

Gaming on the Edge: Synthetic Intelligence, Immersive Entertainment and the Future of Creative Authorship

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Integrated entertainment intersects at the narrative of technology law and cultural ethos. Its integration expands from streaming services to consols to platforms or other immersive services that engages human creativity and ingenuity in evolving solutions to various challenges and needs. Gaming is a thriving industry, attracting huge investment and innovation. The online gaming market is expected to cross \$9.2 billion by the year 2029. With the rise of gamer communities, gatherings, and festivals, gaming has evolved beyond an industry into a vibrant culture of creativity, competition, and knowledge exchange. Intellectual Property rights such as copyrights are important within creative sectors as it protects the right holders against infringement of their work and thus providing an incentive for their creativity. While copyrights have an important role in protecting creative works, its role in protection video games have been challenging as video games have not been recognized as a work under international and domestic copyright laws. With the technological advancements over the years and usage of Immersive technologies like Virtual Reality (VR) and Augmented Reality (AR) where VR headsets and Mobile AR games have changed the gaming experience of Players and equally the scope of Video Gaming industry. However, with the advent of synthetic intelligence, gamers are increasingly using generative AI to evolve assets such as a texture, voices, music etc. using various AI tools. In addition, new genera of games are beginning to evolve which are developed using procedural content generation such as no man's sky and Dwarf fortress. This technique enables game developers to algorithmically generating game content, such as tasks or characters. The flexibility that procedural content generation offers to developers makes it more suitable to the needs of gaming community. While procedural content generation is inherently creative within game development, the unsettling aura surrounding generative AI works raises profound questions about whether copyright law can keep pace with the integrated entertainment ecosystems that is increasingly collaborative, algorithmic, and global in nature. More importantly questions of ownership, fair uses of synthetic works integrated into a complex gaming system. In addressing this the first part of the work examines the technological transformation and how copyright law had managed to keep pace with the change. The second part examines the comparative copyright law cases and their implications for generative AI based creations. More importantly it raises questions about player manipulation, AI autonomy, and digital rights and the final part tries to explore alternate means to address these challenges particular to video games and also offer sandbox environments for synthetic AI generation without risk of infringement. Acknowledging the role of intellectual property rights the work also finds a space for digital public domain in integrating technology with legal rights.

Key words: copyright law, intellectual property rights, immersive entertainment law, video games, synthetic intelligence and digital public domain.