.

This article examines the legal foundations and institutional models of digital copyright management in Uzbekistan in comparison with selected foreign jurisdictions, particularly the European Union, the United States and the United Kingdom. The study focuses not only on substantive copyright protection, but also on the administrative and technological mechanisms through which copyright is managed in the digital environment. Particular attention is paid to electronic registration and evidence systems, collective rights management, online licensing, rights information, notice-and-takedown procedures, transparency of royalty distribution and the role of public authorities.

The analysis demonstrates that Uzbekistan has established a general legal framework for copyright and related rights and has incorporated important international digital copyright standards through accession to the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty. However, the existing framework does not yet provide an integrated digital infrastructure combining rights identification, registration, licensing, monitoring and remuneration distribution. Foreign experience shows that digital copyright management does not necessarily require a single centralized copyright register. Different legal systems employ different models: the United States combines voluntary electronic registration with platform-based enforcement mechanisms; the European Union emphasizes transparency, collective management and multi-territorial licensing; while the United Kingdom relies primarily on automatic copyright protection and specialized licensing and collective management mechanisms.

The article proposes a functional model for Uzbekistan based on interoperability, voluntary digital registration, reliable rights metadata, electronic licensing, transparent royalty accounting and institutional separation between public regulation and private rights management. Such a model could strengthen legal certainty without transforming registration into a constitutive condition for copyright protection.

Keywords: Copyright; digital copyright management; electronic registration; collective management; online licensing; rights information; royalties; Uzbekistan; WIPO; digital platforms.

Introduction: Digital technologies have changed copyright more profoundly than simply replacing paper and physical media with electronic files. A musical work

can now be simultaneously reproduced, communicated to the public, streamed, licensed and monetized across several jurisdictions. A film can be

uploaded by one person, accessed by millions of users and generate advertising or subscription revenue through a platform located in another country. Similarly, a literary work can be distributed through electronic publishing services without the creation of a traditional physical copy.

These developments have created a practical problem that is not fully resolved by substantive copyright rules alone: how can rights be identified, administered and enforced when the use of a work takes place continuously, automatically and across borders?

The international legal framework has responded to this problem through the development of digital copyright standards. The WIPO Copyright Treaty (WCT), adopted in 1996, specifically addresses copyright protection in the digital environment. It confirms that the reproduction right applies in the digital environment and establishes, among other things, the right of communication to the public and the making available of works. The WIPO Performances and Phonograms Treaty (WPPT) similarly addresses the rights of performers and producers of phonograms in the digital environment.

Uzbekistan has progressively integrated these standards into its copyright system. The principal legislation remains the Law of the Republic of Uzbekistan No. O'RQ-42 of 20 July 2006 "On Copyright and Related Rights". The law regulates relationships arising from the creation and use of scientific, literary and artistic works, performances, phonograms and broadcasts. Uzbekistan acceded to both the WCT and WPPT in 2019.

Nevertheless, the existence of substantive legal protection does not automatically create an effective digital management system. Copyright management involves a broader chain of functions: identifying a work, identifying its author or other right holder, recording ownership and licensing information, determining permitted uses, monitoring actual use, collecting remuneration and distributing it to the appropriate right holders.

The central argument of this article is therefore that Uzbekistan's next stage of copyright modernization should move from predominantly legal protection toward integrated digital rights management infrastructure. Such infrastructure should not replace copyright law or private collective management organizations. Rather, it should connect them through interoperable digital mechanisms.

The comparative analysis focuses on three models. The European Union provides a particularly developed regulatory approach to collective management and online exploitation. The United States demonstrates a

technologically advanced system based on electronic registration and platform-oriented enforcement mechanisms. The United Kingdom provides a contrasting model in which copyright arises automatically without a government register, while licensing and specialized administrative mechanisms support commercial exploitation.

The purpose of the research is to identify the elements of these systems that can realistically be adapted to the legal and institutional conditions of Uzbekistan.

The research uses a comparative legal method combined with functional analysis. Instead of comparing individual statutory provisions in isolation, the study examines how different legal systems perform the same practical functions of copyright administration.

The comparison is based on six functional criteria: identification and documentation of works and right holders; legal significance of copyright registration; digital licensing and authorization; collective management and royalty administration; online enforcement and removal of infringing content; and transparency and accountability of copyright management.

Primary legal sources are used wherever possible. These include the Uzbek Law "On Copyright and Related Rights", WIPO-administered treaties, EU directives and official materials of the U.S. Copyright Office and UK Intellectual Property Office.

This methodology is important because the term "digital copyright management system" does not have a single universally accepted institutional meaning. It may refer to electronic registration, digital rights management technologies, collective management databases, licensing platforms or combinations of these mechanisms. In this article, the term is used in a broader institutional sense: a legal, administrative and technological infrastructure that enables the identification, documentation, licensing, monitoring and administration of copyright and related rights in the digital environment.

The digital transformation of copyright law did not begin with national digital platforms. It developed first through international treaties.

The WCT represents a major step in adapting copyright law to digital technologies. WIPO describes the treaty as a special agreement under the Berne Convention dealing specifically with protection of works in the digital environment. It covers literary and artistic works and expressly addresses computer programs and original databases.

One of the important legal principles established

through the WCT framework is that the traditional reproduction right remains relevant when a protected work is stored in digital form. The agreed statement concerning Article 1(4) explains that storage of a protected work in digital form in an electronic medium constitutes reproduction within the meaning of the Berne Convention.

The WPPT complements the WCT by addressing performers and producers of phonograms. Its Article 14 recognizes the right of phonogram producers to authorize the making available of phonograms to the public in such a way that users can access them at a place and time individually chosen by them.

These international rules demonstrate an important conceptual point: digital copyright protection cannot be limited to preventing unauthorized copying. It must also address online communication, making available, licensing, access and remuneration.

For Uzbekistan, this is particularly relevant because the country became a party to both WCT and WPPT in 2019. Consequently, development of national digital copyright administration should be viewed not as an entirely new policy direction, but as a logical continuation of the international obligations already assumed by the state.

Uzbekistan's principal copyright legislation is the Law No. O'RQ-42 of 20 July 2006 "On Copyright and Related Rights". The law protects works of science, literature and art and regulates related rights concerning performances, phonograms and broadcasting organizations.

The law applies to works created by Uzbek authors and to works protected in Uzbekistan under international treaties. It also recognizes computer programs as copyright objects and provides protection for derivative and compilation works, including databases where the statutory requirements are satisfied.

The legal framework is therefore capable of covering many forms of digital content. The fundamental problem lies elsewhere: the law provides protection for rights, but the digital environment requires infrastructure for managing information about those rights.

This distinction is critical. A legal right may exist without a digital record containing reliable information about the work, its author, its current right holder, the territory of exploitation, the permitted forms of use, the duration of a licence and the applicable remuneration.

In practice, the absence of standardized and interoperable rights information creates several risks. First, users may be unable to determine whom they

should contact for a licence. Secondly, different organizations may hold fragmented or inconsistent information about the same work. Thirdly, royalty collection may be disconnected from reliable information about actual use. Finally, disputes over authorship and ownership may become difficult to resolve because information is stored in different formats and institutions.

A digital copyright system should not confuse registration with the existence of copyright.

Copyright protection generally arises from the creation of an original work rather than from registration. This principle is clearly illustrated by the United Kingdom, where the government states that copyright protection arises automatically and that there is no official government register of copyright works.

The United States uses a different model. Copyright protection itself does not depend on registration, but the U.S. Copyright Office provides an electronic registration system. Authors can submit applications and copies of their works through the Electronic Copyright Office.

The difference between these systems illustrates an important policy option for Uzbekistan. A digital registry can be useful without becoming a constitutive condition for copyright.

A voluntary electronic registration system could provide a reliable date of submission; identification of the declarant; information about the work; a digital copy or secure reference to the work; information about transfers and licences; and a history of changes in rights information.

Such registration would have primarily evidentiary and informational, rather than constitutive, significance.

This approach would avoid one of the most serious possible mistakes in copyright digitalization: creating a system under which an author loses protection merely because the work has not been registered.

The European Union provides one of the most useful comparative examples for Uzbekistan because its legal framework goes beyond copyright protection and directly regulates the administration of rights.

Directive 2014/26/EU establishes rules concerning collective management of copyright and related rights and multi-territorial licensing of rights in musical works for online use. The Directive defines collective management as the management of copyright or related rights on behalf of multiple right holders and expressly includes licensing, monitoring of rights use, enforcement, collection of revenue and distribution of amounts due to right holders.

This functional approach is particularly relevant.

Copyright management is treated not merely as an activity of collecting money but as a chain of interconnected functions.

The Directive requires collective management organizations to act in the interests of represented right holders and establishes rights concerning membership, electronic communication, withdrawal and management of rights. It also imposes requirements concerning deductions and management fees.

Most importantly for a digital system, the Directive requires transparency. Collective management organizations must make information available to the public, including statutes, membership terms, standard licensing contracts, tariffs and distribution policies. Annual transparency reports are also required.

This model provides an important lesson for Uzbekistan: digitalization should be accompanied by transparency standards.

A database by itself does not solve copyright administration problems. If the database cannot show how rights were licensed, how revenue was calculated and how royalties were distributed, digitalization may simply reproduce existing administrative weaknesses in electronic form.

Another important development is Directive (EU) 2019/790 on copyright and related rights in the Digital Single Market.

Article 17 addresses online content-sharing service providers. Under the circumstances defined by the Directive, such providers perform acts of communication to the public or making available to the public when they provide access to copyright-protected works uploaded by users. Providers therefore need authorization from right holders, for example through licensing agreements.

This approach is significant because it moves copyright administration toward the platform economy.

The central question is no longer simply "Who copied the work?" The more difficult question is: "Who is responsible for making the work available, under what authorization, and how should the right holder be remunerated?"

This is exactly the type of problem that a digital copyright management system must address.

For Uzbekistan, the European experience suggests that future regulation should clearly distinguish between content creators, right holders, collective management organizations, online platforms, users, licensing intermediaries and public regulatory authorities.

Without such functional differentiation, enforcement

and royalty collection may remain fragmented.

The United States provides a different model.

The U.S. Copyright Office operates the Electronic Copyright Office registration system, through which copyright owners can register works electronically. The system covers a wide range of digital content, including computer programs, databases, blogs, websites, photographs, audiovisual works and other forms of online content.

The key feature of the American model is that registration is primarily an administrative and evidentiary mechanism rather than the source of copyright protection.

The second important element is the Digital Millennium Copyright Act (DMCA). Section 512 creates limitations on the liability of qualifying online service providers if they satisfy specified conditions, including cooperation with copyright owners and expeditious removal of allegedly infringing content following compliant notices.

The U.S. Copyright Office also maintains an electronic directory of designated agents who receive copyright infringement notifications. The directory provides an electronic channel for service providers to submit and update information.

This creates a decentralized but interoperable model: right holder, notice, designated service provider, removal or access restriction, counter-notification where applicable, and potential judicial or administrative dispute.

The main lesson for Uzbekistan is not necessarily to copy the DMCA. The U.S. system developed within a particular constitutional, procedural and market environment.

The more transferable principle is the creation of standardized electronic channels for copyright complaints.

A future Uzbek system could establish a unified electronic interface through which right holders submit infringement claims, identify the protected work, provide evidence of rights, identify the allegedly infringing URL or digital object, and receive information about the procedural status of the complaint.

The United Kingdom provides a useful contrast.

The UK government expressly states that copyright protection arises automatically and that there is no official government register of copyright works.

At the same time, the absence of a central copyright register does not mean the absence of copyright administration.

The UK system provides mechanisms for licensing,

collective management and dispute resolution. The Copyright Tribunal can deal with certain licensing disputes, while collective management organizations can participate in licensing arrangements.

This model demonstrates that a state does not need to own the copyright database in order to facilitate effective copyright management.

The state may instead establish legal standards for information, licensing, transparency and dispute resolution while allowing private and collective

organizations to administer rights.

For Uzbekistan, this is an important institutional consideration. A national digital copyright platform should not necessarily become a monopoly over all copyright management activities. It could instead operate as an interoperability layer connecting authors, right holders, collective management organizations, licensees, platforms and government authorities.

Comparative Analysis

Table 1. Functional comparison of selected copyright management models

Function	Uzbekistan	European Union	United States	United Kingdom
Copyright arises automatically	Yes	Yes	Yes	Yes
Electronic registration	Developing	Member State dependent	Developed eCO system	No official copyright register
Collective management regulation	Existing legal framework	Detailed EU standards	Sector-specific/private mechanisms	Established licensing and collective mechanisms
Online licensing	Developing	Highly developed	Market-driven	Developed
Platform enforcement	Developing	Strong platform-specific framework	DMCA notice-and-takedown	Platform and general copyright mechanisms
Royalty transparency	Requires further development	Detailed statutory requirements	Depends on relevant system	Sector-specific
Centralized digital rights database	Potential development	Interoperable/sectoral systems	Multiple systems	No central government register

The three foreign models demonstrate different institutional approaches.

The U.S. model is particularly useful for electronic registration and notice-and-takedown procedures. The EU model is more useful for collective management, transparency and multi-territorial licensing. The UK model demonstrates the importance of preserving automatic copyright protection while using administrative and private mechanisms for rights management.

The most suitable solution for Uzbekistan is therefore a hybrid model.

A future Uzbek digital copyright management system should be designed around seven interconnected components.

Each registered work should receive a unique digital identifier. The identifier should not replace copyright itself; it should function as an information key.

The record could contain: title of the work; type of work; author; co-authors; right holder; date of creation; date of publication; related rights information; licensing status; territory; duration; relevant collective management organization; and digital file or secure reference to the file.

The system should also allow amendments when rights are transferred.

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The system should distinguish between author, initial right holder, successor, licensee, exclusive licensee and collective management organization.

This distinction is necessary because the person who created the work is not always the person entitled to license its commercial exploitation.

The platform should provide standardized electronic licence templates.

A licence record could include: parties; work identifier; rights granted; territory; duration; exclusivity; permitted platforms; remuneration; and reporting obligations.

The objective should not be to force all copyright contracts into a government form. Rather, the system should provide a standardized digital infrastructure for recording and verifying licensing information.

Monitoring should focus on commercially significant uses.

For example, music, films, photographs and literary works could be identified through digital fingerprints,

metadata or platform reporting mechanisms.

However, technology should not be treated as infallible evidence. Automated identification may produce false positives and false negatives. Therefore, any automated enforcement mechanism must preserve human review and procedural safeguards.

This may be the most important practical function.

The system should record: work → use → license → revenue → calculation method → royalty → right holder.

Such a chain would make it possible to determine why a particular amount was paid and to whom.

The platform should provide a standardized complaint procedure.

The complainant could submit: proof or information concerning the right; identification of the work; identification of the allegedly infringing use; URL or other digital location; explanation of the alleged infringement; and supporting evidence.

The system should then generate a case number and provide information about subsequent procedural steps.

A public-facing component could provide aggregated information concerning the number of registered works; number of licences; categories of works; aggregate royalty collections; aggregate distributions; unresolved unidentified works; complaints processed; and average processing time.

Individual personal information should not be publicly disclosed unless there is a legal basis for such disclosure.

Digitalization creates new risks and should therefore not be treated as a purely technological reform.

The first risk is centralization. If one platform becomes the exclusive gatekeeper for all copyright information and licensing, competition and freedom of contractual relations may be restricted.

The second risk is data reliability. A digital database can be wrong. If incorrect information is treated as conclusive proof of ownership, the system could create new disputes rather than resolve existing ones.

The third risk is privacy. Copyright records may contain personal data of authors and right holders. Public access should therefore be limited to information necessary for rights identification and legitimate licensing.

The fourth risk is automated enforcement. An algorithm should not be permitted to determine infringement conclusively in every case. Exceptions, licences, fair uses and other legally permitted uses can

make automated conclusions unreliable.

The fifth risk is institutional conflict. If a state platform collects and distributes royalties itself while also regulating collective management organizations, conflicts of interest may arise.

For this reason, the preferred model is functional separation: the state regulates and provides infrastructure; right holders own and control rights; collective management organizations manage rights where authorized; platforms report use and comply with legal procedures; independent dispute mechanisms resolve contested cases.

Based on the comparative analysis, five principal reforms are proposed.

First, Uzbekistan should introduce a voluntary electronic copyright registration and rights-information system. Registration should create an evidentiary presumption concerning the information submitted, but it should not become a prerequisite for copyright protection.

Second, the national system should introduce standardized rights metadata and unique identifiers for works and related-rights objects. This would facilitate interoperability among collective management organizations, platforms and licensing services.

Third, electronic licensing should receive explicit legal recognition, including the possibility of registering licensing information and transfers of rights through a digital platform.

Fourth, collective management organizations should be integrated into a common digital information environment while preserving their legal independence. Their royalty collection and distribution should be supported by transparent electronic accounting.

Fifth, Uzbekistan should establish a standardized electronic infringement notification mechanism for online platforms. Such a mechanism should include notice, review, counter-notification where appropriate, recordkeeping and appeal or dispute-resolution procedures. These reforms would allow Uzbekistan to move toward a system in which copyright information follows the work throughout its economic life.

The digital transformation of copyright law is no longer primarily a question of whether existing copyright rules apply to the Internet. The more important question is whether the institutional mechanisms supporting those rights are capable of functioning in an environment where works are created, distributed and monetized digitally and across borders.

The comparative analysis demonstrates that foreign jurisdictions have adopted different approaches.

The United States provides a useful example of electronic copyright registration and standardized online enforcement procedures. The European Union offers a sophisticated framework for collective management, transparency and multi-territorial online licensing. The United Kingdom demonstrates that automatic copyright protection can coexist with effective licensing and administrative mechanisms without creating a central state copyright register.

Uzbekistan already possesses an important legal foundation. Its copyright legislation protects a broad range of works and related rights, and its accession to the WIPO Copyright Treaty and WIPO Performances and Phonograms Treaty demonstrates the country's integration into the international digital copyright framework.

The principal challenge is therefore not the absence of copyright protection but the fragmentation of information and management processes.

A modern Uzbek digital copyright management system should be designed not as a replacement for the existing copyright system but as its digital infrastructure. It should connect authors, right holders, collective management organizations, users, online platforms and public authorities through standardized information and procedures.

The most appropriate model for Uzbekistan is a hybrid one: voluntary electronic registration, reliable rights metadata, electronic licensing, transparent collective management, standardized online enforcement and independent dispute resolution.

The fundamental principle should remain clear: digital registration must facilitate copyright protection, not create copyright itself; digital technology must improve legal certainty, not replace legal judgment; and centralization must improve interoperability, not eliminate the independence of right holders and market participants.

If these principles are incorporated into future legislation and institutional reforms, Uzbekistan could develop a copyright management infrastructure capable of supporting not only domestic creators but also the international circulation and commercialization of Uzbek creative works.

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