

DIGITAL SLAVES OF THE RENDER FARMS?: VIRTUAL ACTORS AND INTELLECTUAL PROPERTY RIGHTS

Adam Faier*

I. INTRODUCTION

Toiling away, appearing on command, and doing exactly as told, virtual actors¹ are playing an increasingly prominent role in everyday life. Virtual actors are becoming our entertainers, helpers, and companions in everything from motion pictures² to video games³ to business software.⁴ In particular, virtual actors are appearing more and more frequently in various forms of entertainment. For example, Lara Croft, the virtual heroine of over a half-dozen video games, is also the basis for two motion pictures and a comic book series.⁵ As virtual actors move from being non-interactive curiosities to substitutes for human “servants,” many

* J.D., University of Illinois College of Law, 2005; M.S. Computer Science, B.S. Computer Engineering, B.S. Computer Science, Washington University in St. Louis, 1998. The author previously worked as a Senior Engineer with The Boeing Company in a research and development group focusing on real-time simulation networking. The author would like to thank Professor Peter B. Maggs and Sivashree Sundaram for their assistance with this Note.

1. The term “virtual actor,” as used in this Note, refers to the class of purely computer-generated entities—whether they look like human beings or bizarre, alien creatures—with no basis in a specific human being or other real-life entity. A virtual actor is a set of data stored within a computer, usually capable of being represented visually. As used, the term “virtual actor” is not intended to be limited to the case of computer-generated actors in motion pictures; rather, the term applies to a wide range of applications, from motion pictures to computer games to word processing applications. A virtual actor in a motion picture does, however, provide a useful context for framing the analysis of available legal protections.

2. *E.g.*, STAR WARS: EPISODE I—THE PHANTOM MENACE (Lucasfilm 1999) [hereinafter THE PHANTOM MENACE] (featuring the virtual alien creature Jar Jar Binks). *See generally* Internet Movie Database, Star Wars: Episode I—The Phantom Menace, at <http://www.imdb.com/title/tt0120915> (last visited Apr. 3, 2005) (containing general information about the movie and its characters).

3. *E.g.*, TOMB RAIDER (Eidos plc 1996) (featuring character Lara Croft as heroine of the series of *Tomb Raider* video games). *See generally* Eidos plc, EidosInteractive.com [hereinafter Eidos Web site], at <http://www.eidosinteractive.com> (last visited Apr. 3, 2005) (creators of the *Tomb Raider* video games).

4. For example, “Clippit” is the animated paper clip assistant in Microsoft Word 2002.

5. *See* Eidos Web site, *supra* note 3; *see also* Alex Pham, *Deal Seals Star’s Power*, L.A. TIMES, May 20, 2002, at C1. *See generally* Internet Movie Database, Lara Croft: Tomb Raider, at <http://www.imdb.com/title/tt0146316> (last visited Apr. 3, 2005) (containing general information about the movie and its characters).

issues are being raised regarding their rights and the rights of their owners.

In general, the law affords “real” actors (i.e., human beings) numerous types of intellectual property protections, including copyright and the right of publicity. The scope of these protections encompasses many different facets of the actors and their works. The question arises as to what protections virtual actors should share with their flesh-and-blood counterparts. This Note specifically examines the intellectual property rights by which virtual actors ought to be protected.

Section II lays out the motivation for this Note, the evolution of virtual actors, and the relevant law in determining what protections might be available to virtual actors. Section III examines the underlying technology used to create virtual actors and analyzes the existing law and how it might apply to virtual actors. Section IV provides recommendations based on the analysis in Section III, taking into consideration the unique characteristics of virtual actors.

II. BACKGROUND

A. Motivation

1. Computational Origins

The computational power of computers has grown at an exponential rate over the past several decades.⁶ This growth in computational power now allows computers to create images that are virtually indistinguishable from reality in a reasonable amount of time.⁷ Less than a decade ago, even moderately realistic images were the sole domain of powerful supercomputers that might render for months to create a two-minute movie.⁸ Today, people are able to get free copies of the same software used to generate not only short special effects sequences, but also entire motion pictures for their own personal computers.⁹ In

6. See Intel Corp., Silicon: Moore's Law, at <http://www.intel.com/research/silicon/mooreslaw.htm> (last visited Nov. 15, 2004) (explaining Gordon Moore's observation that the number of transistors per integrated circuits grew exponentially).

7. See Michael A. Hiltzik & Alex Pham, *Synthetic Actors Guild*, L.A. TIMES, May 8, 2001, at A1 (“To avoid a look that was antiseptically ‘perfect,’ the animators even took pains to simulate film grain and lens flares.”).

8. See *infra* Section III.A.1.c.

9. See, e.g., Press Release, Alias, Maya Personal Learning Edition 5 Now Available for Download (Oct. 15, 2003), at http://www.alias.com/eng/press/press_releases/20031010_maya_ple_download_available.shtml (“The Maya Personal Learning Edition software program . . . brought the 3D tool widely used in feature films and the game development industry to the masses.”); Alias, Weta Returns with “The King” to Close Off the World's Favorite Trilogy, at http://www.alias.com/eng/community/customer_stories/weta_return_of_the_king.jhtml (last visited Apr. 3, 2005) (stating that Maya was used for many of the special effects shots in *The Lord of the Rings: The Return of the King*); *Alias/Wavefront's Maya Software Helps Realize Digital Thespians*;

addition, console video games have been used as an engine for creating movies with virtual actors.¹⁰

Matching the evolution of the capabilities of computers, these virtual actors have steadily evolved into primary roles.¹¹ For example, virtual actors have gone from short sequences in a live-action movie, such as the “stained glass man” in *Young Sherlock Holmes*,¹² to playing all of the characters in a completely computer-generated motion picture, such as *Final Fantasy: The Spirits Within*.¹³

2. *The Virtual Actors and Society*

In addition to roles in motion pictures, virtual actors are becoming an integral part of our society. As virtual actors become more lifelike, they become the focus of societal pressures and expectations. From their behavior¹⁴ to their physical appearance,¹⁵ virtual actors must meet many of the same expectations of society as real human beings. For example, a beauty contest for virtual actors required that the entrants not have taken part in pornographic films or made any immoral statements.¹⁶

Square USA Uses Maya to Create a Cast of CG Humans for Final Fantasy: The Spirits Within, BUS. WIRE, July 12, 2001, available at LEXIS, News Library, Bwire File (discussing Maya, the software at the center of the creation of *Final Fantasy: The Spirits Within*, a fully computer-generated motion picture).

10. E.g., Murray Whyte, *Spielbergs with a Joystick*, TORONTO STAR, Apr. 21, 2004, at F1 (describing the creation *Red vs. Blue*, “a wildly popular series of short films created using a video game called Halo”). The creators of *Red vs. Blue* use the recording feature of the game to capture the movements of characters as controlled by the creators; audio is then added to the recording to create the short movie. *Id.* This method of creating films is known as “machinima, where filmmakers record the onscreen action of video games, and repurpose them with characters, plot and dialogue.” *Id.*

11. See *infra* Section II.B.

12. *YOUNG SHERLOCK HOLMES* (Paramount Pictures 1985); see *infra* note 35 and accompanying text.

13. *FINAL FANTASY: THE SPIRITS WITHIN* (Chris Lee Productions 2001) (featuring character Dr. Aki Ross); Internet Movie Database, *Final Fantasy: The Spirits Within*, at <http://www.imdb.com/title/tt0173840> (last visited Apr. 3, 2005) (containing general information about the movie and its characters); see *infra* note 45 and accompanying text.

14. See, e.g., Hannah Bergman, *County Still Will Push to Curb Violent Video Games*, ST. LOUIS POST-DISPATCH, June 24, 2003, at B1 (referencing a law passed by officials in St. Louis County (Mo.) to restrict the sale of violent video games to minors).

15. E.g., Alfred Hermida, *Virtual Skin Looking Even Better*, BBC NEWS, May 6, 2004, available at <http://news.bbc.co.uk/1/hi/technology/3683853.stm> (explaining a newly developed computer program that “works out how light affects surfaces like skin to make computer-generated characters look more believable”); Giada Zampano, *Move Over Beauty Queens, Italy Seeks Miss Digital*, EXCITE NEWS, at <http://www.missdigitalworld.com/MDWContest/showpage/54> (Nov. 5, 2003) (discussing the “Miss Digital World” competition, a beauty contest seeking the “contemporary ideal of beauty, seen through virtual reality”).

16. Zampano, *supra* note 15 (discussing that organizers of the “Miss Digital World” competition required that virtual actors “should not have taken part—not even as extras or cameos—in pornographic films, shows or plays nor have made statements . . . in any way out of tune with the moral spirit of the competition”).

Along with the demands to fulfill society's expectations, virtual actors are being harnessed to make money for their creators.¹⁷ From roles in movies and video games to careers as pop music stars,¹⁸ virtual actors have become a revenue-generating part of the workforce. With all of these demands and pressures, a virtual actor might need to procure an agent to handle its work.¹⁹

3. Advantages and Disadvantages of Virtual Actors

Virtual actors have multiple disadvantages compared to real actors. Lacking any intelligence of their own, virtual actors must be "instructed" by an animator in painstaking detail.²⁰ Additionally, while the model of the virtual actor is infinitely reusable, each reuse requires the same time-consuming instruction. Thus, any publicity work, or other activities that are not taken directly from the medium in which the virtual actor is being used, must be assembled with an equal amount of care to preserve the "realness" of the virtual actor. Whereas a real actor might need to spend some time in makeup and do a few takes to film a commercial, the virtual actor, while perhaps always dressed, is nonetheless devoid of instructions for the new environment.

However, virtual actors also have a number of advantages over their flesh-and-blood counterparts. They do not throw tantrums.²¹ They do not demand more money during filming²² nor do they threaten to strike.²³ They also do not die during filming.²⁴ Rather, virtual actors do precisely what they are told every single time and never tire of doing it over and over until everyone is satisfied.²⁵

17. See, e.g., Pham, *supra* note 5 (stating that Lara Croft, the star of the *Tomb Raider* video game series, has generated almost \$1.2 billion in revenue, including \$700 million from video game sales and \$300 million from the first movie based on the character).

18. See, e.g., W. Dire Wolff, *Kyoko Date—Virtual Idol: A Retrospective View*, at <http://www.wdirewolff.com/jkyoko.htm> (last visited Apr. 3, 2005) (discussing virtual teen idol Kyoko Date, whose first CD single was released in 1996).

19. *Id.* (explaining that Creative Artists Agency, a major Hollywood talent agency which represents actors such as Jennifer Aniston and Carrie Fisher, will now represent Lara Croft, making her the first virtual actress to be represented by an agent).

20. See *infra* Section III.A.1.a. The term "animator" will be used broadly to denote a person who creates and "gives life to" a virtual actor.

21. E.g., Mark Goodman & Craig Tomashoff, *Endangered Species*, PEOPLE, Mar. 1, 1993, at 55, 57 (stating that actor Robert Blake's on-set tantrums were so bad that his salary was held in escrow by the producers to ensure good behavior).

22. E.g., Jesse McKinley, *NBC Airs ABC's Not-So-Dirty Laundry*, N.Y. TIMES, May 11, 2003, § 13, at 4 (discussing actress Suzanne Somers' demand for more money, thereby holding the television show *Three's Company* hostage).

23. E.g., Barbara Whitaker, *Producers and Actors Reach Accord*, N.Y. TIMES, July 5, 2001, § C, at 1 (discussing threats by Screen Actors Guild to go on strike if demands for more money were not met).

24. E.g., Rhett H. Laurens, *Year of the Living Dead: California Breathes New Life into Celebrity Publicity Rights*, 24 HASTINGS COMM. & ENT. L.J. 109, 113 (2001) (using a virtual version of actor Oliver Reed in *Gladiator* to complete the remaining scenes after Reed's death).

25. See, e.g., MARK COTTA VAZ & PATRICIA ROSE DUIGNAN, INDUSTRIAL LIGHT & MAGIC: INTO THE DIGITAL REALM 228 (Elisabeth Zack & Allan Kausch eds., 1996) [hereinafter ILM].

These advantages allow the director, storyteller, or whoever is making use of the virtual actor to better realize his vision.²⁶ This complete control allows a “perfect” telling of the story.²⁷ For instance, shooting a real scene repeatedly can be expensive, but rendering it from different angles just takes a little extra time and there are no issues with discrepancies in the various iterations.²⁸ Further, the laws of physics do not exist within the world of virtual actors unless the storyteller wishes it.²⁹ This allows literally anything that can be imagined to be performed; fantasy can become reality, virtually speaking.³⁰

The advantages of virtual actors, coupled with the reduced cost for people to create and use them, have the potential to provide a great benefit to society. Virtual actors are becoming increasingly available to anyone to convey whatever message is desired.³¹ As there is no issue of scarcity, more people can participate both as creators and as recipients of the messages that animators of virtual actors wish to convey. Further, new technological tools provide a more powerful way to express oneself.³² Thus, virtual actors can serve society’s desire and need for the free flow of information and ideas in a potent manner.³³

B. Evolution of Virtual Actors

As the capabilities of the hardware and software used to breathe life into virtual actors have improved, so too have the virtual actors themselves. The following are key milestones in the evolution of virtual actors:

DIGITAL REALM] (explaining that virtual actors are composed of separate parameters that allow all or part of any image to be changed and tuned until it is perfect).

26. See *id.* at 199–200 (describing a computer-generated synthetic character, i.e., a virtual actor, that allowed the director to create a sequence that was exactly what was imagined and visualized).

27. See *id.*

28. See *id.* at 228.

29. See Thomas Glenn Martin, Jr., Comment, *Rebirth and Rejuvenation in a Digital Hollywood: The Challenge Computer-Simulated Celebrities Present for California’s Antiquated Right of Publicity*, 4 UCLA ENT. L. REV. 99, 101 (1996). (“[D]igital animation will help free filmmakers from ‘the physics of location.’ This new freedom will also allow more money to be spent on ‘new characters, new worlds, and new kinds of stories that are completely imaginary.’”) (citations omitted).

30. See *id.*

31. See Whyte, *supra* note 10 (noting that the potential for using game consoles to make films with virtual actors is enormous, as there are approximately thirty-five million game consoles in North America alone). “Just like filmmaking, or any other artistic medium you used for expression, you’re able to generate whatever you want with it—comedic, dramatic, or anything in between, people are doing those kinds of works using machinima.” *Id.* (quoting Paul Marino, head of the New York-based Machinima Academy of Arts and Sciences) (internal quotation marks omitted).

32. See ILM: DIGITAL REALM, *supra* note 25, at 286.

33. *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) (recognizing society’s interest in the free flow of information and ideas).

- 1982—The first computer-generated sequence in a feature film: the “Genesis” sequence in *Star Trek II: The Wrath of Khan*³⁴
- 1985—The first completely computer-generated character: the “stained glass man” from *Young Sherlock Holmes*³⁵
- 1988—The virtual actor Nestor Sextone campaigns for the presidency of the “Synthetic Actors Guild”³⁶
- 1989—The term “synthespian” is coined for a “synthetic thespian”³⁷
- 1989—The first computer-generated three-dimensional character: the “pseudopod” water creature from *The Abyss*³⁸
- 1991—The first computer-generated main character: the “liquid metal” T-1000 in *Terminator 2: Judgment Day*³⁹
- 1993—The first computer-generated human skin and texture: the virtually altered characters in *Death Becomes Her*⁴⁰
- 1994—The first computer-generated characters created with “skin, muscles, texture, and attitude”: the dinosaurs in *Jurassic Park*⁴¹
- 1995—The first fully computer-generated characters with synthetic voices, distinct personalities, and emotions: the ghosts in *Casper*⁴²
- 1995—The first use of “computer-generated photo-realistic hair and fur”: the virtual lions and monkeys in *Jumanji*⁴³
- 1995—The first feature-length, fully computer-animated motion picture: *Toy Story*⁴⁴
- 2001—The first computer-generated, “hyper-realistic” film: *Final Fantasy: The Spirits Within*⁴⁵

34. ILM: DIGITAL REALM, *supra* note 25, at 107; Industrial Light & Magic, Inside ILM—Technology Timeline Highlights, at http://www.ilm.com/inside_timeline.html (last visited Apr. 3, 2005) [hereinafter ILM Web site].

35. ILM Web site, *supra* note 34; see also THOMAS G. SMITH, INDUSTRIAL LIGHT & MAGIC: THE ART OF SPECIAL EFFECTS 211 (Anita Gross & Risa Kessler eds., 1986) [hereinafter ILM: SPECIAL EFFECTS] (describing the digital manipulation used to create a stained glass window in a church).

36. Joseph J. Beard, *Clones, Bones and Twilight Zones: Protecting the Digital Persona of the Quick, the Dead and the Imaginary*, 49 J. COPYRIGHT SOC’Y U.S.A. 441, 527 (2001); Hiltzik & Pham, *supra* note 7 (explaining that Sextone ran on a platform attacking faux-digital characters, such as Max Headroom, for taking jobs from real digital actors).

37. Hiltzik & Pham, *supra* note 7. The term “synthespian” is an evolving term that has been used with several different connotations, ranging from any actor that is provided by a computer (whether or not based on a real human being) to any computer-generated entity. See Martin, *supra* note 30, at 101 n.9. To avoid further confusing the meaning of “synthespian,” this Note will avoid its usage.

38. ILM Web site, *supra* note 34.

39. *Id.*

40. *Id.*

41. *Id.*

42. *Id.*

43. *Id.*

44. *Pixar’s “Toy Story” Is Holiday Season Blockbuster; Crosses \$150 Million in Domestic Box Office Receipts*, BUS. WIRE, Jan. 2, 1996, available at LEXIS, News Library, Bwire File.

45. Hiltzik & Pham, *supra* note 7 (discussing how animators spent time learning to correctly

C. *Relevant Law*

1. *Copyright*

The authority of Congress to enact copyright legislation is derived from the Constitution.⁴⁶ Copyright law protects “original works of authorship fixed in any tangible medium of expression,”⁴⁷ such as literary works,⁴⁸ pictorial and graphic works,⁴⁹ and motion pictures.⁵⁰ Notably absent from the list of protected works are human beings and fictional characters in a work.⁵¹ In addition, copyright law does not protect “any idea . . . , concept, principle, or discovery” described or illustrated in a protected work.⁵² Works that contain virtual actors—or, more accurately, computer-generated images containing visual representations of virtual actors—would seem to fall squarely under existing copyright protections, as opposed to the virtual actors themselves.

2. *Right to Fictional Characters*

Apart from the copyright that an author may have in a tangible work, there may also exist a right to the characters in that work.⁵³ Despite the explicit absence of a right to fictional characters within the Constitution’s copyright clause, courts have granted protection to individual fictional characters,⁵⁴ thereby opening the door for a potential right to fictional characters. Those characters may be protected independently from the work as a whole.⁵⁵ The exclusive right to a character can be extremely valuable, particularly in the context of reusing the character in other contexts, such as marketing or sequels to the original work.⁵⁶ Thus, much like literary characters in books or graphical characters in cartoons, virtual actors may be protected by the right to fictional characters.

render details such as windblown hair, hangs and creases in moving fabric, and lifelike skin with liver spots and stubble).

46. 1 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 1.02 (2003); see U.S. CONST. art. I, § 8, cl. 8 (providing Congress the power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”).

47. 17 U.S.C. § 102(a) (2000); see 1 NIMMER & NIMMER, *supra* note 46, § 2.03.

48. 17 U.S.C. § 102(a)(1).

49. *Id.* § 102(a)(5).

50. *Id.* § 102(a)(6); see *infra* Sections II.C.2, III.C.

51. See 17 U.S.C. § 102.

52. *Id.* § 102(b).

53. Daniel Margolis, *Cheers to the Church Lady: Resolving the Conflict Between Copyright and the Right of Publicity*, 1996 ANN. SURV. AM. L. 627, 631 (1996).

54. *Id.* at 638–39 (citing that fictional character Peter Pan merits copyright protection).

55. *Id.* at 628.

56. *Id.* at 627–28.

3. *Right of Publicity*

The right of publicity, in general, is a protection that allows a person to control the use of his name or likeness, existing under state common law or statute.⁵⁷ Courts and scholars have argued about the underlying principle upon which the right of publicity rests. Some have said that the right of publicity preserves a human being's dignity and is grounded in the right of privacy.⁵⁸ Others point to a property interest in the commercial exploitation of one's name or likeness.⁵⁹ Another novel premise put forward is that the right of publicity serves to protect an individual's autonomy.⁶⁰

Although in many situations copyright law may preempt the right of publicity,⁶¹ those issues will not be explored here. Instead, it will be assumed that the right of publicity will be used to its fullest extent if available to a virtual actor.

III. ANALYSIS

A. *Technology*

1. *Creation of Virtual Actors*

Virtual actors are best known by their visual, computer-generated forms as two-dimensional images.⁶² Early video games were among the first to make use of computer-generated images.⁶³ However, flight simulators used to train pilots were a driving force in advancing computer-generated images to higher resolutions and to more realistic levels.⁶⁴ Providing a realistic synthetic environment, such as that in a

57. See Jennifer Y. Choi, *No Room for Cheers: Schizophrenic Application in the Realm of Right of Publicity Protection*, 9 VILL. SPORTS & ENT. L.J. 121, 131 (2002); Jennifer A. Lee, *Comedy III Prods. Inc. v. New Line Cinema*, 16 BERKELEY TECH L.J. 183, 186–87 (2001).

58. See Choi, *supra* note 57, at 127–28, 133.

59. See Lee, *supra* note 57, at 186.

60. See Alice Haemmerli, *Whose Who? The Case for a Kantian Right of Publicity*, 49 DUKE L.J. 383, 386–87 (1999).

61. See Margolis, *supra* note 53, at 633.

62. Recall, however, that virtual actors exist as a data set within a computer and their visual form is merely a representation of that data set. See *supra* note 1 and accompanying text.

63. ILM: SPECIAL EFFECTS, *supra* note 35, at 206. Note that the term “computer-generated image” is sometimes referred to as “CGI” in this industry. *Computer-generated imagery*, WIKIPEDIA: THE FREE ENCYCLOPEDIA (Feb. 20, 2005, 07:48 UTC), at http://en.wikipedia.org/wiki/Computer_generated_image.

64. ILM: SPECIAL EFFECTS, *supra* note 35, at 206. The resolution of an image refers to the number of pixels in an image. *Pixel*, WIKIPEDIA: THE FREE ENCYCLOPEDIA (Mar. 29, 2005, 00:35 UTC), at <http://en.wikipedia.org/wiki/Pixel> (discussing resolution and different types of pixels). The greater the number of pixels, the greater the amount of information (i.e., detail) contained in the image. *Id.* Thus, a higher resolution image can contain a more detailed “picture” than a lower resolution image. *Id.*

flight simulator, requires the creation of all the necessary details in the synthetic world.⁶⁵ For example, a flight simulator would need to create images of airports and runways, as well as terrain features such as cities and mountains.⁶⁶

In principle, the process for creating a computer-generated form for a virtual actor is no different than the process used for any other item in a synthetic world, although it may be more involved. Creating three-dimensional computer-generated images can be divided into three general steps: (a) modeling, (b) scene layout, and (c) rendering.⁶⁷

a. Modeling

The modeling step involves shaping the entities to be used in the scene being rendered.⁶⁸ Modeling an entity for use in a computer-generated image is analogous to creating a real-world model. However, instead of being made out of plastic or metal, the computer model is a set of data stored within the computer. Models can be constructed using a variety of techniques and software packages.⁶⁹ For example, the animator can “draw” the model using an input device such as a data tablet.⁷⁰ Another approach is for the animator to describe the entity being modeled as a collection of geometric forms, such as cylinders and spheres, fitted together.⁷¹ In general, however, the end result is essentially the same—a set of data stored in a format that a computer can manipulate in the remaining steps of the process of generating an image.⁷²

The modeling process may also include specifying the properties of the various objects.⁷³ For example, the animator may set the eye color of a virtual actor or the light scattering characteristics of a glass of water.⁷⁴ Additionally, a “skeleton” may be fitted into an entity to allow for complex movements to be articulated.⁷⁵ The skeleton aids the animator by providing a way for the movement of one portion of the entity to automatically affect, and likely move, other portions of the model.⁷⁶

65. ILM: SPECIAL EFFECTS, *supra* note 35, at 206–07.

66. *Id.* at 206. See generally The Boeing Company, Distributed Mission Training, at <http://www.boeing.com/defense-space/aerospace/training/dmt/dmt.html> (last visited Apr. 3, 2005) (describing components used to create the synthetic environment in a flight simulator).

67. 3D computer graphics, WIKIPEDIA: THE FREE ENCYCLOPEDIA (Mar. 23, 2005, 11:14 UTC) [hereinafter WIKI: 3D], at http://en.wikipedia.org/wiki/3D_computer_graphics.

68. *Id.*

69. See *id.*

70. See ILM: SPECIAL EFFECTS, *supra* note 35, at 207.

71. See *id.*

72. See generally *id.*

73. See WIKI: 3D, *supra* note 67.

74. See *id.*

75. *Id.*

76. *Id.*

At some initial level, the model is composed of flat, and usually small, geometric shapes, frequently triangles.⁷⁷ This is a representation that the computer can handle easily.⁷⁸ More triangles make for a visually smoother and more detailed surface, but it becomes impractical to insert the nearly infinite number of triangles needed to achieve the fine detail of the real world.⁷⁹ Instead, textures can be added to some surfaces of the model to enhance the realism of the image that is eventually generated.⁸⁰ Examples of textures range from woven fabric to wood grain to tree bark.⁸¹ Once the model of the entity has been built, it is then inserted into the scene to be rendered.⁸²

b. Scene Setup

In the scene setup step, models are positioned in the scene, along with cameras and light sources.⁸³ Keyframing—a technique that facilitates complex motion—is often used to set the animations in a scene.⁸⁴ Rather than positioning each model for every single frame of the animation, keyframing allows the animator to position the models at various points in the frame.⁸⁵ Between these various points, the computer will then interpolate the remaining frames.⁸⁶ After the animator has arranged the elements of the scene, it is ready to be rendered.

c. Rendering

The final step in the process of creating a computer-generated image is the rendering phase.⁸⁷ This step is analogous to taking a photograph of a scene in real life—the three-dimensional world viewed through the camera lens is transformed into a two-dimensional image.⁸⁸ Once the computer knows what is going on in a scene via the scene setup step, it (1) determines what is visible to the camera; (2) removes elements which are not visible, such as the backs of models; and (3) creates the two-dimensional image.⁸⁹

77. ILM: SPECIAL EFFECTS, *supra* note 35, at 208.

78. *Id.*

79. *See generally id.*

80. *Id.*

81. *See id.*

82. *Id.*

83. *See* WIKI: 3D, *supra* note 67.

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.*

88. *See id.*

89. *See* ILM: SPECIAL EFFECTS, *supra* note 35, at 212–13.

The computer may, as part of the rendering process, simulate cinematographic effects such as motion blur and lens flares.⁹⁰ These effects are actually imperfections caused by real, physical cameras.⁹¹ Humans are accustomed to seeing these effects, so adding them enhances the realism of the computer-generated image.⁹²

Rendering is computationally expensive.⁹³ That is, it can take a computer a very long time to render a single frame of an animation because of the complex models and effects being simulated.⁹⁴ While computers have become faster, this has been offset to some degree by an increase in the demand for detail in the images being rendered. Thus, animators have turned to “render farms” to generate animations in a more timely fashion.⁹⁵ A render farm is a computer cluster used to render computer-generated imagery.⁹⁶ Because each frame is independent of the others in an animation, multiple frames can be rendered in parallel by a render farm, thus reducing the time needed to render an entire sequence.⁹⁷

In 1995, Pixar Animation Studios, the creators of *Toy Story*, used a render farm of 117 computers with 300 processors total, rendering 1500 shots.⁹⁸ It took an average of seven hours to render each frame, with the longest frame taking thirteen hours.⁹⁹ In 2003, Weta Digital, the company which provided the visual effects for *The Lord of the Rings* movie trilogy, used an even greater amount of hardware in its render farm for *The Two Towers* installment: 1600 computers with 3200 processors total.¹⁰⁰ The farm rendered 1400 special effects shots taking an average of two hours to render each frame, with the longest frame taking two days.¹⁰¹

2. Artificial Intelligence

One potential complication with analyzing the rights of a virtual actor is the possibility that it may possess its own “artificial intelligence” to “think for itself.” However, it has been argued that computers, as the

90. WIKI: *3D*, *supra* note 67.

91. *Id.*

92. *Id.*

93. *Id.*

94. *Id.*

95. *Id.*

96. *Render farm*, WIKIPEDIA: THE FREE ENCYCLOPEDIA (Mar. 25, 2005, 13:22 UTC), at http://en.wikipedia.org/wiki/Render_farm.

97. *See id.*

98. *Disney's "Toy Story" Uses More Than 100 Sun Workstations to Render Images for First All-Computer-Based Movie; Pixar Animation and Sun Microsystems Create Powerful Rendering Engine for Disney Movie*, BUS. WIRE, Nov. 30, 1995, available at LEXIS, News Library, Bwire File.

99. *Id.*

100. Jennifer Hillner, *The Wall of Fame: Meet the Real Star of Lord of the Rings—A 1,600-Box Server Farm*, WIRED, Dec. 2003, at 84, available at <http://www.wired.com/wired/archive/11.12/play.html?pg=2>.

101. *Id.*

driving force behind virtual actors, do not make decisions and thus cannot exhibit intelligence.¹⁰² Rather, computers merely make a deterministic response.¹⁰³

In the early days of artificial intelligence, a very popular computer program was “Eliza.”¹⁰⁴ A simple text-based terminal served as the interface to Eliza, hiding from the user whether there was a human or a computer program on the other end.¹⁰⁵ Eliza made simple greetings and asked simple questions to give the appearance of carrying on an intelligent conversation.¹⁰⁶ However, these statements by the program were based on the selection of keywords from what the user typed to Eliza.¹⁰⁷ That is, the responses from Eliza that seemed intelligent were really just simple tricks programmed to give that appearance.

Even today, however, artificial intelligence systems that operate at the level of a human being have not been achieved.¹⁰⁸ In fact, very little research has been done toward achieving this goal.¹⁰⁹ Rather, most applications requiring artificial intelligence do not require full human-level capabilities, such as autonomous interaction with an environment, communication using natural language, real-time response, planning, creativity, and learning.¹¹⁰ Current applications require only specialized solutions; however, such solutions are more fragile and rigid than human-level artificial intelligence.¹¹¹

Computers have a long way to go before truly being able to interact intelligently with people.¹¹² Human intelligence reflects social and cultural experiences shaped by the events of daily life.¹¹³ Computers, however, do not have daily lives.¹¹⁴ Some experts have noted that it

102. Neville Holmes, *Artificial Intelligence: Arrogance or Ignorance?*, COMPUTER, Nov. 2003, at 118, 120, available at <http://www.computer.org/computer/homepage/1103/profession/>.

103. *Id.*

104. *Id.* at 119.

105. *See id.*

106. *Id.*

107. *Id.*

108. John E. Laird & Michael van Lent, *Human-Level AI's Killer Application: Interactive Computer Games*, AI MAGAZINE, Summer 2001, at 15 (stating that the fragmentation of artificial intelligence research into specialized fields has made for many successes, but that “these successes have made it easy for us to ignore our failure to make significant progress in building human-level AI systems”), available at <http://www.aaai.org/Library/Magazine/Vol22/22-02/Papers/AIMag22-02-003.pdf>.

109. *Id.*

110. *Id.* (describing “human-level” artificial intelligence systems as “the ones that you dreamed about when you first heard of AI: Hal from *2001, A Space Odyssey*; Data from *Star Trek*; or CP30 [sic] and R2D2 from *Star Wars*”).

111. *Id.*

112. Holmes, *supra* note 102, at 119. *See generally* Jonathan Gratch et al., *Creating Interactive Virtual Humans: Some Assembly Required*, IEEE INTELLIGENT SYS., July–Aug. 2002, at 2 (discussing the various requirements needed to create a virtual human), available at <http://www.cis.upenn.edu/~badler/papers/x4GEW.pdf>.

113. Holmes, *supra* note 102, at 119.

114. *Id.*

could take a century or more before a computer can be constructed that deserves the label “intelligent.”¹¹⁵

Given the current state of the art and the remoteness of virtual actors actually having a true artificial intelligence, this Note assumes that the behaviors and actions of a virtual actor are driven by the programmer or animator and are distinct from the virtual actor’s “self.”

3. *Single-Role Virtual Actors vs. Multiple-Role Virtual Actors*

It has been suggested that a virtual actor may receive different protection under the law by virtue of the number or kind of distinguishing features it possesses.¹¹⁶ The strongest protection of a virtual actor may not be the copyright protection of the software or data by which it exists, but rather of its visual and, most likely, aural representation.¹¹⁷ The protections accorded a real actor are based upon his looks, voice, and mannerisms, among other attributes.¹¹⁸ Similarly, the degree to which a virtual actor will be protected may be directly influenced by the characteristics with which it is created.¹¹⁹ These characteristics include not only its visual appearance and aural properties, but also any mannerisms or idiosyncrasies in the virtual actor’s movements or behaviors.¹²⁰

A real actor may play essentially the same type of character in every role, although with a different name or story.¹²¹ Actors in this mold include Abbott and Costello, Groucho Marx, and Chuck Norris.¹²² Other real actors play a true variety of characters—for example, Katharine Hepburn, Robert Duvall, and Anthony Hopkins.¹²³ As with real actors, a virtual actor may also come in either the single-role or multiple-role form. In the case of a single-role virtual actor, it is probably desirable for the creator to specify detailed characteristics, mannerisms, and idiosyncrasies.¹²⁴ On the other hand, such details could be potentially limiting to a multiple-role virtual actor. A multiple-role virtual actor likely would not want such detailed characteristics, particularly unusual ones, because that might limit the roles it could play.¹²⁵ Of course, the creator of a multiple-role virtual actor would need to be careful to make

115. *Id.*

116. Beard, *supra* note 36, at 541–42. Beard uses the term “imaginary virtual human” much as this Note uses the term “virtual actor.”

117. *Id.* at 541.

118. *Id.*

119. *Id.* at 542.

120. *See id.*

121. *Id.* at 547.

122. *Id.*

123. *Id.*

124. *See id.*

125. *See id.*

sure the virtual actor was sufficiently distinctive so that it could be protected at all.¹²⁶

To determine the aspects of a virtual actor that may be protected, it is useful to consider the aspects of real actors that are protected under various laws, such as copyright and the right of publicity.¹²⁷ The primary characteristics of a real actor that are accorded protection are his face and voice.¹²⁸ For example, a court found Muhammad Ali's "cheekbones, broad nose and wideset brown eyes, together with [his] distinctive smile and close cropped black hair" to be recognizable features.¹²⁹ Additionally, Bette Midler's voice was found distinctive enough to be protected.¹³⁰ The court in the Bette Midler case noted that "[a] voice is as distinctive and personal as a face" and "is one of the most palpable ways identity is manifested."¹³¹ However, other characteristics have also received protection, usually in a variety of combinations.¹³² For instance, the uniform of the Dallas Cowboys Cheerleaders, consisting of "a blue bolero blouse, white vest decorated with three blue five-pointed stars. . . , tight white shorts with a belt decorated with blue stars, and white boots," has been found to be distinctive of that group.¹³³

Thus, various factors aid in establishing the persona of a real actor.¹³⁴ Creators of virtual actors can utilize these factors to maximize the chance that their virtual actors will receive protection.¹³⁵

B. Copyright Protection

A virtual actor used in a motion picture or a printed image, for example, may be protected under copyright law.¹³⁶ Copyright law requires the fixation of an original work of authorship in a tangible medium of expression.¹³⁷ Regarding fixation in a tangible medium, the creation of a film or printed image clearly satisfies this requirement.¹³⁸ For discussion purposes, this Note assumes that the work is original.

126. *See id.*

127. *Id.* at 542.

128. *Id.*

129. *Ali v. Playgirl, Inc.*, 447 F. Supp. 723, 726 (S.D.N.Y. 1978).

130. *Midler v. Ford Motor Co.*, 849 F.2d 460, 463 (9th Cir. 1988).

131. *Id.*

132. Beard, *supra* note 36, at 542.

133. *Dallas Cowboys Cheerleaders, Inc. v. Pussycat Cinema, Ltd.*, 467 F. Supp. 366, 370 (S.D.N.Y. 1979).

134. Beard, *supra* note 36, at 546.

135. *Id.* at 546-47.

136. While beyond the scope of this Note, the virtual actor, existing as data inside the computer, is also likely protected from copyright in that form just as any other computer data or program would be protected.

137. 17 U.S.C. § 102(a) (2000).

138. *See id.* § 101 (defining a work to be "fixed" in a tangible medium of expression when "its embodiment in a copy . . . by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced or otherwise communicated for a period of more than transitory duration").

Lastly, the rendering of the virtual actor onto film or a printed image certainly qualifies under the “work of authorship” requirement.¹³⁹

A real actor, and human beings in general, cannot be copyrighted.¹⁴⁰ However, images of a human being can be copyrighted.¹⁴¹ Likewise, a person’s voice cannot be copyrighted, but if it is fixed in a tangible medium such as a tape recording, that work can be protected, assuming the other copyright requirements are met.¹⁴²

Unlike a human being, a cartoon figure does not have a “being” independent of its fixation in a medium.¹⁴³ In this regard, a virtual actor is more similar to a cartoon figure than a real actor.¹⁴⁴ Thus, treating a virtual actor like a cartoon figure would provide comparable copyright protection for the virtual actor.¹⁴⁵ The film, printed computer-generated image, or other qualifying medium of a virtual actor would be protected to the same degree as one of a cartoon figure.¹⁴⁶

C. Right to Fictional Characters

Fictional characters, such as those in movies, can have tremendous value themselves, quite apart from the real actors that give them “life.”¹⁴⁷ Virtual actors, by their very nature, squarely fit into the category of fictional characters. The exclusive right to use a character provides the owner of that right the ability to control and profit from the use of that character in many contexts.¹⁴⁸ Not only is the owner able to capitalize on the character’s fame through, for example, the movie which made the character famous, but also through merchandising,¹⁴⁹ sequels,¹⁵⁰ and spin-offs.¹⁵¹

The right to fictional characters has its basis in copyright law. While copyright law does not explicitly classify fictional characters as “works of authorship,”¹⁵² courts have found that copyright law does provide protection for fictional characters, apart from the work in which they

139. *See id.* § 102(a)(5)–(6).

140. Beard, *supra* note 36, at 533.

141. *Id.*

142. *See id.*

143. *Id.*

144. *Id.*

145. *Id.* at 534.

146. *See id.*

147. *See* Margolis, *supra* note 53, at 627–28, 637.

148. *Id.* at 637–38.

149. *Id.* at 628 & n.10; *see also id.* at 627 n.7 (discussing merchandising based on various characters).

150. *Id.* at 628 & n.8; *see, e.g.*, TOY STORY 2 (Pixar Animation Studios and Walt Disney Pictures 1999). *Toy Story 2* was the sequel to the original *Toy Story* (Pixar Animation Studios and Walt Disney Pictures 1995).

151. Margolis, *supra* note 53, at 628 & n.9; *see, e.g.*, BUZZ LIGHTYEAR OF STAR COMMAND (Pixar Animation Studios and Walt Disney Television 2000). *Buzz Lightyear of Star Command* was a spin-off cartoon based on Pixar’s movie *Toy Story*.

152. Margolis, *supra* note 53, at 638 & n.77; *see also* 17 U.S.C. § 102(a) (2000).

appear.¹⁵³ Courts ask two threshold questions to decide whether fictional characters can be independently copyrightable under copyright law: (1) whether a character can be “fixed in a tangible medium of expression,” and (2) whether a fictional character can be considered a “work of authorship.”¹⁵⁴

As discussed above, regarding the fixation requirement, a work must be “reduced to a tangible form.”¹⁵⁵ While an argument can be made that a real actor portraying a character is never “fixed” because the actor is constantly moving, courts have held that a contemporaneous recording of a live performance is adequate to meet the fixation requirement.¹⁵⁶ Thus, a character in a motion picture should be similarly considered to be “fixed” during filming.¹⁵⁷

That a fictional character meets the “work of authorship” requirement also has support.¹⁵⁸ In *Anderson v. Stallone*, the court stated that characters in a movie “constitute[d] expression protected by copyright independent from the story in which they [were] contained.”¹⁵⁹ In that case, the plaintiff’s use of the characters developed in several of the *Rocky* movies was an illegal appropriation of characters protected by copyright.¹⁶⁰ The court found that the characters’ relationships and traits in the movies were sufficiently developed to warrant protection.¹⁶¹ Although the name and likeness of an actor alone do not constitute works of authorship, this case supports the idea that the complete identity of a character in a motion picture is a work of authorship.¹⁶²

While characters in motion pictures may be considered works of authorship, it must still be determined what standard should be used to decide if a particular character merits copyright protection.¹⁶³ One test that has been used to determine whether a fictional character warrants copyright protection is the “story being told” test.¹⁶⁴ This test will protect a character only if the story being told is entirely the story of the character, but not when the character is merely a component of the telling of the story.¹⁶⁵ The “story being told” test has been heavily

153. Margolis, *supra* note 53, at 638–39.

154. *Id.*

155. *Id.*

156. *See id.*; *see also* Balt. Orioles, Inc. v. Major League Baseball Players Ass’n, 805 F.2d 663, 668 (7th Cir. 1986).

157. *See* Margolis, *supra* note 53, at 639–40.

158. *See id.* at 640.

159. *Anderson v. Stallone*, 11 U.S.P.Q.2d (BNA) 1161, 1165 (C.D. Cal. 1989).

160. *See id.*; Margolis, *supra* note 53, at 640.

161. *Anderson*, 11 U.S.P.Q.2d (BNA) at 1166–67.

162. Margolis, *supra* note 53, at 640.

163. *Id.*

164. *See* Matthew A. Kaplan, Note, *Rosencrantz and Guildenstern Are Dead, But Are They Copyrightable?: Protection of Literary Characters with Respect to Secondary Works*, 30 RUTGERS L.J. 817, 825 (1999); *see also* Dean D. Niro, *Protecting Characters Through Copyright Law: Paving a New Road upon Which Literary, Graphic, and Motion Picture Characters Can All Travel*, 41 DEPAUL L. REV. 359, 365 (1992).

165. Kaplan, *supra* note 164, at 826; 1 NIMMER & NIMMER, *supra* note 46, § 2.12.

criticized as being so narrow that it effectively denies protection to any character.¹⁶⁶ While there may be a few rare works where the story is the character, in practice, this test excludes characters from copyright protection, at least in the context of literary characters.¹⁶⁷ For example, the literary character Sam Spade, a well-known detective character, was found not to be protected because he did not represent the story being told, but was rather just a tool to tell the story.¹⁶⁸ In addition, the “story being told” test may well be limited only to characters in literary works.¹⁶⁹ Thus, because this test seems wholly inapplicable to virtual actors, it will not be considered further in this Note.

Another potential test is the “sufficient delineation” test.¹⁷⁰ Under this test, if a character is more developed, it is more likely to be protected.¹⁷¹ To determine whether a character is sufficiently delineated, the character’s description and personality are examined.¹⁷² While the “sufficient delineation” test seems arbitrary in practice,¹⁷³ courts have applied it and found some characters to be copyrightable.¹⁷⁴ However, if there is only minimal development of a character, such as a “stock” character, courts have consistently held that such characters are not “sufficiently delineated” and do not deserve copyright protection.¹⁷⁵

Courts that have addressed the issue of copyright protection for fictional characters have usually done so in the realm of literary or cartoon characters.¹⁷⁶ In the literary context, protection is usually measured by determining whether the personality of the character has been developed enough textually to be viewed as “sufficiently delineated.”¹⁷⁷ For example, the character Tarzan was found to be sufficiently delineated to be protected.¹⁷⁸ The court decided this because “[Tarzan] is an individual closely in tune with his jungle environment, able to communicate with animals yet able to experience human emotions. He is athletic, innocent, youthful, gentle and strong.”¹⁷⁹ While this reasoning seems to describe the “idea” rather than the “expression”

166. Kaplan, *supra* note 164, at 826 (citation omitted).

167. See 1 NIMMER & NIMMER, *supra* note 46, § 2.12.

168. Warner Bros. Pictures, Inc. v. Columbia Broad. Sys., Inc., 216 F.2d 945, 948 (9th Cir. 1954).

169. See Anderson v. Stallone, 11 U.S.P.Q.2d (BNA) 1161, 1166 (C.D. Cal. 1989); 1 NIMMER & NIMMER, *supra* note 46, § 2.12; see also Walt Disney Prods. v. Air Pirates, 581 F.2d 751, 755 & n.11 (9th Cir. 1978).

170. Margolis, *supra* note 53, at 640–41.

171. Kaplan, *supra* note 164, at 823.

172. *Id.*

173. Margolis, *supra* note 53, at 641.

174. *Id.* (citing “Amos n’ Andy” and “Hopalong Cassidy” characters as sufficiently delineated to merit copyright protection).

175. *Id.* (observing that general ideas of a prison rodeo or a character in a small southern town dabbling in voodoo fail to merit copyright protection).

176. *Id.* at 641–42.

177. *Id.* at 642.

178. Burroughs v. Metro-Goldwyn-Mayer, Inc., 519 F. Supp. 388, 391 (S.D.N.Y. 1981); Niro, *supra* note 164, at 368.

179. Burroughs, 519 F. Supp. at 391.

necessary for protection of the character, Tarzan is likely protected because of his “personality[] [and] . . . the reader’s expectation of his actions.”¹⁸⁰

Cartoon characters, on the other hand, have received greater protection than their literary counterparts.¹⁸¹ Cartoon characters, because of their visual representation, are inherently more concrete than literary characters.¹⁸² Thus, the standard of “sufficiently delineated” is easier to meet for a cartoon character than for a literary character.¹⁸³ Nevertheless, visual depiction alone is not sufficient to warrant copyright protection.¹⁸⁴ For example, in one case the court, in determining whether another superhero infringed on the character of Superman, considered “not only the visual resemblance but also the totality of the characters’ attributes and traits.”¹⁸⁵ That is, what can be protected about Superman is the “total perception of the character: his appearance, demeanor, and superhuman skills.”¹⁸⁶ Therefore, it seems that a virtual actor, or any visually-depicted character, needs more than just an artistic rendering—it needs distinguishing traits and mannerisms in order to be sufficiently delineated.

D. Right of Publicity

The right of publicity protects a person from the unauthorized use of his name or likeness for commercial purposes.¹⁸⁷ Where it is recognized at all, the right of publicity is protected under state common law or state statutes.¹⁸⁸ Several different justifications have been advanced for having a right of publicity.

The right of publicity has its origins in the right of privacy.¹⁸⁹ Privacy law is primarily concerned with an individual’s personal dignity.¹⁹⁰ Thus, the right of publicity may retain, at least in part, personal dignity as an underlying justification.

Today, most scholars view the right of publicity as based upon property doctrine as distinct from the right of privacy.¹⁹¹ Under this view, the right of publicity encompasses the right of a person, in particular a celebrity, to control and profit from the value of the identity that he has

180. Niro, *supra* note 164, at 368–69.

181. *Id.* at 369.

182. *Id.* at 370.

183. *See id.* (“Once [a cartoon character] becomes physically manifested on paper, it exits the realm of idea and enters that of expression.”).

184. *See id.*

185. Warner Bros. Inc. v. ABC., 720 F.2d 231, 241 (2d Cir. 1983).

186. Niro, *supra* note 164, at 373.

187. RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 46 (1995).

188. Lee, *supra* note 57, at 186–87.

189. *See* W. PAGE KEETON ET AL., PROSSER & KEETON ON TORTS § 117, at 854 (W. Page Keeton ed., 5th ed. 1984).

190. Choi, *supra* note 57, at 133.

191. *See* Lee, *supra* note 57, at 186.

created.¹⁹² That is, a celebrity's name or likeness has significant economic value, and under a labor theory, the celebrity has a right to the fruits of that value.¹⁹³

Another approach used to justify the right of publicity is based on the theory of autonomy.¹⁹⁴ This theory is premised on the value of the individual as an individual.¹⁹⁵ Basing the right of publicity on an autonomy rather than a labor theory allows the right to encompass both economic and moral factors.¹⁹⁶

1. *Dignity Theory*

As mentioned above, the right of publicity grew out of the right of privacy. In particular, the right of publicity seemed to derive from the right of privacy and the tort of appropriation.¹⁹⁷ A significant interest protected by this right is that of an individual's "feelings against mental distress."¹⁹⁸ That is, an individual should be protected from the acts of others that offend his dignity.

A virtual actor, as discussed above, has no independent intelligence of its own with which it may perceive mental distress or harm to its dignity. Thus, it is difficult to conceive of any way a virtual actor might receive right of publicity protection under this justification.

2. *Property Theory*

The right of publicity is generally perceived as a property interest.¹⁹⁹ Lockean labor theory usually is used to justify this property interest.²⁰⁰ This theory is premised on the idea that when a person has combined his labor with something, it becomes his property.²⁰¹ In the context of creative works, when an author uses an idea available in the public domain and creates a new work from it, he should have a property right in the resulting work.²⁰²

The performance of a virtual actor in some works, such as a motion picture, is arguably a form of labor that results in the creation of something worth protecting. However, it is debatable whether the

192. Choi, *supra* note 57, at 133.

193. *Id.*; see Haemmerli, *supra* note 60, at 388.

194. Haemmerli, *supra* note 60, at 385.

195. *See id.* at 413.

196. *Id.*

197. *See* Choi, *supra* note 57, at 127–28 & n.43; RESTATEMENT (SECOND) OF TORTS § 652C (1977) (“One who appropriates to his own use or benefit the name or likeness of another is subject to liability to the other for invasion of his privacy.”).

198. RESTATEMENT (SECOND) OF TORTS § 652C cmt. a (1977).

199. Haemmerli, *supra* note 60, at 388 & n.11.

200. *Id.* at 388.

201. Kaplan, *supra* note 164, at 832 (citing JOHN LOCKE, THE SECOND TREATISE OF GOVERNMENT 17 (Thomas P. Peardon ed., Bobbs-Merrill Educational Publ'g 1952) (1690)).

202. *See id.*

virtual actor itself is performing any of the necessary labor. Rather, the animator of the virtual actor that places it in the scenes being rendered is more representative of the true source of the labor.²⁰³

3. *Autonomy Theory*

Another justification for the right of publicity is the concept of autonomy.²⁰⁴ Rather than focusing exclusively on economic rights as the labor theory does, this approach balances the moral and economic aspects of property and personhood.²⁰⁵ The autonomy theory emphasizes that human beings have absolute worth in and of themselves.²⁰⁶

Lacking any intelligence of its own, however, a virtual actor seems to lack the requisite autonomy needed under this theory.²⁰⁷ That is, a virtual actor is analogous to a puppet and has no more autonomy than the puppet itself without a master.

IV. RECOMMENDATIONS

It has been argued that if a virtual actor is denied right of publicity protection, it would not be seriously disadvantaged as compared to a real actor.²⁰⁸ However, as discussed in Section III, the ability to create and exploit a virtual actor is becoming more readily accessible to a larger portion of society. The differing standards of protection between copyright, the right to fictional characters, and the right of publicity make determining the types of protections afforded to a virtual actor significant. Seemingly minor distinctions could be critical. Thus, it is necessary to determine what law should apply and which tests are appropriate.

A. *The Fallacy of Multiple-Role Virtual Actors*

While it has been argued that, like a real actor, a virtual actor could take on many roles,²⁰⁹ such an argument is flawed. It has been suggested that the level of detail provided to various attributes of a virtual actor would provide for better protection of the character in either a single-role or a multiple-role capacity.²¹⁰ This Note contends, however, that the nature of a virtual actor makes such distinctions not only artificial, but also incorrect.

203. See generally *supra* Sections III.A.1–2.

204. See Haemmerli, *supra* note 60, at 413.

205. *Id.*

206. *Id.*

207. See *supra* Section III.A.2.

208. Beard, *supra* note 36, at 541.

209. *Id.* at 547.

210. See *id.* at 546–47.

A virtual actor is a set of data stored inside a computer. The rendering of the virtual actor into a tangible medium, such as a motion picture or a video game, “fixes” it in that medium. That fixation becomes part of the virtual actor. Any change in the attributes of the virtual actor and subsequent rendering creates a unique and clearly distinguishable virtual actor. That is, the act of changing any of the data that represent the virtual actor does not simply alter the virtual actor, it creates a new one. Perhaps the new virtual actor is derived from the original one, but that is irrelevant when discussing the protections afforded the new virtual actor. Though beyond the scope of this Note, there may well be legal considerations for the new virtual actor as a derived work of the old virtual actor.

Thus, a multiple-role virtual actor cannot exist. Each new role is instead played by a new virtual actor that has its own distinct protections. Therefore, when considering the protections afforded a virtual actor under copyright law, the right to fictional characters, and the right of publicity law, the amount of detail in the characteristics of a specific instance of a virtual actor is crucial.

B. Copyright Protection for Virtual Actors

Copyright law provides protection for virtual actors comparable to that provided for real actors. That is, while a real actor is not copyrightable and a virtual actor is arguably copyrightable,²¹¹ the fixation of either in some medium, such as an image, affords equivalent copyright protection that is equivalent for both.

C. Right to Fictional Characters Protection for Virtual Actors

A sufficiently delineated virtual actor has a strong claim to protection under the right to fictional characters. However, what constitutes a sufficiently delineated virtual actor is a more complex issue. A virtual actor is unlike a literary character, which exists most clearly in the mind of its creator and is not always completely conveyed. The visual representation of a virtual actor makes it more “concrete.” In some sense, a virtual actor is exactly defined by the data set of which it is composed. A virtual actor is similar to a cartoon character in this regard.

Of course, some aspects of the virtual actor are not recorded inside its data, but instead are developed and created when the virtual actor is animated. Like an animated cartoon or movie character, a virtual actor is more than just an appearance—it is also defined by its traits and mannerisms. Thus, in order to be sufficiently delineated, a virtual actor must have distinguishing traits and mannerisms in addition to its visual appearance. In other words, to be eligible for protection, a virtual actor

211. See *supra* Section III.B.

must have a well-defined persona. Appearance or unique mannerisms alone are insufficient to reach the realm of protection—a high standard of delineation is important. The ability of the creators of virtual actors to control the most minute detail of their virtual actor is key. The level of detail, in terms of appearance, traits, and other characteristics that a virtual actor can encompass, must be utilized as fully as possible for protection. The alternative is that a very basic virtual actor could eliminate large swaths of similar virtual actors from the public's use. This alternative must be avoided as it extends the power of copyright so as to be harmful to society.

D. Right of Publicity Protection for Virtual Actors

While the protection provided by copyright and the right to fictional characters appears strong for virtual actors, there is no basis for any right of publicity protection. Thus, virtual actors should be rightfully denied such protection.

1. Dignity Theory

Virtual actors have no privacy to protect and no conception of dignity, so those rationales provide no basis for right of publicity protection. A virtual actor is merely a set of data—any representation or rendering of it is of no consequence, as the virtual actor lacks any ability to grasp the concept of individual dignity.

2. Property Theory

A virtual actor that is not sufficiently well-defined to be afforded protection under the right to fictional characters surely cannot have any protection under the right of publicity based on a property theory. The virtual actor is not sufficiently defined to have any unique investment in its “self.” Thus, such a virtual actor cannot warrant protection from use by another.

Furthermore, even if a virtual actor is sufficiently well-defined to be protected under the right to fictional characters, the value that has been added has come from the animator of the virtual actor and not through the “efforts” of the virtual actor itself. Thus, there is still no justification for protection of the virtual actor under the right of publicity based on a property theory.

3. Autonomy Theory

Virtual actors have no autonomy, thus there is no basis under this justification for the right of publicity either. If virtual actors have no interest in their “selves,” then they cannot, by definition, have any

concept of personhood. As a result, any autonomy-based justification for the right of publicity would be wholly inapplicable to a virtual actor.

V. CONCLUSION

Virtual actors are becoming an integral part of society, touching many aspects of everyday life. As a result, the legal protections provided to the owners of virtual actors must be more clearly defined. Virtual actors, when fixed in a tangible medium, have strong copyright protection from the standpoint of the created work, as would any other work. Additionally, if sufficiently well-defined, the right to fictional characters provides strong, albeit narrower, protection for virtual actors. Virtual actors have no legitimate basis for protection under the right of publicity. As a result, virtual actors which are not encompassed by the protections afforded by copyright or the right to fictional characters should be available for use by, and for the benefit of, the public.