AI Generated Video Games Are Coming: How Do Game Developers Protect Rights in Their IP?

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AI generated video games are coming. What remedies does a video game publisher have when its game is used to train an AI model? If the resulting model generates a new game in the same genre, under what circumstances would the distribution of that new game violate the rights of the original game's owner? The authors argue that copyright law is uncertain on several issues related to the training of AI models and the use of those models to create new works of authorship. But contract law may provide stopgap remedies for game publishers to protect their IP rights until copyright law evolves to address these new technologies. Contract remedies may not be as good as copyright remedies because they are more difficult and expensive to assert, but the process of preserving contract remedies is a relatively simple one. In this article, the authors provide guidance on how the owners of video games can use contract terms to protect their rights in intellectual property.

Using Games to Train AI Models – A Hypothetical Ripped from the Headlines

What happens if someone records a video of a complete playthrough of each of the Grand Theft Auto games and uploads the video to a database?[1] Assume the player narrates her gameplay as she goes, explaining her choices to viewers and tagging key features of the game in her commentary. If the videos are used to train an AI model, does the video game publisher have a remedy?

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[1] *See e.g.,* szau, *GTA V Speedrun*, YOUTUBE (July 18, 2021), https://www.youtube.com/watch?v=_7KQP_gsw0I [https://perma.cc/DEZ3-SF5D].

What happens if a user of the AI model then asks it to create a new video game in the same style as *Grand Theft Auto* (i.e., a realistic, open-world game focused on criminal exploits in an urban environment), but does not use any of the same text, music, cut scenes or other works of authorship in *Grand Theft Auto*? Assume the new game, called "*Carjacking: Taking by Force*," is free to play and a massive hit worldwide. Does Rockstar Games, the owner of the *Grand Theft Auto* franchise, have any remedies? If so, what would be the basis of their claim?

The hypothetical is not entirely fanciful, although it may take time before AI models can be trained on speedruns of AAA video games.[2] Similar issues have arisen in other, related contexts. For example, the song *"Heart on My Sleeve,"* seemingly performed by Canadian musicians Drake and The Weeknd, went viral on music streaming sites before it was removed. The creator of the song, identified by the screenname "ghostwriter977," used artificial intelligence to generate the vocals then mixed and mastered the vocals with other instrumental tracks.[3] The result was a song that sounded like it was performed by Drake and The Weeknd in their distinct voices and styles, but the lyrics and the music were new, not copies of any preexisting works by the artists.

While there are no examples of complete video games created with generative AI, new tools teased by Unity Software, Inc. (a producer of popular video game development software) show how generative AI could be used in the future to create characters and artwork for games based on prompts from users.[4] AI

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[2] A speedrun is a timed playthrough of a video game or portion of a video game completed as quickly as the player is able.

[3] *See* Lauren Russell, *AI Drake and The Weeknd: Song called Heart On My Sleeve – made with cloned voices – removed from streaming services*, SKYNEWS (Apr. 18, 2023), https://news.sky.com/story/ai-drake-and-the-weeknd-song-called-heart-on-my-sleeve-made-with-cloned-voices-removed-from-streaming-services-12859951 [https://perma.cc/E6BX-WEPC].

[4] *See* Unity, *Unity AI*, YOUTUBE (Mar. 20, 2023), https://www.youtube.com/watch?v=sr5z4PQenfE&t [https://perma.cc/4NZX-4H3L]. Unity's new Ai.Fi tool "converts text to images, rough sketches to textures, concept designs, generates auto normal maps and smoothness maps." *See* Unity Asset Store, *Ai.Fy – Text to Image*, https://assetstore.unity.com/packages/tools/generative-ai/ai-fy-text-to-image-238967 [https://perma.cc/ASB5-HRQL]. Artificial intelligence can also facilitate the development of games by helping to create non-playable characters, maps, environments, music, and dialog. The game *No Man's Sky*, which was developed by Hello Games, is a space exploration and survival game set "in an infinite (continued…)

tools on their own are unlikely to be able to create level designs and other complicated game features that are ready to play (at least in the short run), but in the hands of a skilled game designer they could greatly reduce the time and expense of game development.

Copyright Law is Still Evolving

The short answer to the *Carjacking* hypothetical questions above is that U.S. copyright law, the area where most lawyers would initially look for a remedy, is still in the early stages of development on these points. Courts could go either way.

The hypothetical posits that the user makes a video of gameplay that is then used to train the AI model, rather than training the model directly on the game's software. That presents a stronger case for copyright infringement because the video is a derivative work. But many end user license agreements for video games, including the one used by Rockstar, permit the user to create a narrated video of game play.[5]

Regardless of whether the video itself is authorized, a court might decide that storing such a video in a database of AI training data, training a model based on the video, and using the model to generate similar games is protected by the fair use exceptions in the Copyright Act.

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procedurally generated galaxy." One of the founders of Hello Games claims that the game can create an "entire universe" of "18 quintillion planets," all of which are unique and generated by a computer. Although much of *No Man's Sky* is procedurally generated and not technically the product of artificial intelligence, it illustrates how advanced technology can create content that is beyond the capabilities of even the largest and most well-resourced human game development team. Hello Games is said to have created *No Man's Sky* with just ten game developers. *See* The Late Show with Stephen Colbert, *Sean Murray May Have Replaced Morgan Freeman as God*, YOUTUBE (Oct. 3, 2015), https://www.youtube.com/watch?v=ZqeN6hj4dZU [https://perma.cc/EAT5-SFM8].

[5] Users commonly share narrated videos of gameplay to create tutorials or to showcase their gaming prowess. The End User License Agreement for Rockstar Games provides: "The Software [for the game] may allow you to create content, including but not limited to, a … video of your game play." Rockstar Games, *Rockstar Games End User License Agreement* (July 11, 2019), https://www.rockstargames.com/eula [https://perma.cc/U6SW-3PNP].

Note that there is an argument, already advanced in pending litigation,[6] that training an AI model does not necessarily involve *any* prohibited copying of content for later distribution. Rather, the training generates numerical, statistical data about the content that is being evaluated, and that data reflects a probabilistic connection between a given prompt and an output. This novel argument attempts to avoid fair use analysis entirely by suggesting that no copying occurs. However, no court has expressly endorsed this argument.

Fair use is a legal doctrine, codified in Section 107 of the Copyright Act, that allows for the limited use of copyrighted material without permission from the copyright holder for certain purposes such as criticism, commentary, or research.[7] There is no bright line test for determining fair use. It is fact-specific and is applied on a case-by-case basis. To determine whether a particular use is "fair," the Copyright Act enumerates four factors to be considered: "(1) the purpose and character of the use, including whether such use is of a commercial nature ...; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work."[8] Even if the trier of fact determines that copying has taken place, the fair use exception in the Copyright Act may apply.

In *Google LLC v. Oracle America, Inc.*, the Supreme Court held that Google's copying of a portion of the API software for Oracle's Java software development platform, which included only those lines of code that were needed to allow programmers to put their talents to work in a new and transformative program, was a fair use of that material as a matter of law.[9] The Court concluded that Google put the Java code to use in the "distinct and different computing environment" of its own Android platform, a new system that was created for new products.[10] By analogy, if a gamer uses the videos of game walkthroughs to train an AI model, that AI model could arguably be a "distinct and different computing environment" from video game software and constitute a new system created for new products.

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[6] Mot. to Dismiss,1, *Andersen et al v. Stability AI, LTD et al*, No. 3:23-cv-00201-WHO (U.S. Dist. Ct. N. Dist. Cal.).
[7] 17 U.S.C. § 107 (2012).
[8] *Id.*
[9] *Google LLC v. Oracle Am., Inc.*, 141 S. Ct. 1183 (2021).
[10] *Id.* at 1203.

The Supreme Court's recent decision in the "Orange Prince" case, however, suggests a narrowing of fair use doctrine.[11] The case involved an orange silkscreen portrait created by Andy Warhol of the musician Prince. The silkscreen portrait was based on a black and white photograph of Prince taken by the celebrity photographer Lynn Goldsmith four years earlier. After some time, the Andy Warhol Foundation licensed the orange silkscreen to a magazine for use on the cover of an issue commemorating Prince's death. When Goldsmith saw the magazine and raised the infringement issue in a letter to the Warhol Foundation, the Foundation sued Goldsmith for a declaratory judgment of non-infringement or, in the alternative, fair use. The Court ruled for Goldsmith, concluding that the "purpose and character" test in the Copyright Act did not favor the Warhol Foundations' fair use defense to copyright infringement. The Court reasoned that if an original work (the photograph) and a secondary work (the silkscreen) share the same or highly similar purposes and the secondary work is commercial, then the "purpose and character" factor is likely to weigh against fair use, absent some other justification for copying.

If we apply the rules of the "Orange Price" case to the *Carjacking* hypothetical, a similar purpose may be identified because the original work (*Grand Theft Auto*) and the secondary work (*Carjacking*) are both video games in the same genre. A free-to-play game, like *Carjacking*, could be commercial in nature if it was monetized by the sale of in-game digital goods. Many games are available to play for free but generate revenue from the sale of virtual in-game goods, like character skins, player icons, voice/audio lines, victory poses, and character accessories (such as weapons, armor, tools, clothing, and equipment). These virtual goods can typically be earned by playing the game (a long and slow process sometimes referred to as "grinding") or can be acquired with an in-game currency that may be purchased with real money. Thus, even if *Carjacking* is "free," it may still be "commercial" in nature. Alternatively, a game like *Carjacking* could be free and not commercial in nature. Some designers create games and distribute them to others purely for the joy of making something that people like to play.[12] In that case, the entirely free-to-play *Carjacking* game could be protected even under the narrower fair use doctrine reflected in the "Orange Prince" case.

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[11] *Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith*, 143 S. Ct. 1258 (2023).

[12] The game *Forgotten City* was a player-created, free-to-play modification (or "mod") of the game *The Elder Scrolls V: Skyrim*. The mod became so popular with fans of *Skyrim* that Bethesda Studios, the publisher of *Skyrim*, turned it into a stand-alone game, which it then sold to the public. Gabriel Moss, *The Forgotten City Review*, IGN (July 30, 2021), https://www.ign.com/articles/the-forgotten-city-review [https://perma.cc/5RKU-MN93].

Both Supreme Court cases discussed above involve the copying of a portion of a work (a line of code or an image of Prince) into another work without permission from the copyright holder. The *Carjacking* hypothetical is distinguishable from these cases because the new game does not make direct use of any of *Grand Theft Auto's* text, audio, video, or artwork. That difference alone makes this a "hard case" and the application of existing case law to these new, AI-specific facts difficult to predict.

Can Contract Law Fill the Gaps?

Given that copyright law has not yet directly addressed the issues posed in the *Carjacking* hypothetical, what can video game publishers do to protect their IP? Contract law can provide basic remedies where copyright law may not, if the publisher takes some simple steps to preserve its rights in the game.

Video games are licensed, not sold, to the end user. Rockstar, like other game publishers, has an End User License Agreement ("EULA")[13] and online Terms of Service ("ToS")[14] that grant the user limited rights to use and copy the game. Both the EULA and the ToS for *Grand Theft Auto* limit the user's license rights to "personal, non-commercial use." The ToS applicable to the online version of the *Grand Theft Auto* expressly prohibit the use of "any data mining, robots or similar data gathering or extraction methods." That provision appears calculated to prohibit screen scraping or web crawling, which can be relevant to the training of AI models but does not encompass all possible use cases.

While a breach of contract claim could be useful to a game publisher, it is not a fully functioning substitute for a copyright claim for two reasons.

First, only the user who creates the video is in privity with the game publisher. A breach of contract claim could be asserted against the creator of the *Grand Theft Auto* video because she accepted Rockstar's EULA for the game, but the same claim cannot be asserted against the distributors of *Carjacking*. There may, however, be claims sounding in tort that are available to the game publisher, like those for inducement to breach a contract or tortious interference with contract.

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[13] Rockstar Games, *Rockstar Games End User License Agreement* (July 11, 2019), https://www.rockstargames.com/eula [https://perma.cc/3FLR-RBVF].
[14] Rockstar Games, *Terms of* Service (July 11, 2019), https://www.rockstargames.com/legal [https://perma.cc/88QW-M5FZ].

Second, a contract claim is less valuable as it relates to remedies. A violation of copyright law in the United States can provide the owner of the work with notice-and-takedown remedies under the Digital Millennium Copyright Act ("DMCA").[15] DMCA procedures can be quickly and inexpensively utilized against online service providers who distribute the infringing work. Tort claims may also be employed to stop the distribution of *Carjacking* via websites and retail stores, but such claims be more difficult and expensive to assert than the notice-and-takedown remedies created by the DMCA.

It's also important to note that the Second Circuit has concluded, in *ML Genius Holdings LLC v. Google LLC*, that certain breach of contract claims arising under state law are statutorily preempted by the Copyright Act.[16] Genius, the plaintiff in the case, operates a website that displays song lyrics. Genius accused Google of scraping lyrics from its website and posting them on search results pages in breach of Genius's terms of service.[17] The Second Circuit ruled in favor of Google and held that the Copyright Act's preemption clause precluded the breach of contract claims.[18] The Petition for Writ of Certiorari filed by Genius noted that "the circuits and state supreme courts are hopelessly split on whether, and to what extent, Congress wiped out … contractual promises with a preemption provision in the Copyright Act."[19] The Supreme Court declined to hear the case and the circuit split remains, along with uncertainty over the scope of preemption and the ability to assert contract claims. Given the lack of clarity in the law and the different conclusions reached by courts on similar facts, a video game publisher may want to review the forum selection clause in its EULA or ToS to avoid the Second Circuit.[20]

What Can be Done to Preserve IP Rights While Copyright Law is Still Evolving?

Contract law claims are hampered by limited remedies and the possibility of preemption, but the low cost of preserving contract claims may induce game

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[15] Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (codified as amended in scattered sections of 5, 17, 28, 35, & 47 U.S.C.).

[16] *ML Genius Holdings v. Google LLC*, No. 20-3113, 2022 WL 710744at *4 (2d Cir. Mar. 10, 2022), *cert denied* 143 S. Ct. 2658 (2023).

[17] *Id.*

[18] *Id.*

[19] Pet. for Cert. at 1*, ML Genius Holdings LLC v. Google LLC,* 143 S. Ct. 2658 (2023)*.*

[20] The EULA and ToS for Rockstar both specify the law of New York as the governing law of the contract.

publishers to update their terms to include specific restrictions on the use of game content in AI applications. One way to write the prohibition would be as follows:

> **No Use with Artificial Intelligence**. You may not copy or use all or any part of the Game Assets (as defined below) for any artificial intelligence purposes. In particular, you may not use all or any part of the Game Assets to develop, create, prompt, train, improve or enhance any deep learning, machine learning or other artificial intelligence application, including any convolutional neural network, whether for commercial or non-commercial purposes. You may not make screen captures or videos of gameplay or use text and data mining, web crawling, screen scrapping or similar data gathering methods to create datasets that are used to train an AI model or for model validation or testing. As used herein, the term **"Game Assets"** means (a) the artwork, graphics, text, animation, video, visual displays and other elements visible to the user of the game (including the storyline, backstories and lore for the game and transcripts of any gameplay; the characters that appear or are described in the game; and the locations, levels and maps of the game); (b) the sounds, musical compositions, sound effects, dialog, voice tags, sound tracks, and other elements audible to the user of the game; and (c) the vibrations, motions, feedback forces and other elements that are felt by the user of the game.[21]

If the game publisher adds a provision of this kind to the EULA or ToS for a game, it may create remedies for breach of contract and related torts. The model clause proposed above is a quick, cheap, and relatively easy way for publishers to preserve rights in the game while the issues of copyright infringement and preemption relating to use of AI make their way through the courts.

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[21] In drafting a provision of this kind, care should be taken to prohibit the use of the game (or video of the game) to train an AI model without also prohibiting the use of the game to create narrated videos of gameplay. Gameplay videos are a staple of gaming platforms, including Twitch and YouTube Gaming, and constitute an important form of promotion for game publishers.