

154 F.3d 1107  
United States Court of Appeals,  
Ninth Circuit.

MICRO STAR, Plaintiff–Appellant,

v.

FORMGEN INC., a corporation; GT Interactive Software Corp.; 3D Realms Entertainment, aka 3D  
Realms Entertainment; DOES, 1 through 100, inclusive., Defendants–Appellees.

MICRO STAR, Plaintiff–Appellant/Cross–Appellee,

v.

FORMGEN INC., a corporation; GT Interactive Software Corp.; 3D Realms Entertainment, aka 3D  
Realms Entertainment; Does, 1 through 100, inclusive., Defendants–Appellees/Cross–Appellants.

Nos. 96–56426, 96–56433.

Argued and Submitted Nov. 4, 1997.

Decided Sept. 11, 1998.

## Opinion

KOZINSKI, Circuit Judge.

Duke Nukem routinely vanquishes Octabrain and the Protozoid Slimer. But what about the dreaded Micro Star?

## I

FormGen Inc., GT Interactive Software Corp. and Apogee Software, Ltd. (collectively FormGen) made, distributed and own the rights to Duke Nukem 3D (D/N-3D), an immensely popular (and very cool) computer game. D/N-3D is played from the first-person perspective; the player assumes the personality and point of view of the title character, who is seen on the screen only as a pair of hands and an occasional boot, much as one might see oneself in real life without the aid of a mirror.<sup>1</sup> Players explore a futuristic city infested with evil aliens and other hazards. The goal is to zap them before they zap you, while searching for the hidden passage to the next level. The basic game comes with twenty-nine levels, each with a different combination of scenery, aliens, and other challenges. The game also includes a “Build Editor,” a utility that enables players to create their own levels. With FormGen’s encouragement, players frequently post levels they have created on the Internet where others can download them. Micro Star, a computer software distributor, did just that: It downloaded 300 user-created levels and stamped them onto a CD, which it then sold commercially as Nuke It (N/I). N/I is packaged in a box decorated with numerous “screen shots,” pictures of what the new levels look like when played.

Micro Star filed suit in district court, seeking a declaratory judgment that N/I did not infringe on any of FormGen’s copyrights. FormGen counterclaimed, seeking a preliminary injunction barring further production and distribution of N/I. Relying on *Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 964 F.2d 965 (9th Cir.1992), the district court held that N/I was not a derivative work and therefore did not infringe FormGen’s copyright. The district court did, however, grant a preliminary injunction as to the screen shots, finding that N/I’s packaging violated FormGen’s copyright by reproducing pictures of D/N-3D characters without a license. The court rejected Micro Star’s fair use claims. Both sides appeal their losses.

## II

A party seeking a preliminary injunction must show “either a likelihood of success on the merits and the possibility of irreparable injury, or that serious questions going to the merits were raised and the balance of hardships tips sharply in its favor.” *Johnson Controls, Inc. v. Phoenix Control Systems, Inc.*, 886 F.2d 1173, 1174 (9th Cir.1989). Because “in a copyright infringement claim, a showing of a reasonable likelihood of success on the merits raises a presumption of irreparable harm,” *id.*, FormGen need only show a likelihood of success on the merits to get the preliminary injunction it seeks (barring the manufacture and distribution of N/I) and to preserve the preliminary injunction it already won (barring the screen shots on N/I’s packaging).

## III

To succeed on the merits of its claim that N/I infringes FormGen’s copyright, FormGen must show (1) ownership of the copyright to D/N-3D, and (2) copying of protected expression by Micro Star. *See Triad Systems Corp. v. Southeastern Express Co.*, 64 F.3d 1330, 1335 (9th Cir.1995). FormGen’s \*1110 copyright registration creates a presumption of ownership, *see id.*, and we are satisfied that FormGen has established its ownership of the copyright. We therefore focus on the latter issue.

FormGen alleges that its copyright is infringed by Micro Star’s unauthorized commercial exploitation of user-created game levels. In order to understand FormGen’s claims, one must first understand the way D/N-3D works. The game consists of three separate components: the game engine, the source art library and the MAP files.<sup>2</sup> The game engine is the heart of the computer program; in some sense, it *is* the program. It tells the computer when to read data, save and load games, play sounds and project images onto the screen. In order to create the audiovisual display for a particular level, the game engine invokes the MAP file that corresponds to that level. Each MAP file contains a series of instructions that tell the game engine (and, through it, the computer) what to put where. For instance, the MAP file might say scuba gear goes at the bottom of the screen. The game engine then goes to the source art library, finds the image of the scuba gear, and puts it in just the right place on the screen.<sup>3</sup> The MAP file describes the level in painstaking detail, but it does not actually contain any of the copyrighted art itself; everything that appears on the screen actually comes from the art library. Think of the game’s audiovisual display as a paint-by-numbers kit. The MAP file might tell you to put blue paint in section number 565, but it doesn’t contain any blue paint itself; the blue paint comes from your palette, which is the low-tech analog of the art library, while you play the role of the game engine. When the player selects one of the N/I levels, the game engine references the N/I MAP files, but still uses the D/N-3D art library to generate the images that make up that level.

FormGen points out that a copyright holder enjoys the exclusive right to prepare derivative works based on D/N-3D. *See* 17 U.S.C. § 106(2) (1994). According to FormGen, the audiovisual displays generated when D/N-3D is run in conjunction with the N/I CD MAP files are derivative works that infringe this exclusivity. Is FormGen right? The answer is not obvious.

The Copyright Act defines a derivative work as

a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a “derivative work.”

*Id.* § 101. The statutory language is hopelessly overbroad, however, for “[e]very book in literature, science and art, borrows and must necessarily borrow, and use much which was well known and used before.” *Emerson v. Davies*, 8 F. Cas. 615, 619 (C.C.D.Mass.1845) (No. 4436), *quoted in 1 Nimmer on Copyright*, § 3.01, at 3–2 (1997). To narrow the statute to a manageable level, we have developed certain criteria a work must satisfy in order to qualify as a derivative work. One of these is that a derivative work must exist in a “concrete or permanent form,” *Galoob*, 964 F.2d at 967 (internal quotation marks omitted), and must substantially incorporate protected material from the

preexisting work, *see Litchfield v. Spielberg*, 736 F.2d 1352, 1357 (9th Cir.1984). Micro Star argues that N/I is not a derivative work because the audiovisual displays generated when D/N-3D is run with N/I's MAP files are \*1111 not incorporated in any concrete or permanent form, and the MAP files do not copy any of D/N-3D's protected expression. It is mistaken on both counts.

The requirement that a derivative work must assume a concrete or permanent form was recognized without much discussion in *Galoob*. There, we noted that all the Copyright Act's examples of derivative works took some definite, physical form and concluded that this was a requirement of the Act. *See Galoob*, 964 F.2d at 967–68; *see also* Edward G. Black & Michael H. Page, *Add-On Infringements*, 15 Hastings Comm/Ent. L.J. 615, 625 (1993) (noting that in *Galoob* the Ninth Circuit “re-examined the statutory definition of derivative works offered in section 101 and found an independent fixation requirement of sorts built into the statutory definition of derivative works”). Obviously, N/I's MAP files themselves exist in a concrete or permanent form; they are burned onto a CD-ROM. *See ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1453 (7th Cir.1996) (computer files on a CD are fixed in a tangible medium of expression). But what about the audiovisual displays generated when D/N-3D runs the N/I MAP files—i.e., the actual game level as displayed on the screen? Micro Star argues that, because the audiovisual displays in *Galoob* didn't meet the “concrete or permanent form” requirement, neither do N/I's.

In *Galoob*, we considered audiovisual displays created using a device called the Game Genie, which was sold for use with the Nintendo Entertainment System. The Game Genie allowed players to alter individual features of a game, such as a character's strength or speed, by selectively “blocking the value for a single data byte sent by the game cartridge to the [Nintendo console] and replacing it with a new value.” *Galoob*, 964 F.2d at 967. Players chose which data value to replace by entering a code; over a billion different codes were possible. The Game Genie was dumb; it functioned only as a window into the computer program, allowing players to temporarily modify individual aspects of the game. *See Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 780 F.Supp. 1283, 1289 (N.D.Cal.1991).

Nintendo sued, claiming that when the Game Genie modified the game system's audiovisual display, it created an infringing derivative work. We rejected this claim because “[a] derivative work must incorporate a protected work in some concrete or permanent form.” *Galoob*, 964 F.2d at 967 (internal quotation marks omitted). The audiovisual displays generated by combining the Nintendo System with the Game Genie were not incorporated in any permanent form; when the game was over, they were gone. Of course, they could be reconstructed, but only if the next player chose to reenter the same codes.<sup>4</sup>

Micro Star argues that the MAP files on N/I are a more advanced version of the Game Genie, replacing old values (the MAP files in the original game) with new values (N/I's MAP files). But, whereas the audiovisual displays created by Game Genie were never recorded in any permanent form, the audiovisual displays generated by D/N-3D from the N/I MAP files are in the MAP files themselves. In *Galoob*, the audiovisual display was defined by the original game cartridge, not by the Game Genie; no one could possibly say that the data values inserted by the Game Genie described the audiovisual display. In the present case the audiovisual display that appears on the computer monitor when a N/I level is played is described—in exact detail—by a N/I MAP file.

This raises the interesting question whether an exact, down to the last detail, description of an audiovisual display (and—by definition—we know that MAP files do describe audiovisual displays down to the last detail) \*1112 counts as a permanent or concrete form for purposes of *Galoob*. We see no reason it shouldn't. What, after all, does sheet music do but describe in precise detail the way a copyrighted melody sounds? *See* 1 William F. Patry, *Copyright Law and Practice* 168 (1994) (“[A] musical composition may be embodied in sheet music...”). To be copyrighted, pantomimes and dances may be “described in sufficient detail to enable the work to be performed from that description.” *Id.* at 243 (citing *Compendium II of Copyright Office Practices* § 463); *see also Horgan v. Macmillan, Inc.*, 789 F.2d 157, 160 (2d Cir.1986). Similarly, the N/I MAP files describe the audiovisual display that is to be generated when the player chooses to play D/N-3D using the N/I levels. Because the audiovisual displays assume a concrete or permanent form in the MAP files, *Galoob* stands as no bar to finding that they are derivative works.

In addition, “[a] work will be considered a derivative work only if it would be considered an infringing work if the material which it has derived from a preexisting work had been taken without the consent of a copyright proprietor of such preexisting work.” *Mirage Editions v. Albuquerque A.R.T. Co.*, 856 F.2d 1341, 1343 (quoting 1 *Nimmer on Copyright* § 3.01 (1986)) (internal quotation marks omitted). “To prove infringement, [FormGen] must show that [D/N-3D's and N/I's audiovisual displays] are substantially similar in both ideas and expression.” *Litchfield v.*

*Spielberg*, 736 F.2d 1352, 1356 (9th Cir.1984) (emphasis omitted). Similarity of ideas may be shown by comparing the objective details of the works: plot, theme, dialogue, mood, setting, characters, etc. *See id.* Similarity of expression focuses on the response of the ordinary reasonable person, and considers the total concept and feel of the works. *See id.* at 1356–57. FormGen will doubtless succeed in making these showings since the audiovisual displays generated when the player chooses the N/I levels come entirely out of D/N-3D’s source art library. *Cf. Atari, Inc. v. North Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 620 (7th Cir.1982) (finding two video games substantially similar because they shared the same “total concept and feel”).

Micro Star further argues that the MAP files are not derivative works because they do not, in fact, incorporate any of D/N-3D’s protected expression. In particular, Micro Star makes much of the fact that the N/I MAP files reference the source art library, but do not actually contain any art files themselves. Therefore, it claims, nothing of D/N-3D’s is reproduced in the MAP files. In making this argument, Micro Star misconstrues the protected work. The work that Micro Star infringes is the D/N-3D story itself—a beefy commando type named Duke who wanders around post-Apocalypse Los Angeles, shooting Pig Cops with a gun, lobbing hand grenades, searching for medkits and steroids, using a jetpack to leap over obstacles, blowing up gas tanks, avoiding radioactive slime. A copyright owner holds the right to create sequels, *see Trust Co. Bank v. MGM/UA Entertainment Co.*, 772 F.2d 740 (11th Cir.1985), and the stories told in the N/I MAP files are surely sequels, telling new (though somewhat repetitive) tales of Duke’s fabulous adventures. A book about Duke Nukem would infringe for the same reason, even if it contained no pictures.<sup>5</sup>

Micro Star nonetheless claims that its use of D/N-3D’s protected expression falls within the doctrine of fair use, which permits unauthorized use of copyrighted works “for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research.” 17 U.S.C. § 107; *see Narell v. Freeman*, 872 F.2d 907, 913 (9th Cir.1989). Section 107 instructs courts “determining whether the use made of a work in any particular case is a fair use” to consider four factors: (1) the purpose and character of the use, including whether it is commercial in nature; (2) the nature of the copyrighted work; (3) the amount and substantiality of the copied material in relation to the copyrighted work as a whole; and (4) the effect of the use on the potential market for the copyrighted work. 17 U.S.C. § 107.

**\*1113** As a preliminary matter, Micro Star asks us to focus on the player’s use of the N/I CD in evaluating the fair use claim, because—according to Micro Star—the player actually creates the derivative work. In *Galoob*, after we assumed for purposes of argument that the Game Genie did create derivative works, we went on to consider the fair use defense from the player’s point of view. *See Galoob*, 964 F.2d at 970. But the fair use analysis in *Galoob* was not necessary and therefore is clearly dicta. More significantly, Nintendo alleged only contributory infringement—that *Galoob* was helping consumers create derivative works; FormGen here alleges direct infringement by Micro Star, because the MAP files encompass new Duke stories, which are themselves derivative works.

Our examination of the section 107 factors yields straightforward results. Micro Star’s use of FormGen’s protected expression was made purely for financial gain. While that does not end our inquiry, *see Campbell v. Acuff–Rose Music, Inc.*, 510 U.S. 569, 584, 114 S.Ct. 1164, 127 L.Ed.2d 500 (1994), “every commercial use of copyrighted material is presumptively an unfair exploitation of the monopoly privilege that belongs to the owner of the copyright.” *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 451, 104 S.Ct. 774, 78 L.Ed.2d 574 (1984).<sup>6</sup> The Supreme Court has explained that the second factor, the nature of the copyrighted work, is particularly significant because “some works are closer to the core of intended copyright protection than others, with the consequence that fair use is more difficult to establish when the former works are copied.” *Campbell*, 510 U.S. at 586, 114 S.Ct. 1164. The fair use defense will be much less likely to succeed when it is applied to fiction or fantasy creations, as opposed to factual works such as telephone listings. *See United Tel. Co. v. Johnson Publ’g Co.*, 855 F.2d 604, 609 (8th Cir.1988); *see also Stewart v. Abend*, 495 U.S. 207, 237, 110 S.Ct. 1750, 109 L.Ed.2d 184 (1990). Duke Nukem’s world is made up of aliens, radioactive slime and freezer weapons—clearly fantasies, even by Los Angeles standards. N/I MAP files “expressly use[ ] the [D/N-3D] story’s unique setting, characters, [and] plot,” *Stewart*, 495 U.S. at 238, 110 S.Ct. 1750; both the quantity and importance of the material Micro Star used are substantial. Finally, by selling N/I, Micro Star “impinged on [FormGen’s] ability to market new versions of the [D/N-3D] story.” *Stewart*, 495 U.S. at 238, 110 S.Ct. 1750; *see also Twin Peaks Productions, Inc. v. Publications Int’l, Ltd.*, 996 F.2d 1366, 1377 (2d Cir.1993). Only FormGen has the right to enter that market; whether it chooses to do so is entirely its business. “[N/I] neither falls into any of the categories enumerated in section 107 nor meets the four criteria set forth in section 107.” *Stewart*, 495 U.S. at 237, 110 S.Ct. 1750. It is not protected by fair use.

Micro Star also argues that it is the beneficiary of the implicit license FormGen gave to its customers by authorizing them to create new levels. Section 204 of the Copyright Act requires the transfer of the exclusive rights granted to copyright owners (including the right to prepare derivative works) to be in writing. *See* 17 U.S.C. § 204(a); *Effects Assocs., Inc. v. Cohen*, 908 F.2d 555, 556 (9th Cir.1990). A nonexclusive license may, however, be granted orally or implied by conduct. *See Effects*, 908 F.2d at 558. Nothing indicates that FormGen granted Micro Star any written license at all; nor is there evidence of a nonexclusive oral license. The only written license FormGen conceivably granted was to players who designed their own new levels, but that license contains a significant limitation: Any new levels the players create “must be offered [to others] solely for free.” The parties dispute whether the license is binding, but it doesn’t matter. If the license is valid, it clearly prohibits commercial distribution of levels; if it doesn’t, FormGen hasn’t granted any written licenses at all.<sup>7</sup>

**\*1114** In case FormGen didn’t license away its rights, Micro Star argues that, by providing the Build Editor and encouraging players to create their own levels, FormGen abandoned all rights to its protected expression. It is well settled that rights gained under the Copyright Act may be abandoned. But abandonment of a right must be manifested by some overt act indicating an intention to abandon that right. *See Hampton v. Paramount Pictures Corp.*, 279 F.2d 100, 104 (9th Cir.1960). Given that it overtly encouraged players to make and freely distribute new levels, FormGen may indeed have abandoned its exclusive right to do the same. But abandoning some rights is not the same as abandoning all rights, and FormGen never overtly abandoned its rights to profit commercially from new levels. Indeed, FormGen warned players not to distribute the levels commercially and has actively enforced that limitation by bringing suits such as this one.

#### IV

Because FormGen will likely succeed at trial in proving that Micro Star has infringed its copyright, we reverse the district court’s order denying a preliminary injunction and remand for entry of such an injunction. Of course, we affirm the grant of the preliminary injunction barring Micro Star from selling N/I in boxes covered with screen shots of the game.<sup>8</sup>

**AFFIRMED in part, REVERSED in part, and REMANDED. Micro Star to bear costs of both appeals.**

Footnotes	
*	Judge Thompson was drawn to replace Judge Floyd Gibson who became unavailable after the case was submitted.
1	This form of play was pioneered by a company called id Software with its classic Wolfenstein 3D character.
2	So-called because the files all end with the extension “.MAP”. Also, no doubt, because they contain the layout for the various levels.
3	Actually, this is all a bit metaphorical. Computer programs don’t actually go anywhere or fetch anything. Rather, the game engine receives the player’s instruction as to which game level to select and instructs the processor to access the MAP file corresponding to that level. The MAP file, in turn, consists of a series of instructions indicating which art images go where. When the MAP file calls for a particular art image, the game engine tells the processor to access the art library for instructions on how each pixel on the screen must be colored in order to paint that image.
4	A low-tech example might aid understanding. Imagine a product called the Pink Screener, which consists of a big piece of pink cellophane stretched over a frame. When put in front of a television, it makes everything on the screen look pinker. Someone who manages to record the programs with this pink cast (maybe by filming the screen) would have created an infringing derivative work. But the audiovisual display observed by a person watching

	<p>television through the Pink Screener is not a derivative work because it does not incorporate the modified image in any permanent or concrete form. The Game Genie might be described as a fancy Pink Screener for video games, changing a value of the game as perceived by the current player, but never incorporating the new audiovisual display into a permanent or concrete form.</p>
5	<p>We note that the N/I MAP files can only be used with D/N-3D. If another game could use the MAP files to tell the story of a mousy fellow who travels through a beige maze, killing vicious saltshakers with paper-clips, then the MAP files would not incorporate the protected expression of D/N-3D because they would not be telling a D/N-3D story.</p>
6	<p>Of course, transformative works have greater recourse to the fair use defense as they “lie at the heart of the fair use doctrine’s guarantee of breathing space within the confines of copyright ... and the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.” <i>Campbell</i>, 510 U.S. at 579, 114 S.Ct. 1164 (citations omitted). N/I can hardly be described as transformative; anything but.</p>
7	<p>We would have no reason to sever the limitation from the license; the limitation is plainly stated in the User License, unambiguous, and not the least bit unreasonable. Indeed, it is precisely the sort of term we would expect to see in such a license.</p>
8	<p>Micro Star raises various other claims alleging copyright misuse and abuse of the discovery process. However, nothing indicates that FormGen abused its copyright. <i>See Triad Systems Corp. v. Southeastern Express Co.</i>, 64 F.3d 1330, 1337 (9th Cir.1995). And we are at a loss to understand why Micro Star complains about the discovery process; certainly the district court did not abuse its discretion. <i>See Sopcak v. Northern Mountain Helicopter Serv.</i>, 52 F.3d 817, 819 (9th Cir.1995).</p>