Research on Copyright Issues of QR Code-Integrated Publications: A Case Study of Books (Postprint)

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Abstract

In recent years, propelled by internet technology, QR code integrated publications have experienced rapid development, while copyright issues concerning digital resources linked by QR codes have become increasingly prominent. This paper summarizes that the causes of digital resource copyright issues mainly include three aspects: (1) weak copyright protection awareness among publishing units and users; (2) inadequate technological capacity and capabilities for copyright protection in publishing units; (3) lack of targeted standards, norms, and legal regulations. Simultaneously, it proposes that the following four measures can be adopted to resolve these issues: (1) strengthen awareness of digital resource copyright protection; (2) publishing units should establish proprietary platforms to host QR code-linked resources and execute agreements with authors; (3) implement a one-book-one-code protection mechanism; (4) accelerate the formulation of industry standards and specifications for QR code integrated publications and improve the legal protection system.

Full Text

Preamble

ChinaXiv Cooperative Journal | Media Watchtower · Special Topic
Research on Copyright Issues of QR Code-Integrated Publications–Taking Books as an Example

Abstract

In recent years, driven by internet technology, QR code-integrated publications have developed rapidly, and copyright issues concerning the digital resources linked by QR codes have become increasingly prominent. This paper identifies

three primary causes of digital resource copyright problems: (1) weak copyright protection awareness among publishers and users; (2) insufficient copyright protection technology and capacity among publishers; and (3) lack of targeted standards, norms, and legal regulations. The paper also proposes four corresponding measures: (1) strengthening awareness of digital resource copyright protection; (2) publishers building proprietary platforms to host QR code-linked resources and signing agreements with authors; (3) implementing a one-book-one-code protection mechanism; and (4) accelerating the establishment of industry standards for QR code-integrated publications and improving the legal protection system.

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QR code-integrated publications refer to publications that contain QR codes on their covers, back covers, or main text, where the linked content extends the publication' s material. The content accessed via QR codes can take various forms, including video, audio, Flash, text, or images, serving to expand book content and enrich presentation formats. Publications whose QR codes serve merely promotional purposes cannot be considered QR code-integrated publications [1].

The development of QR code-integrated publications provides promising avenues for the transformation and upgrading of traditional publishing. Adding QR codes to books breaks the limitations of carriers and length, enabling diversified reading that combines static text with audio-visual elements and delivering a comprehensive reading experience that truly achieves integration between print books and internet media [2]. However, as science and technology advance, the open sharing of information in internet environments has become increasingly common, and infringement issues have grown more prominent. These developments pose new challenges for copyright protection in QR code-integrated publications, affecting the normal development of the publishing industry.

Through multiple methods—including bookstore surveys, publisher visits, editor-author symposiums, and questionnaire distribution—the authors of this paper have summarized copyright issues in QR code-integrated publications, analyzed their causes, and proposed corresponding solutions. We hope this research will draw attention from editors, authors, publishing houses, and relevant authorities to jointly promote the healthy and orderly development of QR code-integrated publications.

1. Copyright Issues in QR Code-Integrated Publications

The copyright issues discussed here specifically refer to those concerning digital resources linked by QR codes in QR code-integrated publications. These mainly include three scenarios:

First, constrained by financial and material resources, some publishers—seeking to reduce costs or save effort—do not produce the resources behind QR codes themselves. Instead, to join the QR code trend, they directly use existing online electronic resources as the content linked after scanning. For example, some QR codes directly link to Baidu Baike or Baidu Wenku, while others download unauthorized online audio-visual resources as linked content. QR code-integrated publications produced through such methods carry infringement risks.

Second, when authors authorize book copyrights, they often only grant print book rights, not the electronic resource rights linked via QR codes. In such cases, if publishing institutions directly disseminate the electronic resources linked in the book, they infringe upon the author' s right of information network dissemination.

Third, electronic resources linked in QR code-integrated publications are often stored on network platforms lacking adequate protection measures. Such resources can be easily downloaded, copied, or disseminated, leading to infringement. When this occurs, unique content resources that publishers or authors invested substantial funds to produce become publicized. Publishing institutions have difficulty controlling such infringement, directly harming the interests of authors, publishers, and relevant internet platforms.

2.1 Weak Copyright Protection Awareness

Weak copyright protection awareness manifests primarily in two aspects. On one hand, publishing staff lack sufficient copyright protection consciousness. Developing QR code-integrated publications consumes substantial financial, human, and material resources, such as building QR code platform systems, assigning both traditional and digital editors to book topic development, and establishing dedicated venues for audio-video recording. Some publishers want to enter the integrated publishing field without increasing costs, simply to follow the QR code-integrated publication trend. Consequently, they arbitrarily link online resources or use unauthorized electronic resources.

On the other hand, users have not developed awareness of respecting copyright. They casually copy audio-visual resources accessed via QR codes and share them with others or distribute them on internet platforms, causing publishers to suffer infringement and economic losses.

2.2 Insufficient Copyright Protection Technology and Capacity

Although some publishers have recognized the infringement risks facing QR code-integrated publications, several technological deficiencies persist. First, the digital encryption technology of platforms storing electronic resources linked by QR codes remains immature, lacking effective core technologies for identity recognition and transmission protection, leaving electronic resources unprotected. Second, reliable security operation and maintenance technologies are absent in both the initial design and later maintenance of publishing distribution system platforms, exposing linked electronic resources to infringement. Third, since linked resources use network transmission, the transmission channels and dissemination technologies for various resources are similar, and domain name and account configuration technologies are relatively simple, further enabling the copying and dissemination of content resources linked by QR codes [3]. Consequently, publishers lacking relevant copyright protection technologies and sufficient material and financial resources currently have no suitable means to appropriately protect their self-developed linked resources.

2.3 Lack of Targeted Institutional Norms and Legal Regulations

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Currently, publishers have set up various QR codes in QR code-integrated publications based on their individual needs. While some publishing houses have internally standardized QR code placement through internal documents, no unified industry standards or regulatory management systems exist for QR code-integrated publications across the publishing industry. Significant differences exist in both appearance—such as QR code size, color, and placement—and in linked resources' format, size, and quality. During the topic planning and publishing process, publishers lack rigorous demonstration analysis, the three-review and three-proofreading system, and copyright management systems. They also fail to strictly review the sources of digital resources, resulting in published QR code-integrated publications carrying infringement risks.

Moreover, China' s legal system for digital copyright protection remains incomplete. Although government-issued laws and regulations contain provisions on digital publishing infringement, they are inadequate for addressing copyright protection in QR code-integrated publications and cannot specifically handle such infringement cases [4].

3. Solutions for Copyright Issues in QR Code-Integrated Publications

Solving copyright problems in QR code-integrated publications requires effective measures from the public, the publishing industry, and relevant authorities.

3.1 Strengthening Digital Resource Copyright Protection Awareness

Strengthening digital resource copyright protection awareness is twofold. For publishers, it means both enhancing awareness of not infringing upon others' digital resource copyrights and strengthening standardized management to prevent their own resources from being infringed. During QR code-integrated publication production, editors should treat digital resources with the same seriousness as print content, enhancing their awareness of reviewing digital resources and their copyright vetting. Additionally, when producing QR code-linked resources, they should have encryption awareness and set non-reprint functions. For users, it means developing copyright respect awareness—neither casually transferring QR code resources to others or reprinting them on other platforms, nor casually downloading electronic linked resources obtained through improper channels.

3.2 Publishers Building Proprietary Platforms and Signing Agreements with Authors

The most common copyright disputes in QR code-integrated publications involve linked electronic resources. When publishers independently build QR code platforms and invest funds to produce linked content, they ensure both the originality of various resources linked by QR codes and their consistency with book content. More importantly, this ensures that digital resources of integrated publications remain controllable. Once infringing digital resources are discovered, publishers can immediately delete them and take corresponding remedial measures, helping reduce copyright infringement risks.

Furthermore, if linked materials are provided by authors, publishers must sign agreements with them to resolve copyright issues concerning linked content, addressing copyrights for both physical books and linked digital resources. Copyright ownership of digital resources involves complex situations. For example, when popular books invite renowned voice actors to record audio content, the copyright contract must clarify copyright ownership of the audio script, the voice actor' s audio resource copyright, etc. In the integrated publishing era, ensuring clear intellectual property ownership is crucial. Currently, most linked resources in QR code publications are free, but they may develop toward value-added services in the future. Signing agreements in advance to prevent such disputes is essential [5].

3.3 Implementing a One-Book-One-Code Protection Mechanism

Most QR code-integrated publications allow users to directly access linked resources by scanning QR codes with mobile devices, which consequently enables the free dissemination of linked electronic resources. By embedding encryption measures in each book' s QR code to achieve a one-book-one-code characteristic, publishers can provide personalized identity markers for each book, enabling built-in anti-counterfeiting and anti-piracy functions to prevent the casual copying and dissemination of linked resources. For example, in various teaching supplementary books, resources such as key points, difficult points, and problem-solving approaches are placed in QR codes. When readers scan a QR code for the first time, they receive a verification code based on the uniqueness of their mobile phone number and the specificity of the linked resource. Subsequent resource access is then based on this first scan, and scanning becomes invalid if attempted on other phones [6]. Under this mechanism, only those who purchase the book can obtain the electronic resources behind the QR code, truly protecting publishers' property rights and safeguarding their legitimate interests.

3.4 Accelerating Industry Standard Formulation and Legal Framework Improvement

Currently, no unified industry standards exist for the appearance of QR codes in publications or the standardized management of linked resources. Establishing a standard system for QR code-integrated publications can optimize workflows, standardize management norms, and effectively avoid copyright risks. Therefore, governments, publishers, and relevant departments should establish QR code-integrated publication standards encompassing basic, technical, and management standards. Basic standards mainly cover requirements for QR code size, layout design, and placement. Technical standards include production specifications and encryption requirements for QR code-linked resources. Management standards cover a series of publishing review requirements from topic demonstration onward, such as three-review and three-proofreading, copyright management, and later maintenance.

Additionally, relevant authorities should promptly formulate comprehensive and systematic laws for copyright protection of QR code-integrated publications, clarifying the concept of QR code-integrated publications so that publishers, authors, and other stakeholders have legal grounds for action. This would better protect all parties' rights and interests while effectively promoting the development of QR code-integrated publications. Furthermore, the government must strictly enforce laws and investigate violations, intensifying law enforcement efforts in digital publishing infringement cases. It should give full play to the powerful deterrent effect of criminal sanctions, improve trial efficiency, and hold infringers criminally liable according to law [7].

The development of QR code-integrated publications has already taken shape, and its prospects should not be underestimated. Achieving the maximum value of QR code-integrated publications in future development requires accelerated copyright protection construction and joint efforts from the entire society.

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Note: Figure translations are in progress. See original paper for figures.