

The Artistic Properties of Cinematography with Volumetric Screen Technology and Virtual Production

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Abstract:

The use of techniques for separating the foreground from the background is part of the cinematic technical history since the invention of the art of cinema, to achieve the required artistic and creative aspect of storytelling. New and innovative technology was introduced recently, which is the Volumetric Screens, that enables the director of photography through virtual production to project the finished graphic designs onto a screen behind the actors during the filming process, eliminating the need for chroma keying and background compositing in post-production. The importance of this study comes from the need to study the characteristics of the image produced and the creative possibilities offered to the cinematic imagery and their impact on the artistic and creative side to help the director of photography in choosing the most effective method to achieve the artistic and dramatic purposes, to make optimal use of this technology, and the limits and problems facing designers in this field.

Keywords:

Cinema Technology, Digital Cinema, Virtual Production, XR Studios, Chroma Keying, Cinema, Visual Effects

References:

- 1- Gress, J. (2015). Digital Visual Effects and Compositing. New York: New Riders.
- 2- Holben, J. (2020, February 6). The Mandalorian: This Is the Way. Retrieved from American Cinematographer: <https://theasc.com/articles/the-mandalorian>
- 3- Ikmaranta, K. (2020). Cinematic Space in Virtual Production. In Augmented Reality, Virtual Reality, and Computer Graphics - 7th International Conference. Springer.
- 4- ILM. (2020). The Virtual Production of The Mandalorian Season One. Retrieved from Youtube - Industrial Light and Magic: <https://www.youtube.com/watch?v=gUnxzVOs3rk>
- 5- Jobin, R. E. (2022). The Catalysts, Standards, and Diffusions of Virtual Production Technologies and Workflows. Baylor University.
- 6- Kadner, N. (2019). The Virtual Production Field Guide Volume1. North California: Epic Games.
- 7- Lejeue, C. (2022). Virtual Production: A Study on its Environmental Impact. University of South California.
- 8- Lodderhose, D. (2023, May 21). Technologies Like AI & Unreal Engine Are A Having Big Impact On The Entertainment Business. Retrieved from Deadline: <https://deadline.com/2023/05/ai-unreal-engine-technology-disruptors-1235364383/>
- 9- Morton, R. (2005). King Kong: The History of a Movie Icon from Far Away to Peter Jackson. New York: Applause Theater & Cinema Books.
- 10- OptiTrack. (2023, July). OptiTrack for Virtual Production. Retrieved from OptiTrack Official Website: <https://optitrack.com/applications/virtual-production/>
- 11- Jalal, Amr M. (2016). The Impact of Technological Evolution on the Design of Cinematic Picture. International Design Journal, Vol.6 (No.1), 159-167.
- 12- Priadko, O., & Sirenko, M. (2021, April). Virtual production: a new approach to filmmaking. Bulletin of Kyiv National University of Culture and Arts, pp. 52-58.
- 13- Ragone, A. (2007). Eiji Tsuburaya: Master of Monsters. San Francisco: Chronicle Books.
- 14- Sawicki, M. (2007). Filming the Fantastic: A Guide to Visual Effects Cinematography . London: Focal Press.
- 15- Seymour, M. (2013, October 8). Gravity: Vfx that's anything but down to earth. Retrieved from FxGuide: <https://www.fxguide.com/featured/gravity/>
- 16- Mahmoud, Ahmed M. (2019, April). Plasma light as one of the New lighting techniques in the Cinema and Television. International Design Journal, Vol.9 (No.2), 189-196.
- 17- Stasukevich, I. (2014, December). Cosmic Odyssey, Create a Large-Format Canvas for the Science-Fiction Drama Interestellar. American Cinematographer, pp. 38-53.
- 18- Unreal Engine 5. (2023). Retrieved from Unreal Engine: <https://www.unrealengine.com/en-US/unreal-engine-5>

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19- Wright, S. (2007). Compositing Visual Effects: Essentials for the Aspiring Artists . London: Focal Press.

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