Conception of an Innovation Mechanism for Image Editing in Screen Media under New Media Technologies (Postprint)

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Abstract

With the application of new media technologies, environmental optimization provides favorable conditions for media operation and development, thereby enabling screen media to rapidly integrate into the daily lives and work of audiences, becoming intimately connected with them. Empowered by new media technologies, screen media possesses unparalleled advantages in information content production and processing efficacy, as well as in the combination and interaction of text, images, audio, and visual elements; however, this also introduces significant challenges to text and image (photo) editing workflows. From this perspective, this paper conducts a highly feasible analysis and investigation into the innovative mechanisms of image editing for screen media within the new media technology environment, and proposes concrete media technology concepts based on currently developed image optimization processing methods and systems.

Full Text

Preamble

Title: Conceptualizing an Innovative Mechanism for Image Editing in Screen Media under New Media Technology

Abstract: The advent of new media technologies has created an optimized environment that provides favorable conditions for media operations and development, enabling screen media to rapidly integrate into and become intimately intertwined with audiences' daily lives and work. Empowered by new media technologies, screen media possesses distinct advantages in information content production and processing capabilities, as well as in the integration and interaction of textual, visual, audio, and video elements. However, these advancements also present significant challenges for text and image editing workflows. From

this perspective, this paper conducts a feasibility analysis and investigation into innovative mechanisms for image editing in screen media within the new media technology landscape, proposing specific conceptual frameworks for media technology based on currently developed image optimization processing methods and systems.

Keywords: new media technology; screen media; image editing; innovative mechanism; conceptualization

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Intensifying media competition has accelerated the emergence of new media technologies and environments. In the all-media era, media development and information processing methodologies differ fundamentally from traditional approaches. Using screen media as an example, intelligent terminals provide audiences with more convenient interactions while simultaneously facilitating the emergence of screen media itself. Leveraging high-quality visual experiences and precise audience targeting, screen media have rapidly penetrated the media market, employing sophisticated text and image editing creativity as their core competitive advantage, thereby exacerbating competitive tensions within the industry. Given the inherent characteristics of screen media, image editing work proves critical to its success or failure. However, traditional editing workflows suffer from complexity, poor visual effects, outdated management models, and diminished brand value—all of which fail to meet the developmental demands of screen media. Consequently, conceptualizing a new image optimization processing system and methodology based on new media technology will undoubtedly serve as a powerful instrument for enhancing screen media market penetration and represents a paradigmatic example of media image editing innovation mechanisms in the contemporary all-media era.

1.3 The Relationship Between the Two

As an emerging medium on intelligent terminals, screen media exhibits high dependence on image editing workflows. Design quality and optimized layout have become fundamental prerequisites for attracting audiences and remain critical to the operational success or failure of screen media. Since image editing encompasses the initial stage of on-site news source acquisition, the intermediate stage of innovative design, and the final stage of layout optimization for visual impact, it has evolved into the core competitive advantage of screen media itself. Enhancing editing efficiency and innovating editing work mechanisms have become essential pathways for maintaining industry leadership—a common challenge confronting China's current media landscape. Only through systematic

optimization and improvement of image editing workflows and mechanisms can sustainable media development be ensured.

1.1 Screen Media

Screen media broadly refers to various media forms that utilize screens as intermediaries or terminals in the intelligent era. The emergence of screen media depends on the development and application of new media technologies and environments, rapidly capturing audience attention alongside the proliferation of smart technologies, thereby catalyzing a "revolution" in audience experiences of life, work, and entertainment. The primary characteristics of screen media include intelligent operation, refined content, and diversified forms. Intelligent operation relies on the application of smart technologies, such as electronic touchscreen devices. Content refinement stems primarily from screen size limitations, whereby the layout and editing of primary information products become crucial for attracting audiences. Sophisticated and creative information products or editing approaches are more likely to garner audience preference and engagement, proving vital to the operation and survival of screen media. Diversified forms mainly denote screen media's emphasis on the interactive relationship between information content expression and formal elements, which also proves critical for building core competitive advantages.

1.2 Image Editing

Image editing primarily encompasses shooting, design and production, as well as layout and post-processing. It requires timely adjustments to image elements—including size, saturation, focus, color temperature, and depth of field—according to informational needs to satisfy the demands of media information dissemination. Image editing work spans all aspects of image acquisition and shooting, design and production, and post-layout processing, constituting a systematic editorial project that necessitates efficient coordination across all stages to achieve optimal visual and audience reading effects. Currently, image editing work in Chinese media remains constrained by technological limitations. The technology for controlling color temperature balance in on-site news source photography lags far behind that of Western developed countries, while visual composition effects in post-production similarly lack visual impact and planar composition creativity. Consequently, due to insufficient technical support, image editing has become a significant weak link in media information processing.

2. Conceptualizing an Innovative Mechanism for Image Editing Technology in Screen Media from a New Media Perspective

Based on the promising prospects of new media technology and the deficiencies inherent in traditional image editing systems, the author proposes specific

conceptual frameworks for a new image optimization system and methodology tailored to the new media era, drawing upon the current state of media technology research and development as well as smart technologies and equipment.

The proposed system operates through several integrated mechanisms. First, employees carry OPM (Occupancy Positioning and Monitoring) cards equipped with occupancy buttons, read-only indicators, and writable indicators, enabling them to browse images from any location while the backend system monitors employee positions in real time. Second, when any employee initiates image operations, they press the occupancy button on their OPM card to secure exclusive editing rights. Simultaneously, the read-only indicators on other employees' OPM cards illuminate, signaling that the image is currently being processed. Upon operation completion, the read-only indicators on other cards deactivate, the writable indicators activate, and the central storage device automatically saves and refreshes the data. Third, after finishing operations, employees proceed to the nearest registration station and use the RFID reader on a magnetic cart to scan the RFID tag on their OPM card, thereby activating the cart and causing it to automatically glide to the main registration station. Fourth, staff at the main registration station retrieve data from the RFID reader on the arrived magnetic cart and perform manual record-filing. Fifth, both the OPM positioning cards and magnetic carts are equipped with battery level displays and low-battery warning systems, utilizing wireless charging technology to ensure continuous operational readiness.

Simplifying workflow and improving office efficiency constitute important pathways for achieving efficient operation of screen media. First, according to this concept, employees can use their portable OPM positioning cards to process images in any office area at any time. After completing operations, they can scan their cards at the nearest registration station without requiring frequent work handovers or results reporting, saving considerable time and improving both individual and organizational efficiency. Second, the magnetic cart functions as a "runner," using RFID readers to transmit data and eliminating the need for traditional paper printing or email editing and sending. This avoids work errors or data mistakes caused by various factors in the workflow, safeguarding the "original state" of employees' image editing from the first operation and thus greatly enhancing the fidelity of editing information. Third, since employees' OPM positioning cards contain basic employee data, after the magnetic cart arrives at the main registration station, managers can use the equipment to quickly locate the operating employee's information. This eliminates the frequent registration and notation required in traditional image editing work, reduces workload, and employs smart devices to accurately and completely record employee operation information, achieving a new office system with minimal processes and maximum efficiency.

2.4 Optimizing Media Brand

Personalized management constitutes the foundation of this concept and a prerequisite for fostering employee innovative thinking. Through the deployment of OPM positioning cards, screen media can monitor employee location information via the backend system, facilitating employee management and achieving personalized office objectives that allow employees to autonomously adjust their work patterns. This conceptual framework fully guarantees employee autonomy and initiative, enabling them to work from any office area—including coffee shops or leisure zones—provided they carry their OPM positioning cards. This approach aligns with personalized employee management models and substantially promotes the development and cultivation of creative thinking among employees. The occupancy button on the OPM positioning card ensures "one-to-one" image design and innovation, facilitating the expression of individual editing concepts while avoiding the difficulties posed by noisy work environments characteristic of traditional editing modes. This mechanism proves conducive to pooling collective wisdom and synthesizing each employee's creative ideas to achieve optimal editing outcomes. The personalized management model represents the primary direction for future screen media development, enhancing employee innovation capabilities and strengthening core competencies and competitive advantages. By enabling employees to adjust their work rhythm and environment, they can achieve maximum efficiency and optimal innovative work experiences, with complete assurance of work freedom, thereby accomplishing greater results with reduced effort.

2.3 Focusing on Presenting Diversified Visual Effects

The presentation of diversified visual effects constitutes a direct determinant of audience attention. Traditional image editing optimization systems and methodologies predominantly rely on meeting-based decision-making. Although this approach pools collective wisdom, creative elements frequently originate from a single individual, differing substantially from the novel image editing optimization system and methodology proposed herein. The new conceptual framework emphasizes that every employee operates using an OPM positioning card and performs timely refresh and save operations. Different employees, possessing varying innovative thinking patterns and focal points, typically emphasize different aspects in image editing. Therefore, the new concept eschews a "final word" approach to visual effects, instead preserving each employee's visual creativity to achieve genuine collective wisdom and fulfill the essential objective of presenting diversified visual effects. Notably, the new concept addresses deficiencies in visual effect presentation from previous image editing systems at a micro level. The diversified visual effects do not derive from a single employee's subjective innovative thinking but rather showcase each employee's visual innovation points, completely preserving the visual design schemes of all employees who operate using OPM cards. This approach both scientifically and comprehensively refines visual effect design while respecting employees' creative contributions, thereby

bridging the psychological distance between screen media and its employees.

3. Conclusion

The new image optimization system and methodology constitute a comprehensive technical editing solution from a macro perspective. Primarily, it represents an optimization scheme for collaborative image processing within the cultural and creative publishing industry, operating under an open office environment and leveraging composite technologies such as sensor systems, mobile devices, and Internet of Things (IoT) technology. Its core innovation lies in applying emerging technologies—including IoT, mobile Internet, and smart devices—to the domains of news media and cultural creativity, thereby possessing significant commercial potential for future development.

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