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Now on Display: In-Line Linking in the Age of the Server Test

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NOTES

NOW ON DISPLAY: IN-LINE LINKING IN THE AGE OF THE SERVER TEST

*Sonia Autret**

In 2007, the U.S. Court of Appeals for the Ninth Circuit adopted a new interpretation of 17 U.S.C. § 106(5), which codifies the display right of the Copyright Act of 1976. In Perfect 10 v. Amazon.com, the Ninth Circuit read § 106(5) to mean that creative works made visible on web pages through in-line linking, an architectural pillar of modern web design, would not infringe on a copyright owner's display right if the work was not actually copied onto the website's server. Since its adoption, this approach—known as the Server Test—has been lauded by search engine providers and web developers, critiqued by scholars and copyright holders, circumvented by the U.S. Court of Appeals for the Seventh Circuit, and even flatly rejected by the U.S. District Courts for the Northern District of Texas and the Southern District of New York.

Chronicling the histories of the display right and the World Wide Web, as well as the Server Test's serpentine path to settled law in the Ninth Circuit, this Note hails the Server Test as a valuable device for engaging with the mechanics of in-line linking and defining the display right. Despite acknowledging its value, this Note proposes that the Server Test incorrectly places the act of infringement at the server level. Instead, this Note suggests that the Server Test be reconfigured into a new test, called the "Display Test," that guides courts and litigants through a three-step inquiry to more accurately locate where and how content is displayed. The Display Test asks (1) what is being shown and where that work is stored (i.e., the Server Test); (2) to whom the work is displayed and whether it is shown to the public; and (3) who caused the work to be displayed, thereby balancing the interests of users, owners, and web developers. The Display Test also narrowly defines "copy" and "public" for the purposes of the display right, as distinct from the performance or copy rights. The Display Test may better balance the

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realities of modern web use with the development of the display right as a flexible tool that can accommodate future technological innovation.

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INTRODUCTION

Imagine walking into Gallery 500, known as the Alfred H. Barr Jr. Gallery, of the Museum of Modern Art (MoMA) in New York.¹ You notice an array of abstract sculptures made of bronze, marble, and wood standing on stark white plinths. Natural light illuminates the works by modernist sculptor Constantin Brâncuși from the gallery's floor-to-ceiling windows that overlook a sculpture garden and other buildings on the street. To wander this gallery and view these works, you likely had to pay the twenty-five-dollar admissions fee to the MoMA before ascending to the fifth floor.² Perhaps to find the room, a guest assistant in the lobby directed you to take the elevator to the fifth floor, turn left down the hall, and turn left again to Gallery 500.³

Figure 1: Installation View of the Gallery 500 at the Museum of Modern Art Since October 2019⁴



Imagine next that you are invited to a friend's apartment. While sitting in a dining room with lofty windows, your friend points to something across the street. This friend, who lives at 17 West 54th Street and whose windows overlook the MoMA galleries, might be pointing to a collection of familiar modernist sculptures that bend and curve across the gallery space. Maybe this friend has a mirror that reflects the priceless modernist works into the dining room, or even a telescope to view the works up close from the comfort of their home. Would you consider looking out the window to be an act of trespass?

1. Placement of the works last visited and confirmed by the author on February 10, 2023.

2. See *Visit*, MUSEUM OF MOD. ART, <https://www.moma.org/visit/> [<https://perma.cc/24RR-BQL5>] (last visited Mar. 6, 2023).

3. See *Map*, MUSEUM OF MOD. ART, <https://www.moma.org/momaorg/shared/pdfs/docs/visit/map.pdf> [<https://perma.cc/EU42-8NHN>] (last visited Mar. 6, 2023).

4. *Installation View of the Gallery "Constantin Brâncuși" in the Exhibition "Collection 1880s–1940s,"* MUSEUM OF MOD. ART, https://www.moma.org/calendar/galleries/5133?installation_image_index=0 [<https://perma.cc/54TZ-PA56>] (last visited Mar. 6, 2023).

Figure 2: Photograph from Apartment at 17 West 54th Street⁵



Like seeing Brâncuși’s *Bird in Space* from the window of a friend’s home, in-line linking places a web user on one web page but allows that user to see another web page through a frame, called a panel.⁶ Unlike seeing the work from a friend’s home, the image appears indistinguishable from the surrounding web page—as though *Bird in Space* were in the dining room with you, even though it is stored, or “served,” at the MoMA.⁷ The act of in-line linking has been compared to “directions for how to see an artwork by Marc Chagall on display . . . [at] the Metropolitan Museum of Art,”⁸ or sneaking “into a movie theater and watch[ing] a . . . movie without buying a ticket.”⁹ Twenty-first century web users have likely encountered in-line linked content in their digital travels.¹⁰ A fixture of web design since the early days of the World Wide Web, in-line linking requires that a web page author write HyperText Markup Language (HTML) instructions for the

5. *17 West 54th Street, Apt 7D*, ZILLOW, https://www.zillow.com/homedetails/17-W-54th-St-APT-7D-Manhattan-NY-10019/79974111_zpid/?mmlb=g.8 [<https://perma.cc/3LP7-M7U2>] (last visited Mar. 6, 2023).

6. See *Sinclair v. Ziff Davis, LLC*, 454 F. Supp. 3d 342, 343 (S.D.N.Y. 2020); cf. Allison Roarty, *Link Liability: The Argument for Inline Links and Frames as Infringements of the Copyright Display Right*, 68 FORDHAM L. REV. 1011, 1018–19 (1999).

7. See *Goldman v. Breitbart News Network, LLC*, 302 F. Supp. 3d 585, 587 (S.D.N.Y. 2018) (“The result: a seamlessly integrated webpage, a mix of text and images, although the underlying images may be hosted in varying locations.”). This Note will not examine any “peer-to-peer” servers, through which computers communicate to one another without an intermediary, because the specific issue examined, the Server Test, relates exclusively to client-server architectures. See Eric J. Feigin, Note, *Architecture of Consent: Internet Protocols and Their Legal Implications*, 56 STAN. L. REV. 901, 903–04 (2004).

8. *McGucken v. Newsweek*, No. 19-CV-9617, 2022 WL 836786, at *5 (S.D.N.Y. Mar. 21, 2021).

9. *Flava Works, Inc. v. Gunter*, 689 F.3d 754, 758 (7th Cir. 2012).

10. See Lee Burgunder & Barry Floyd, *The Future of Inline Web Designing After Perfect 10*, 17 TEX. INTELL. PROP. L.J. 1, 10–11 (2008).

viewer's computer to display an empty panel on the author's web page.¹¹ Those instructions then direct the viewer's browser to retrieve content from a different web page. The web browser accesses that content through the third-party web page's server, which then populates that content back into the web page's otherwise empty panel.¹²

Recent uses of in-line linking have given rise to copyright actions that pose questions about the physical nature of a digital display right.¹³ In essence, in-line linking involves a web developer writing HTML instructions that direct viewers of one web page to look at another, prompting the user's browser to "display" content that the author does not own and that the original owner may change or remove at their leisure.¹⁴ This dynamic has been the subject of contentious litigation about whether someone who in-line links may be held directly liable for contravening the display right under the Copyright Act of 1976.¹⁵ The display right, in particular, grew out of the act's drafters foreseeing the need to adapt legal frameworks that would ensure that owners' intellectual property rights remain secure in the face of advancing technology.¹⁶ Nevertheless, in-line linking has posed precisely the type of issue that these drafters foresaw, weighing copyright owners' interests against those of website owners whose sites employ in-line linking.¹⁷

One test for whether in-line linking contravenes the display right, known as the Server Test, attaches liability only when the copyrighted content is actually stored on an infringing web page's server.¹⁸ Since its adoption by the U.S. Court of Appeals for the Ninth Circuit in 2007, the Server Test has offered internet users and courts a compelling, bright-line rule to interpret the display right under the 1976 Copyright Act.¹⁹ Critics of the test argue that it

11. See Brian D. Wassom, Note, *Copyright Implications of "Unconventional Linking" on the World Wide Web: Framing, Deep Linking and Inlining*, 49 CASE W. RESV. L. REV. 181, 190–91 (1998); see also Tim Berners-Lee, *The World Wide Web: Past, Present and Future*, W3 (Aug. 1996), <https://www.w3.org/People/Berners-Lee/1996/ppf.html> [<https://perma.cc/N53V-2SZC>]; Roarty, *supra* note 6, at 1018–19.

12. See, e.g., *Sinclair v. Ziff Davis, LLC*, 454 F. Supp. 3d 342, 343 (S.D.N.Y. 2020) ("Embedding allows a website coder to incorporate content, such as an image, that is located on a third-party's server, onto the coder's website.").

13. Compare *Perfect 10 v. Google, Inc.*, 416 F. Supp. 2d 828, 839 (C.D. Cal. 2006) (holding that a public display of thumbnails in-line linked to Google's search page did not infringe on a copyright holder's rights), *aff'd sub nom. Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1155 (9th Cir. 2007), with *Goldman v. Breitbart News Network, LLC*, 302 F. Supp. 3d 585, 586 (S.D.N.Y. 2018) (holding that in-line linking an image in a web page infringed on the exclusive display right of the copyright owner).

14. See Roarty, *supra* note 6, at 1014–16.

15. Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended in scattered sections of the U.S.C.); see 17 U.S.C. § 106(5); see also *infra* Part II.

16. See JESSICA D. LITMAN, *DIGITAL COPYRIGHT 17*, 37–38 (2d ed. 2001); see also *infra* Part I.A.1.

17. See *infra* Parts I.A.1, III.A.

18. See *Perfect 10*, 416 F. Supp. 2d at 839 ("From a technological perspective, one could define 'display' as the act of *servicing* content over the web—*i.e.*, physically sending ones and zeroes over the internet to the user's browser.").

19. See Michael P. Goodyear, *Embedding Permission Culture: A New Approach to the Server Test Quandary*, 75 OKLA. L. REV. 263, 290 (2023).

allows web designers who in-line link to content to escape direct liability for infringing on a copyright owner's rights.²⁰ U.S. District Courts for the Northern District of Texas²¹ and the Southern District of New York²² have flatly rejected the Server Test, and the U.S. Court of Appeals for the Seventh Circuit declined to apply the Server Test in one instance.²³

This Note argues that the Server Test correctly attempts to interpret the display right by analyzing the physical nature of digital display. However, it misinterprets the display right in light of the text and history of the 1976 Copyright Act by exclusively emphasizing the location of storage as the situs of injury. Part I.A traces the history of the display right as it appears in the 1976 Copyright Act, and Part I.B describes the mechanics of linking on the World Wide Web. Part II examines the origins of the Server Test and the divergent views on in-line linking that courts across the United States have taken in recent years. Finally, Part III analyzes the viability of the future of the Server Test as a legitimate interpretation of the display right under 17 U.S.C. § 106(5). Part III posits that courts must contend with and embrace the mechanics of in-line linking and the functionality of servers in order to fully vindicate the display right. In this regard, the Server Test takes an important step toward a modern interpretation of the display right; yet it mistakenly attempts to locate a situs of injury at the server, rather than at the actual display, which may occur at the moment a member of the public views the work or when the underlying code commands a user's browser to retrieve data.

This Note proposes a new approach to interpreting the text and history of 17 U.S.C. § 106(5) that engages with the realities of in-line linking in the digital age. Ultimately, this Note recommends a revised test, called the "Display Test," which guides courts and litigants through an analysis of each step in the display process. This Note also proposes revised definitions of the operative terms "copy" and "public" that are unique to the display right. The Display Test seeks to help courts and litigants better analyze the technology employed in in-line linking while also considering the interests of copyright owners, the liabilities they invite by publishing content publicly on the web, and the role that web developers play in linking to copyrighted content.

20. See Jane C. Ginsburg & Luke Ali Budiardjo, *Embedding Content or Interring Copyright: Does the Internet Need the 'Server Rule'?*, 32 COLUM. J.L. & ARTS 417, 422 (2019).

21. See *The Leader's Institute, LLC v. Jackson*, No. 14-CV-3572, 2017 WL 5629514 (N.D. Tex. Nov. 22, 2017).

22. See *Nicklen v. Sinclair Broad. Grp., Inc.*, 551 F. Supp. 3d 188, 191 (S.D.N.Y. 2021); *Goldman v. Breitbart News Network, LLC*, 302 F. Supp. 3d 585, 586 (S.D.N.Y. 2018).

23. See *Flava Works, Inc. v. Gunter*, 689 F.3d 754, 756 (7th Cir. 2012).

I. HISTORIES OF THE DISPLAY RIGHT AND THE WORLD WIDE WEB

Article I, section 8, clause 8 of the U.S. Constitution gives Congress the power to legislate in order to protect creative works.²⁴ Congress has repeatedly taken up this invitation through copyright legislation.²⁵ The American copyright regime under the 1976 Copyright Act specifically protects “works of authorship fixed in any tangible medium of expression, now known or later developed.”²⁶ This language requires that copyright law reflect and adapt to technological evolution or obsolescence with respect to the media in which creative works are “fixed.”²⁷

Since the turn of the twenty-first century, the internet has become a fixture of modern life that offers users across the globe instantaneous access to endless works of authorship.²⁸ “The Internet is a world-wide network of networks” that facilitates the exchange of information through functions like sending and receiving emails, sharing files between computers, and accessing the World Wide Web.²⁹ Invented in 1990, the World Wide Web revolutionized how users access the internet by embedding links into digital documents that could be viewed by users who know the web address.³⁰ Today, linking underpins almost all user experiences on the web, even though the copyright law that governs its contents predates the medium itself.³¹

Part I of this Note explores the twin emergences of the copyright law governing digital displays and the technology itself. Part I.A focuses on the origins of the display right, which the Server Test purports to interpret, tracing the history from its antecedent form as the exhibition right to its current form as the public display right. The Server Test also engages with the technicalities of displaying content on the web, specifically through the act of in-line linking content and accessing it through external servers.³² Part I.B turns to the mechanics of web design, which is built on a structure of linking.

24. See U.S. CONST. art. I, § 8, cl. 8; see also 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § A.01[A] (Matthew Bender & Co. rev. ed. 1993).

25. See 1 NIMMER & NIMMER, *supra* note 24, § A.01[A].

26. 17 U.S.C. § 102(a).

27. See LITMAN, *supra* note 16, at 22.

28. See Ginsburg & Budiardjo, *supra* note 20, at 419.

29. Perfect 10 v. Amazon.com, Inc., 508 F.3d 1146, 1155 (9th Cir. 2007) (quoting Religious Tech. Ctr. v. Netcom On-Line Commc’n Servs., Inc., 923 F. Supp. 1231, 1238 n.1 (N.D. Cal. 1995)); see also *How Does the Internet Work?*, MDN WEB DOCS (Oct. 9, 2022), https://developer.mozilla.org/en-US/docs/Learn/Common_questions/How_does_the_Internet_work [<https://perma.cc/K72S-7JEB>].

30. Martin Campbell-Kelly & Daniel D. Garcia-Swartz, *The History of the Internet: The Missing Narratives*, 28 J. INFO. TECH. 18, 50 (2005).

31. See LITMAN, *supra* note 16, at 26.

32. See Perfect 10 v. Google, Inc., 416 F. Supp. 2d 828, 838–44 (C.D. Cal. 2006), *aff’d sub nom.* Perfect 10 v. Amazon.com, Inc., 508 F.3d 1146, 1155 (9th Cir. 2007).

A. *The Emergence of the Display Right*

Contemporary American copyright law begins with the 1976 Copyright Act.³³ The culmination of a twenty-one-year effort to standardize and simplify ownership rights, the 1976 Copyright Act transformed earlier copyright legislation according to evolving interindustry interests and new technological innovation.³⁴ The act ambitiously consolidated and codified a patchwork of case law that flowed from ambiguity in earlier acts to create a unified body of federal law.³⁵

The act gives copyright owners a set of six exclusive rights as established in 17 U.S.C. § 106. Owners have the right to (1) reproduce the work, (2) prepare derivative work, (3) distribute copies of the work, (4) perform the work publicly, (5) display the work publicly, and (6) perform sound recordings of the work by audio transmission.³⁶ By contrast, preceding legislation—namely, the 1909 Copyright Act³⁷—enumerated only four exclusive rights for copyright holders: copying, reprinting, translating, and performing.³⁸ The 1909 act did not explicitly protect a display right; however, courts commonly interpreted the 1909 act to encompass what is now understood as a display right.³⁹

1. The Exhibition Right

The display right, first known as the “exhibition right,” grew out of dual rights to reproduce and perform works that are fixed in media not fully encompassed by either copying or performance.⁴⁰ The exhibition right appeared first in reference to exhibiting works of art, such as paintings or sculptures, in a physical gallery space.⁴¹ In that context, protecting the work by dictating whether it could be displayed to the public did not fit neatly into a category afforded protection under the 1909 Copyright Act.⁴²

33. 17 U.S.C. § 106.

34. See LITMAN, *supra* note 16, at 36–37.

35. See Robert A. Gorman, *Overview of the Copyright Act of 1976*, 126 U. PENN. L. REV. 856, 883 (1978).

36. 17 U.S.C. § 106(1)–(5).

37. Act of Mar. 4, 1909, ch. 320, 35 Stat. 1074, *repealed by* Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended in scattered sections of the U.S.C.).

38. *Id.*

39. See Gorman, *supra* note 35, at 874–75. The display right was not fully established as a protected right in most state courts at the time of the 1909 Copyright Act’s passage, but it developed and became commonly accepted prior to the 1976 Copyright Act’s passage. *See id.*

40. See R. Anthony Reese, *The Public Display Right: The Copyright Act’s Neglected Solution to the Controversy Over RAM “Copies,”* 2001 U. ILL. L. REV. 83, 94.

41. See, e.g., *Werckmeister v. Am. Lithographic Co.*, 134 F. 321, 339 (2d Cir. 1904) (holding that the display of Walter Dendy Sadler’s *Chorus* painting at the Royal Academy of Arts did not constitute a publication and was therefore fully protected under the then extant copyright regime).

42. *See id.*; Gorman, *supra* note 35, at 857. Notably, under the 1909 Copyright Act, unpublished works did not enjoy the same protections that published works did. *See id.* at 857–58. Protections afforded to an exhibited work hinged on whether that display was a “publication” in the way a book might be published or a play might be performed. *See id.* Whether authors received limited or general publication rights over a work depended on the

By the turn of the twentieth century, the exhibition right had come to refer to the licenses that motion picture studios granted to picture houses for screenings.⁴³ The right encompassed the display of motion pictures and was associated with but distinct from the performance right, given that early motion pictures mechanically resembled exhibited photographs, as compared to a modern film or video.⁴⁴ The exhibition right formally transformed into the display right in 1965, as discussed in a report by the register of copyrights to the U.S. House Committee on the Judiciary.⁴⁵ The register noted that the term “exhibition” uniquely “refer[red] to the performance of a motion picture.”⁴⁶ However, as used in the legislation of the period, it was “intended to refer to the display of a copy of the copyrighted work or of an image of a copy of it, but not including the performance of a motion picture.”⁴⁷ The register’s proposal instead suggested using the term “display,” which was fully adopted through an amended bill in 1966.⁴⁸

A 1967 House Report by the Judiciary Committee noted that the term “display” newly encompassed the exhibition right, which had been defined in the 1965 legislation as “to show a copy of [a work], either directly or by means of motion picture films, slides, television images, or any other device or process.”⁴⁹ By the time the 1976 Copyright Act became law, the definition of “display” was enshrined as “to show a copy of [a work], either directly or by means of a film, slide, television image, or any other device or process or, in the case of a motion picture or other audiovisual work, to show individual images nonsequentially.”⁵⁰ By distinguishing the display right from the performance right and the reproduction right, the report noted that the term “display” could better accommodate future technological development.⁵¹

From its original conception, the display right was tethered to the specific complexities of creating a stable copyright regime that governs unstable,

medium of the work and, specifically, the way it could be distributed, displayed, or copied. *See id.*; *see also* LITMAN, *supra* note 16, at 49.

43. *See* REG. OF COPYRIGHTS, 87TH CONG., COPYRIGHT LAW REVISION PART 6: SUPPLEMENTARY REPORT OF THE REGISTER OF COPYRIGHTS ON THE GENERAL REVISION OF THE U.S. COPYRIGHT LAW: 1965 REVISION BILL 23 (Comm. Print 1965) (“It arises from the well-established use of the word ‘exhibit’ in the motion picture industry to refer to the performance of a motion picture.”); *see also* Metro-Goldwyn-Mayer Distrib. Corp. v. Bijou Theatre Co., 59 F.2d 70, 72 (1st Cir. 1932) (holding that the showing of a motion picture in a movie house infringed on the copyright holders’ right to exhibit their work); Patterson v. Century Prods., Inc., 93 F.2d 489, 492–93 (2d Cir. 1937) (holding that a motion picture house neither performed a work nor had produced a copy of it but that the copyright owner’s rights were infringed through an exhibition of the original work).

44. *See* LITMAN, *supra* note 16, at 40–41.

45. *See* REG. OF COPYRIGHTS, 87TH CONG., COPYRIGHT LAW REVISION PART 6: SUPPLEMENTARY REPORT OF THE REGISTER OF COPYRIGHTS ON THE GENERAL REVISION OF THE U.S. COPYRIGHT LAW: 1965 REVISION BILL 23.

46. *Id.*

47. *Id.*

48. *See id.*; *see also* H.R. REP. NO. 90-83, at 27 (1967).

49. H.R. REP. NO. 90-83, at 154.

50. 17 U.S.C. § 101 (“display”).

51. *See* H.R. REP. NO. 90-83, at 26.

evolving media. Even by 1965, the need to adapt to the young internet⁵² and computer screens⁵³ was clear to the committee. Yet, committee members agreed that, rather than enshrining media-specific language that might require constant revision, the rights provided under § 106 and their definitions would allow for expansion and evolution over time.⁵⁴ By the time the 1976 Copyright Act was finalized, the committee vividly foresaw the need to flexibly adapt the display right in particular to allow for future technological advancement.⁵⁵

2. The Public Display Right

As it is currently written, the display right definition echoes the earlier language of the exhibition right.⁵⁶ Two main parts of the display right—implicit in its definition—inform how the display right is currently understood. First, the right applies to the original work as well as to copies of the original work;⁵⁷ second, the display right may be infringed on only by works or copies that are displayed publicly.⁵⁸

a. Copy

The 1976 Copyright Act begins the definition of “display” with “to show a copy.”⁵⁹ The right to copy stands alone as an independent right in the panoply afforded by the act.⁶⁰ Yet the display right attaches to the copy

52. See REG. OF COPYRIGHTS, 87TH CONG., COPYRIGHT LAW REVISION PART 6: SUPPLEMENTARY REPORT OF THE REGISTER OF COPYRIGHTS ON THE GENERAL REVISION OF THE U.S. COPYRIGHT LAW: 1965 REVISION BILL 20; see also Reese, *supra* note 40, at 99.

53. See H.R. REP. NO. 94-1476, at 28 (1976) (“In addition to the direct showings of a copy of a work, ‘display’ would include the projection of an image on a screen or other surface by any method, the transmission of an image by electronic or other means, and the showing of an image on a cathode ray tube or similar viewing apparatus.”).

54. See REG. OF COPYRIGHTS, 87TH CONG., COPYRIGHT LAW REVISION PART 6: SUPPLEMENTARY REPORT OF THE REGISTER OF COPYRIGHTS ON THE GENERAL REVISION OF THE U.S. COPYRIGHT LAW: 1965 REVISION BILL 18 (“[I]t would be a mistake for the statute, in trying to deal with such a new and evolving field as that of computer technology, to include an explicit provision that could later turn out to be too broad or too narrow. A much better approach, we feel, is to state the general concepts of copyright in language, such as that in section 106(a), which would be general in terms and broad enough to allow for adjustment to future changes in patterns of reproduction and other uses of authors’ works.”).

55. See H.R. REP. NO. 94-1476, at 51 (“Authors are continually finding new ways of expressing themselves, but it is impossible to foresee the forms that these new expressive methods will take. The bill does not intend either to freeze the scope of copyrightable technology or to allow unlimited expansion into areas completely outside the present congressional intent.”).

56. See *supra* notes 43–48 and accompanying text; see also 17 U.S.C. § 101 (“display”).

57. 17 U.S.C. § 101 (“display”).

58. *Id.* §§ 109(c), 110(5)(A); see 2 NIMMER & NIMMER, *supra* note 24, § 8.20; see also VHT, Inc. v. Zillow Grp., Inc., 918 F.3d 723, 741–42 (9th Cir. 2019) (holding that a personal web page that users could access through Zillow’s web platform did not infringe on a photographer’s display rights because the page was not made available to the public).

59. 17 U.S.C. § 101 (“display”).

60. See *id.* § 106(5).

made, so long as the copy is made in a fixed, tangible medium.⁶¹ The definition of display includes copies made in media such as “film, slide, television image, or any other device or process,”⁶² but that definition has required rethinking with the emergence of new technologies.⁶³

For digital media, including web displays, the fixed medium is complicated by the ephemeral nature of transmissions.⁶⁴ The drafters of the 1976 Copyright Act did not foresee “purely evanescent or transient reproductions”—including those “shown electronically on a television or other cathode ray tube, or captured momentarily in the ‘memory’ of a computer”—being protected by the display right as “fixed copies.”⁶⁵ This means that the mechanics of digital media and—more specifically—the way in which copies are stored play vital roles in determining whether an image is “fixed” for the purposes of protection under the display right.⁶⁶

The issue of defining a “fixed copy” with respect to the digital display right came to bear on computer technology in the landmark case *MAI Systems, Corp. v. Peak Computer, Inc.*⁶⁷ The Ninth Circuit held that computer software stored in a computer’s random access memory (RAM), a temporary recording mechanism through which data is stored briefly before it is displayed to a user, constituted a “copy” under 17 U.S.C. § 106(1) with respect to the right to copy.⁶⁸ Courts⁶⁹ and legal scholars⁷⁰ alike have considered *MAI Systems*’s understanding of RAM as a fixed “copy” to fly in the face of the legislative history of the 1976 Copyright Act, given its ephemeral nature.⁷¹ *MAI Systems* stirred attempts at congressional action to supersede the Ninth Circuit’s ruling and stirred intervention by the register of copyrights.⁷² However, that ruling remains in effect in the Ninth Circuit and elsewhere.⁷³ Scholars and other courts have offered an alternative

61. *See id.* § 102(a).

62. *Id.*

63. *Cf. Am. Broad. Cos. v. Aereo, Inc.*, 573 U.S. 431 (2014).

64. *See H.R. REP. NO. 94-1476*, at 52–53 (1976).

65. *Id.* at 53.

66. *See MAI Sys. Corp. v. Peak Comput., Inc.*, 991 F.2d 511, 517–18 (9th Cir. 1993); *see also infra* Part I.B.

67. 991 F.2d 511 (9th Cir. 1993).

68. *See id.* at 518–19.

69. *See, e.g., Cartoon Network LP v. CSC Holdings, Inc.*, 536 F.3d 121, 128 (2d Cir. 2008); *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544, 551 (4th Cir. 2004).

70. *See, e.g., Reese, supra* note 40, at 138–48; Jessica Litman, *Fetishizing Copies*, in *COPYRIGHT LAW IN THE AGE OF LIMITATIONS AND EXCEPTIONS* 74, 81–87 (Ruth L. Okediji ed., 2017); Kimberlianne Podlas, *Linking to Liability: When Linking to Leaked Movies, Scripts, and Television Shows Is Copyright Infringement*, 6 *HARV. J. SPORTS & ENT. L.* 41, 51–52 (2015); Jule L. Sigall, *Copyright Infringement Was Never This Easy: RAM Copies and Their Impact on the Scope of Copyright Protection for Computer Programs*, 45 *CATH. U. L. REV.* 181, 182–83 (1995).

71. For further discussion of RAM as a storage mechanism, *see infra* Part I.B.

72. *See Litman, supra* note 70, at 82–84.

73. *See Quantum Sys. Integrators, Inc. v. Sprint Nextel Corp.*, 338 F. App’x 329 (4th Cir. 2009); *NLFC, Inc. v. Devcom Mid-Am., Inc.*, 45 F.3d 231 (7th Cir. 1995). Several courts have applied the *MAI Systems* holding to copies stored on a computer’s central processing unit (CPU), its long-term storage mechanism. *See, e.g., Quantum Sys. Integrators*, 338 F. App’x

interpretation of RAM: that a RAM copy is no copy at all. Rather, through a reading of the 1976 Copyright Act's history, it is a private display of the content.⁷⁴

b. Public

By the very language of the 1976 Copyright Act, private displays do not infringe on a copyright owner's public display right because the right is limited to works displayed publicly.⁷⁵ Why does the display right apply only to public displays? As the drafters of the 1976 Copyright Act seemed keenly aware of technological innovation and obsolescence, they drafted the display right with an eye to future technologies, and the "public" display right provides one means of adaptation.⁷⁶ In 1967, the House Judiciary Committee considered a proposal by book publishers, photographers, and videographers.⁷⁷ The group asked the committee to equate the display right with the right to copy for the purposes of digital displays in cases when a digital version would be used "in lieu of a copy."⁷⁸ The committee rejected the proposal.⁷⁹ It reasoned that digital copies would be sufficiently protected by the restrictions imposed by the public display right, given that a display must be made public—and not merely used privately—for it to infringe on the owner's rights.⁸⁰

The 1976 Copyright Act broadly defines "publicly" as occurring in a space open to the public or through a transmission to a location or time that is different from the time or place of sending.⁸¹ Even though "public" has not been clearly defined with respect to the display right, case law on the performance right exposes the complex task of defining "public" in the age of digital transmissions.⁸² The landmark 2014 U.S. Supreme Court case *American Broadcasting Cos. v. Aereo, Inc.*⁸³ held that transmission to one

at 329; *NLFC*, 45 F.3d at 231; *Stenograph, LLC v. Bossard Assocs., Inc.*, 144 F.3d 96 (D.C. Cir. 1998).

74. See Litman, *supra* note 70, at 8; Reese, *supra* note 40, at 139–41; see also *Cartoon Network*, 536 F.3d at 128; *CoStar*, 373 F.3d at 551.

75. See 17 U.S.C. §§ 106(5), 109(c), 110(b); H.R. REP. NO. 94-1476, at 80 (1976); 2 NIMMER & NIMMER, *supra* note 24, § 8.20[B].

76. See 5 WILLIAM PATRY, PATRY ON COPYRIGHT § 15:3 (2022).

77. See H.R. REP. NO. 90-83, at 26–27 (1967).

78. *Id.*

79. *Id.*

80. See *id.*

81. See 17 U.S.C. § 106(5); *id.* § 101 ("publicly"); *id.* § 101 ("transmission"). Notably, this distinction likely predates the 1976 Copyright Act, which afforded protection against infringing displays only when works were shown in public and not when they were privately held. See, e.g., *Werckmeister v. Am. Lithographic Co.*, 134 F. 321, 324–27 (2d Cir. 1904) (holding that a public display of a painting or sculpture in a gallery constitutes a "publication" for the purposes of the exhibition right).

82. See, e.g., *Am. Broad. Cos. v. Aereo, Inc.*, 573 U.S. 431 (2014); *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 157–58 (1975) (holding that playing music over a restaurant loudspeaker did not constitute a "public performance" for the purposes of the 1976 Copyright Act).

83. 573 U.S. 431 (2014).

individual person still amounted to a “public” performance based on the text and purpose of the transmission clause.⁸⁴ The 1976 Copyright Act never defines “public,” but the Court held that anyone “who lack[s] any prior relationship to the work” constituted the public.⁸⁵ In deciding whether a “public” performance had taken place, the Court rejected arguments founded on the technological mechanisms for transmission, ruling in favor of those rooted in the legislative history and congressional intent behind the 1976 Copyright Act.⁸⁶

The legislative history of the 1976 Copyright Act reveals its drafters’ intention to accommodate new technological developments effectively.⁸⁷ In early discussions of the display right, the register’s report posited that “[e]qually if not more significant for the future are implications of information storage and retrieval devices; when linked together by communication satellites or other means, these could eventually provide libraries and individuals throughout the world with access to a single copy of a work by transmission of electronic images.”⁸⁸ Yet, in *Aereo*, the Supreme Court asked, “why should any . . . technological differences matter?”⁸⁹ To answer that question, first one might ask, what even are the technological differences?

B. The Technological Differences

Any reader who has accessed the internet recently has likely used a web browser to access the World Wide Web. What many users call “the internet” is actually a web that is spun out of innumerable links that connect devices across the world.⁹⁰ The web is moored to servers, which are computers that act as repositories and host web pages by storing and sending data to users whose computers request access.⁹¹

84. *Id.* at 447–49.

85. *Id.* at 449.

86. *Id.* at 446–47.

87. See Reese, *supra* note 40, at 92; see also LITMAN, *supra* note 16, at 37–38; cf. *supra* note 55 and accompanying text (discussing the register’s report and the views that influenced Congress’s draft of the 1976 Copyright Act).

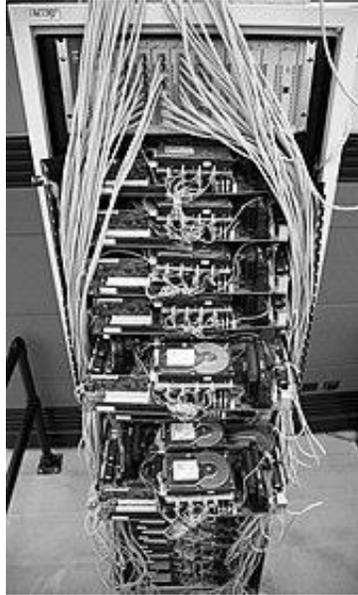
88. See REG. OF COPYRIGHTS, 87TH CONG., COPYRIGHT LAW REVISION PART 6: SUPPLEMENTARY REPORT OF THE REGISTER OF COPYRIGHTS ON THE GENERAL REVISION OF THE U.S. COPYRIGHT LAW: 1965 REVISION BILL 20 (Comm. Print 1965).

89. *Aereo*, 573 U.S. at 446.

90. See Alain Strowel & Nicolas Ide, *Liability with Regard to Hyperlinks*, 24 COLUM. J.L. & ARTS 403, 404 (2001).

91. Shannon McGovern, Note, *Aereo, In-Line Linking, and a New Approach to Copyright Infringement for Emerging Technologies*, 64 CATH. U. L. REV. 777, 783 (2015).

Figure 3: Google's First Production Server⁹²



Servers hosting those web pages stand ready for users to access them at any time through a unique address, known as a Uniform Resource Locator (URL).⁹³ When a user's computer displays a web page, it executes a request to access data stored, or "hosted," on that server through a computer language known as Hypertext Transfer Protocol (HTTP), locating the correct server through the URL.⁹⁴ Once the information has been relayed back to the user's computer, it is displayed based on the computer's reading and interpretation of the web page's layout instructions, which are generally written in HTML.⁹⁵ What a user may view as a seamless display of images, text, logos, buttons, and other design features results from a computer interpreting the underlying HTML code disseminated from the web page.⁹⁶ To display a window from the World Wide Web in a browser, the user's computer makes a temporary copy of the data it receives from the server, including any photographs or videos, and stores it briefly and locally on the computer's RAM.⁹⁷ The RAM copy is quickly deleted and overwritten when the browser displays the next piece of content, as contrasted with data stored on the

92. Steve Jurvetson, *Google's First Production Server*, WIKIMEDIA COMMONS (May 30, 2006), https://commons.wikimedia.org/wiki/File:Google%E2%80%99s_First_Production_Server.jpg [<https://perma.cc/8C37-732Z>].

93. Cheng Lim Saw, *Linking on the Internet and Copyright Liability: A Clarion Call for Doctrinal Clarity and Legal Certainty*, 49 INT'L REV. INTEL. PROP. & COMPETITION L. 536, 537 (2018).

94. See Strowel & Ide, *supra* note 90, at 406.

95. See *id.* at 405.

96. See Burgunder & Floyd, *supra* note 10, at 5.

97. See Reese, *supra* note 40, at 129.

computer's hard drive, where files are stored locally, and a user may even reshare them until the user deletes them.⁹⁸

The rise of computing and rapid web development have made servers and large server farms—groups of servers in one location connected to one network—indispensable to the functionality of the web.⁹⁹ That said, the physicality of servers—including their location and the jurisdictional attachments they create—make them compelling targets for legal action. But more commonly, intermediaries like domain name services and search engines have since become primary targets for copyright liability.¹⁰⁰

If the web is moored to servers, its connective threads consist of links, which can take different forms.¹⁰¹ Hyperlinks generally transfer users from one web page to another or to a specific feature of another.¹⁰² Although most twenty-first-century internet users likely recognize hyperlinks as a blue, underlined URL, the hyperlink itself consists of both the visible URL as well as the HTML instructions that underlie the hyperlink and tell the user's computer where to locate the server, what to request access to via HTTP, and how to display the HTML it receives.¹⁰³ Within this general framework, several types of hyperlinking exist to uniquely direct a user's computer to interpret the HTML it receives.¹⁰⁴

Framing, for example, is a type of hyperlinking whereby a host web page creates an empty frame within the page and directs the user's computer to populate that frame with the content of another website, which could be hosted on an entirely different server.¹⁰⁵ The user can then interact with the framed site from within the border of the original web page.¹⁰⁶ The presence of a third-party web page is generally visually apparent from the way that framing is displayed on the user's screen.¹⁰⁷

By contrast, in-line linking seamlessly weaves a different page into the page the viewer is visiting, making content served by the other page appear as if it were served by the host page.¹⁰⁸ Like framing, an in-line linked page involves a web page that contains an empty panel, itself devoid of content but surrounded by the page's content.¹⁰⁹ Outside of the panel, the HTML

98. *See id.* at 114–15.

99. *See* Steven R. Swanson, *Google Set Sail: Ocean-Based Server Farms and International Law*, 43 CONN. L. REV. 709, 714 (2011). These farms are often located in rural areas as a function of where power will be least expensive, due to the fact that servers require an immense amount of power and to the high costs associated with maintaining servers. *See id.* at 716. The physical locations of servers have previously posed jurisdictional questions for hosting illicit content. *See id.* at 718.

100. *See id.* at 719.

101. *See* Strowel & Ide, *supra* note 90, at 404.

102. *See id.* at 407.

103. *See id.* at 406; Burgunder & Floyd, *supra* note 10, at 20.

104. *See* Strowel & Ide, *supra* 90, at 407–09; Stacey Dogan, *Infringement Once Removed: The Perils of Hyperlinking to Infringing Content*, 87 IOWA L. REV. 829, 838 (2002).

105. *See* Wassom, *supra* note 11, at 191.

106. *See* Strowel & Ide, *supra* note 90, at 407–09.

107. *See id.*

108. *See id.* at 408; Wassom, *supra* note 11, at 193.

109. *See* Strowel & Ide, *supra* note 90, at 408.

instructions that underlie the web page direct a user's browser to display the web page that the user is visiting, but within the panel, those same instructions will direct the user's browser to a different web page, which may be hosted by a different server.¹¹⁰

Figure 4: Copyright Aspects of Hyperlinking and Framing, Locally Served Wikipedia Image¹¹¹



Figure 5: Copyright Aspects of Hyperlinking and Framing, In-Line Linked Wikipedia Image¹¹²



From the user's perspective, the linked web page appears indistinguishable from the rest of the web page, although the underlying HTML directs the computer to display content from two different websites at the same time.¹¹³ A user need not click on or activate the linked content in order to make the third-party web page's content appear.¹¹⁴ Developers cite this tool as a space- and memory-conserving mechanism because the content is stored only on the original website's server and appears in an ephemeral form on the user's screen when the browser interprets the page's HTML, so it is never

110. *See id.*

111. *US_Supreme_Court_front_view.png*, WIKIMEDIA COMMONS, https://upload.wikimedia.org/wikipedia/commons/5/5a/US_Supreme_Court_front_view.png [<https://perma.cc/R8AF-BPNM>] (last visited Mar. 6, 2023).

112. *See Section Banner*, SUP. CT. OF THE U.S., <https://web.archive.org/web/20160828041053/https://www.supremecourt.gov/images/sectionbanner13.png> (last visited Mar. 6, 2023) (in-linking to this image).

113. *See Strowel & Ide, supra* note 90, at 408.

114. *See id.*

actually stored on the host page's server.¹¹⁵ Like pointing a closed-circuit television (CCTV) at a fixed location, the in-line link no longer shows the original work if the original content has been relocated or removed from its earlier location.¹¹⁶

Embedding and linking are at the very core of the World Wide Web's infrastructure and, indeed, what made it such a successful innovation.¹¹⁷ The web has since only continued to proliferate with the rise of social media platforms that encourage sharing and republishing through mechanisms like framing and in-line linking.¹¹⁸ At the same time, the rise of monetized content creation and digital culture more broadly have incentivized copyright owners to pursue fierce protection over their works.¹¹⁹

II. THE SERVER TEST AND ITS ALTERNATIVES

With the growth of the World Wide Web and especially the image search function of search engines, suits in the late 1990s and early 2000s raised questions about the display right and in-line linking.¹²⁰ In *Kelly v. Arriba Soft Corp.*,¹²¹ the Ninth Circuit commented on the burgeoning issue of embedded images, examining a search engine that both created thumbnails of content served on other websites and displayed the content in full view using embedding and framing.¹²² Based on the legislative history and text of the copyright act, the court held that by embedding and framing parts of a third-party website, the search engine had infringed on the owner's exclusive public display right.¹²³

The court grappled with the definition of "publicly" and considered whether transmission through embedding amounted to making content available "to anyone with a computer and internet access" and whether that

115. *See id.*; *see also* Burgunder & Floyd, *supra* note 10, at 6–7 ("Often a web developer prefers to reference content that is owned by someone else and is stored on a remote computer [T]his may be advantageous because the developer doesn't have to use his own storage capacity to include the content within the developer's website pages. Also, it avoids the legal problems that certainly would arise from the reproduction of copyrighted materials.").

116. *See* Ilya Kreymer & Dragan Espenschied, *Self-Hosted Archival Embeds*, CONIFER BLOG BY RHIZOME (Nov. 6, 2019), <https://blog.conifer.rhizome.org/2019/11/06/self-hosted-archival-embeds.html> [<https://perma.cc/5SNE-8GBV>]. Relocation of in-line linked content is one form of "link rot" or "embed rot" that affects websites that change, move, or disappear over time and are no longer actively connected to other pages. *See id.*

117. *See* Ginsburg & Budiardjo, *supra* note 20, at 417, 421. For the sake of brevity and clarity, this Note will not discuss the revolution in linking that took place after the rise of "Web 2.0." *See* Anne Helmond, *The Algorithmization of the Hyperlink*, 3 COMPUTATIONAL CULTURE, 2013, at 1.

118. *See* Ginsburg & Budiardjo, *supra* note 20, at 417, 421.

119. *See id.* at 422; *see also* Helmond, *supra* note 117, at 8.

120. *See, e.g.,* *Kelly v. Arriba Soft Corp.*, 280 F.3d 934, 938 (9th Cir. 2002); *Playboy Ent., Inc. v. Webworld, Inc.*, 991 F. Supp. 543, 549–51 (N.D. Tex. 1997); *Playboy Ent., Inc. v. Russ Hardenburgh, Inc.*, 982 F. Supp. 503, 505 (N.D. Ohio 1997).

121. 280 F.3d 934 (9th Cir. 2002), *withdrawn on other grounds by* 336 F.3d 811 (9th Cir. 2003).

122. *See id.* at 939.

123. *See id.* at 947.

would constitute a “public display.”¹²⁴ Leslie Kelly, a professional photographer, held the rights to the underlying image, but the court considered exactly how Arriba, an image-based search engine, stored and accessed the image.¹²⁵ Although Arriba did not actually possess the images on their servers at any time, in the court’s view, by making the images available to the public, Arriba had still created a public display.¹²⁶ Arriba was held liable for direct infringement, and the case went on to stand for the principle that embedding and framing could create liability for direct infringement of the public display right, even if the website never actually served the infringing content.¹²⁷

In 2007, the Ninth Circuit changed course from its holding in *Kelly* and announced its adoption of the newly announced Server Test.¹²⁸ Part II.A of this Note charts the history of the Server Test, from its inception to its adoption by the Ninth Circuit in *Perfect 10 v. Amazon.com*.¹²⁹ Part II.B examines the slipstream that followed in the wake of *Perfect 10*, in which courts have declined to apply the Server Test by distinguishing *Perfect 10* by its facts, by cabining it to application only in limited circumstances, or by rejecting it as an invalid interpretation of the display right per 17 U.S.C. § 106(5).

A. The Server Test

In *Perfect 10 v. Google*,¹³⁰ Perfect 10 asked the U.S. District Court for the Central District of California to determine whether Google’s image search function, which showed users thumbnail images associated with search terms, infringed on an image owner’s display rights. Perfect 10, a now-defunct distributor of nude photographs that operated a magazine and website, published thousands of copyrighted images on its website, which it made available to digital subscribers who paid \$25.50 per month.¹³¹ Google operates a host of web services, including an image search engine that lets users input search terms and view corresponding thumbnail images under Google’s URL and logo.¹³² Google’s servers store thumbnail images—reduced-size versions of the images—but when a user clicks on the

124. *See id.* at 945.

125. *See id.* at 946.

126. *See id.*

127. *See id.* at 946–47. The ruling was withdrawn on procedural grounds. *See Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 822 (9th Cir. 2003).

128. *See Perfect 10 v. Amazon.com, Inc.*, 508 F.3d 1146, 1159–60 (9th Cir. 2007).

129. 508 F.3d 1146 (9th Cir. 2007).

130. 416 F. Supp. 2d 828, 839–40 (C.D. Cal. 2006), *aff’d sub nom. Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146 (9th Cir. 2007).

131. *See id.* at 832. Norman Zada, Perfect 10’s president and CEO, has instigated numerous frivolous copyright suits, pursued for purposes beyond “encouraging the protection of creative works.” *Id.* at 844; *see also Perfect 10, Inc. v. Giganews, Inc.*, No. CV-11-07098, 2015 WL 1746484, at *9 (C.D. Cal. Mar. 24, 2015) (“Perfect 10 has never been a self-sustaining business, and to date, has lost more than \$50 million dollars, if not more However, this loss appears to be largely intended by Perfect 10’s President and CEO Norman Zada, who described Perfect 10 . . . as a ‘tax write-off.’”).

132. *See Perfect 10*, 416 F. Supp. 2d at 833–34.

thumbnail, a larger version appears that is in-line linked to the source website not stored on Google's servers.¹³³ Google also generated revenue from Amazon.com through its in-line linking practices, so Perfect 10 filed two separate claims—one against Google and another against Amazon.com—which were consolidated at the district court level under the name *Perfect 10 v. Google*.¹³⁴ After the court granted and denied in part the parties' motions for a preliminary injunction, the parties cross-appealed to the Ninth Circuit under the name *Perfect 10 v. Amazon.com*.¹³⁵

In *Perfect 10 v. Google*, Perfect 10 alleged that Google's search feature directly infringed on its exclusive right to display the images as a copyright holder under § 106(5).¹³⁶ To determine whether direct infringement had occurred, the district court noted two competing approaches for defining "display" under § 106(5): the "Incorporation Test" and the Server Test.¹³⁷ The Incorporation Test, per the district court's explanation, defines "display" as incorporating an image visually into a web page, such as by in-line linking.¹³⁸ The court warned that adopting the Incorporation Test would "cause a tremendous chilling effect on the functionality of the Web—its capacity to link, a vital feature of the internet that makes it accessible, creative, and valuable."¹³⁹ The Server Test, on the other hand, defines "display" as serving, or digitally possessing and storing, work on a given web page.¹⁴⁰

The district court noted five main reasons for its adoption of the Server Test: First, the Server Test reflected the realities of modern uses of the web, where content proliferates widely across the internet through embedding.¹⁴¹ Second, it allows search engines like Google to function without the threat of liability for direct infringement claims while maintaining the possibility of liability through vicarious or contributory infringement.¹⁴² Third, the Server Test is easily applied by courts and understood by users.¹⁴³ Fourth, the

133. *See id.* at 833.

134. *See Perfect 10*, 508 F.3d at 1157.

135. *See id.*

136. *See id.* at 1159; *see also* 17 U.S.C. § 106.

137. *See Perfect 10*, 416 F. Supp. 2d at 838–39.

138. *See id.* at 839.

139. *See id.*

140. *See id.* ("From a technological perspective, one could define 'display' as the act of serving content over the web—*i.e.*, physically sending ones and zeroes over the internet to the user's browser.").

141. *See id.* at 843.

142. *See id.* at 843–44; *see also* 5 PATRY, *supra* note 76, § 15:7; Ginsburg & Budiardjo, *supra* note 20, at 422. Per *Perfect 10*, an image shown on Google Image Search is not displayed publicly within the meaning of the display right, so it does not create any direct liability; however, should the underlying site serve an image that infringes on an owner's display right, Google could be contributorily or vicariously liable for facilitating access to the infringing images. *See Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1161 (9th Cir. 2007); *see also* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 929–30 (2005).

143. *See Perfect 10*, 416 F. Supp. 2d at 844; *see, e.g.*, Miller v. 4Internet, LLC, No. 18-CV-02097, 2022 WL 2438815, at *1–3 (D. Nev. July 5, 2022) (applying the Server Test as controlling law to images embedded in the *New York Post*'s website); Logan v. Meta

initial, direct infringers—those sites actually serving the infringing content—were not parties to the case before the court, so direct liability would have been inappropriate.¹⁴⁴ Fifth, the adoption of the Server Test would promote the policy incentives that underpin American copyright law, namely the production of creative works and the spread of information.¹⁴⁵

Under its newly announced standard, the district court found that Google “displayed” thumbnail images, which are hosted on its servers, but had not “displayed” images that were in-line linked through Google’s search function.¹⁴⁶ Reviewing the case on appeal, the Ninth Circuit upheld the district court’s interpretation, enshrining the Server Test as the circuit standard.¹⁴⁷ At that point, the Ninth Circuit did not specify whether the test applied only to search engines or to cases in which the infringing content was embedded through a third-party site.¹⁴⁸

Since its adoption of the Server Test in 2007, the Ninth Circuit and district courts within the circuit have largely continued to follow *Perfect 10*.¹⁴⁹ In *Free Speech Systems LLC v. Menzel*,¹⁵⁰ the U.S. District Court for the Northern District of California did not apply the Server Test, but Judge William H. Orrick interpreted the Server Test as being cabined only to cases that implicate search engines as potential infringers.¹⁵¹ Yet, in *Bell v. Wilmott Storage Services, LLC*,¹⁵² the Ninth Circuit applied the Server Test to a website that was not a search engine and hosted an infringing image, thereby violating the owner’s exclusive public display right.¹⁵³ In that case, Richard Bell, a landscape photographer and retired attorney, had taken a digital photograph of the Indianapolis, Indiana, skyline and posted it to his personal website.¹⁵⁴ Bell conducted a reverse search through Google Image Search and found that his photograph was available for view on a third-party

Platforms, Inc., No. 22-CV-01847, 2022 WL 14813836, at *4–6 (N.D. Cal. Oct. 25, 2022) (applying the Server Test to photographs posted to Facebook and subsequently embedded on other websites).

144. See *Perfect 10*, 416 F. Supp. 2d at 844.

145. See *id.*

146. See *id.* (“Merely to index the web so that users can more readily find the information they seek should not constitute direct infringement, but to *host* and *serve* infringing content may directly violate the rights of copyright holders.”).

147. See *Perfect 10*, 508 F.3d at 1159–60. The court’s decision in *Perfect 10* has been upheld and followed by cases throughout the circuit. See, e.g., *Miller*, 2022 WL 2438815, at *1 (“[T]he server test is still good law in this circuit, and until the court of appeals sits *en banc* to reconsider it, its viability is not truly threatened.”); *Evox Prods., LLC v. Verizon Media, Inc.*, No. 21-56046, 2022 WL 17430309, at *1–2 (9th Cir. Dec. 6, 2022).

148. See *Perfect 10*, 508 F.3d at 1159–60.

149. See, e.g., *Bell v. Wilmott Storage Servs., LLC*, 12 F.4th 1065, 1072–73 (9th Cir. 2021); *Miller*, 2022 WL 2438815, at *3.

150. 390 F. Supp. 3d 1162 (N.D. Cal. 2019).

151. See *id.* at 1172 (“[Plaintiff] has not provided *any* case within the Ninth Circuit applying the server test outside of the search engine context or in the context here, the wholesale posting of copyrighted materials on a news site.”).

152. 12 F.4th 1065 (9th Cir. 2021).

153. See *id.* at 1073.

154. See *id.* at 1068–69.

website hosted by Wilmott Storage Services.¹⁵⁵ Because the photograph was stored on the third-party website's server, the Ninth Circuit applied the Server Test and held that, by storing the infringing content on its servers and making the content available on a site that was open to the public, Wilmott had infringed on Bell's exclusive display right.¹⁵⁶

In 2021, the Ninth Circuit received a direct challenge to the continued validity of the Server Test in *Hunley v. Instagram, LLC*.¹⁵⁷ Alexis Hunley and Mathew Brauer, two freelance photographers, alleged that Instagram, the social media platform known for hosting user-generated photographic and video content, had violated their exclusive display rights by allowing third-party websites to embed their images from Instagram's web pages.¹⁵⁸ Although Hunley and Brauer had given Instagram permission to host and serve their images, they argued that third-party websites that embedded their content by using Instagram's prewritten HTML on a user post to instruct a third-party site to display their content should be liable for infringement of their display rights.¹⁵⁹ Hunley and Brauer claimed that the Server Test should be confined, applicable only in the context of search engines.¹⁶⁰ Hunley and Brauer further contended that *Perfect 10* ran contrary to *Aereo*'s holding.¹⁶¹ Although *Aereo* implicated the performance right and not the display right, the plaintiffs argued that the Supreme Court's interpretation of "public transmission" encompassed embedded content that was not served on a website, thus running counter to *Perfect 10*'s holding and the Server Test.¹⁶² As of this writing, *Hunley* remains pending before the Ninth Circuit, which may choose to revise or further entrench itself in the Server Test.¹⁶³

While *Hunley* was pending before the Ninth Circuit, the U.S. District Court for the District of Nevada heard *Miller v. 4Internet, LLC*.¹⁶⁴ In *Miller*, Robert Miller, a freelance photographer working for the *New York Post*, saw one of his photographs that was featured on the *Post*'s online platforms embedded in two websites hosted by 4Internet.¹⁶⁵ Miller sued for infringement of his public display right, arguing that, in light of *Hunley*, the Server Test no longer applied.¹⁶⁶ Considering a motion for summary judgment, the court continued to apply the Server Test as controlling law,¹⁶⁷

155. *See id.* at 1069–70.

156. *See id.* at 1072–73.

157. No. 21-cv-03778, 2021 WL 4243385 (N.D. Cal. Sept. 17, 2021); No. 21-cv-03778, 2022 WL 298570 (N.D. Cal. Feb. 1, 2022), *appeal docketed*, No. 22-15293 (9th Cir. Mar. 1, 2022).

158. *See Hunley*, 2021 WL 4243385, at *1.

159. *See id.* at *1–2; *see also Hunley*, 2022 WL 298570, at *1.

160. *See Hunley*, 2021 WL 4243385, at *2.

161. *See id.* at *2–3.

162. *See id.*

163. *See Hunley v. Instagram, LLC*, No. 22-15293 (9th Cir. docketed Mar. 1, 2022).

164. No. 18-CV-02097, 2022 WL 2438815 (D. Nev. July 5, 2022), *appeal docketed*, No. 22-16195 (9th Cir. Aug. 9, 2022).

165. *See id.* at *1.

166. *See id.* at *1–3.

167. *See id.* at *3.

just as the Northern District of California applied it as controlling law in *Logan v. Meta Platforms, Inc.*¹⁶⁸ in October 2022.¹⁶⁹

B. Jurisdictions Not Directly Following the Server Test

Although the Server Test remains in force in the Ninth Circuit and has been tacitly accepted by many web users and developers, the Server Test remains the subject of criticism by both scholars and courts.¹⁷⁰ Several courts, including the Northern District of Texas¹⁷¹ and the Southern District of New York¹⁷² have patently rejected the Server Test. By contrast, the Seventh Circuit distinguished *Perfect 10* and held the Server Test to be inapplicable.¹⁷³

1. The Seventh Circuit

Only one circuit court outside of the Ninth Circuit has ruled on the Server Test: the Seventh Circuit.¹⁷⁴ In 2012, it declined to adopt the Server Test in *Flava Works, Inc. v. Gunter*.¹⁷⁵ Flava Works, a video producer and distributor specializing in homosexual pornographic films, hosted a website that displayed images and videos behind a paywall.¹⁷⁶ MyVidster, owned and operated by Marques Rondale Gunter, was an online bookmarking service that allowed users to collect other web pages' URLs, as well as their content, into a database of bookmarks using in-line linking on MyVidster.¹⁷⁷ Like Google in *Perfect10*, MyVidster displayed a thumbnail image—an abbreviated version of Flava Works's content embedded into MyVidster, as well as a full-sized, in-line linked version, viewable once users clicked on the thumbnail.¹⁷⁸ Notably, the content that MyVidster had embedded was not the original Flava Works web pages, but rather third-party websites that had reposted and hosted Flava Works's content.¹⁷⁹ MyVidster argued that because it did not host the content on its own website, even though it provided

168. No. 22-CV-01847, 2022 WL 14813836 (N.D. Cal. Oct. 25, 2022); *see also* Jasmin Jackson, *Meta Beats Copyright Class Action over Embedding Tool*, LAW360 (Oct. 25, 2022, 8:41 PM), <https://www-law360-com.fls.idm.oclc.org/articles/1543333/meta-beats-copyright-class-action-over-embedding-tool> [<https://perma.cc/7WDQ-W2Z3>].

169. *See Logan*, 2022 WL 14813836, at *5.

170. *See supra* notes 20–23 and accompanying text.

171. *See The Leader's Institute, LLC v. Jackson*, No. 14-CV-3572, 2017 WL 5629514 (N.D. Tex. Nov. 22, 2017).

172. *See, e.g., Goldman v. Breitbart News Network, LLC*, 302 F. Supp. 3d 585 (S.D.N.Y. 2018); *Nicklen v. Sinclair Broad. Grp.*, 551 F. Supp. 3d 188 (S.D.N.Y. 2021); *McGucken v. Newsweek, LLC*, No. 19-CV-9617, 2022 WL 836786 (S.D.N.Y. Mar. 21, 2021).

173. *See Flava Works, Inc. v. Gunter*, 689 F.3d 754 (7th Cir. 2012).

174. *See id.* at 756.

175. 689 F.3d 754 (7th Cir. 2012).

176. *See id.* at 756.

177. *See id.*

178. *See id.*

179. *See Flava Works, Inc. v. Gunter*, No. 10-CV-6517, 2011 WL 3876910, at *5 (N.D. Ill. Sept. 1, 2011), *vacated*, 689 F.3d 754 (7th Cir. 2012).

a connection between the user's computer and the infringing content, it could not be held liable for direct infringement under the Server Test.¹⁸⁰

The U.S. District Court for the Northern District of Illinois held in *Flava* that MyVidster was not directly liable and declined to apply the Server Test.¹⁸¹ The court distinguished *Perfect10* by comparing the embedding mechanisms employed by Google to those employed by MyVidster.¹⁸² The court left open the possibility that although videos or other media may be stored on a third-party server, MyVidster and other sites may still cause content to be displayed through its site, amounting to direct infringement.¹⁸³ Judge Richard A. Posner, writing for the Seventh Circuit, did not weigh in on whether direct infringement of the public display right had taken place, although in dicta, the court said that MyVidster had not infringed on Flava Works's performance or copying rights.¹⁸⁴ Judge Posner further commented that MyVidster users, who directed the page to bookmark infringing content, had committed the underlying infringement, not the website, which had merely directed the viewer's browser to the page.¹⁸⁵

In 2018, Flava Works again sued Gunter and MyVidster for direct and contributory infringement based on its embedding practices.¹⁸⁶ The district court read the Seventh Circuit's decision in *Flava* as "abundantly clear that myVidster's 'bookmarking' service does not directly infringe any of plaintiff's possible copyrights because defendants do not make any copies of plaintiff's works."¹⁸⁷ The Northern District of Illinois heard a second *Flava Works, Inc. v. Gunter*¹⁸⁸ case in which it considered the same claim against the same parties, but in the new context of MyVidster's upgraded cloud storage technology, through which videos bookmarked through MyVidster's website were uploaded and backed up, and thus stored on MyVidster's own cloud-based server.¹⁸⁹ The case was settled out of court, but the court returned to the holding in the first *Flava* case to determine that storing content on a server for hosting through a website amounts to direct infringement.¹⁹⁰

180. *See Flava*, 689 F.3d at 757.

181. *See Flava*, 2011 WL 3876910, at *4.

182. *See id.* at *3–4 ("We decline to apply *Perfect 10* to this case. The Ninth Circuit's decision is not binding on this court; moreover, it is highly fact-specific and distinguishable.").

183. *See id.* at *4 ("The fact that the majority of the videos displayed on myVidster reside on a third-party server does not mean that myVidster users are not causing a 'display' to be made by bookmarking those videos.").

184. *See Flava*, 689 F. 3d at 760–61. In its analysis of the performance right, the court attempted to distinguish between the public performance right, as applicable when the video is uploaded or when it is viewed. The court analyzed the performance right as an analogue to the display right in this regard. *See id.*

185. *See id.* at 761.

186. *See Flava Works, Inc. v. Gunter*, No. 17-CV-1171, 2018 WL 620035, at *1 (N.D. Ill. Jan. 30, 2018).

187. *See id.* at *2.

188. No. 17-CV-1171, 2018 WL 620035 (N.D. Ill. Jan. 30, 2018).

189. *See Flava Works, Inc. v. Gunter*, No. 10-CV-6517, 2011 WL 3876910, at *2 (N.D. Ill. Sept. 1, 2011), *vacated*, 689 F.3d 754 (7th Cir. 2012).

190. *See id.*

Since the Seventh Circuit analyzed the Server Test in *Flava*, there has been no clarification as to its approach.

2. The Northern District of Texas

In 2017, the Northern District of Texas directly declined to adopt the Server Test.¹⁹¹ In *The Leader's Institute, LLC v. Jackson*,¹⁹² the court heard a dispute over direct infringement in a case that involved in-line linking.¹⁹³ The Leader's Institute (TLI), a team-building company, pursued claims against a former employee, Robert Jackson, and its competitor, Magnovo, which in turn pursued multiple counterclaims, including a copyright claim regarding TLI's website, which Magnovo alleged in-line linked to features of its web page.¹⁹⁴ In other words, the images displayed on TLI's website were stored on Magnovo's web server but were visible under TLI's website URL and banner.¹⁹⁵

The court held that by embedding a web page, TLI displayed the works by showing a copy, subsequently transmitting that copy to the public.¹⁹⁶ Although TLI argued that the court should adopt the Server Test, the court distinguished the facts of *Perfect 10*, rendering it inapplicable.¹⁹⁷ The court held that the Ninth Circuit's approach was inapplicable in the present case because, in *Perfect 10*, Google did not actually display any images, as it only provided thumbnails that could, in turn, be used to access sites whose displays did infringe on Perfect 10's exclusive rights.¹⁹⁸ The court found that, unlike Google's image search engine, TLI's site displayed Magnovo's content without any user manipulation and without any indication that the content was not owned by TLI.¹⁹⁹

Beyond merely distinguishing the facts of the case, the court expressed its disagreement with the Ninth Circuit's interpretation of 17 U.S.C. § 106(5) under the Server Test.²⁰⁰ The court compared embedding to a live feed of another website, akin to a video camera live streaming a movie from a movie theater.²⁰¹ In dicta, the court read the text of § 106(5) to mean that the exclusive right to display does not require that the infringing party actually possess a copy.²⁰² Infringement could take place by merely "transmit[ing]

191. *See* Goldman v. Breitbart News Network, LLC, 302 F. Supp. 3d 585, 592 (S.D.N.Y. 2018).

192. No. 14-CV-3572, 2017 WL 5629514 (N.D. Tex. Nov. 22, 2017).

193. *Id.* at *1, *10.

194. *See id.* at *3, *10.

195. *See id.* at *10.

196. *See id.*

197. *See id.* at *11.

198. *See id.*

199. *See id.*

200. *See id.*

201. *See id.* ("For example, a person that went into a movie theater and used a video camera connected to the internet to broadcast a movie to the public would clearly be committing copyright infringement even though the person did not herself have a copy of the movie. Essentially, TLI's framing scheme is like a live feed of Magnovo's copyrighted website.")

202. *See id.*

or communicat[ing] a display to the public.”²⁰³ The court cited *Flava* as an example of another court that had similarly departed from the Ninth Circuit’s approach.²⁰⁴

3. The Southern District of New York

Following its adoption in 2007, the Server Test became settled law in the Ninth Circuit.²⁰⁵ Although the Seventh Circuit and the Northern District of Texas had declined to adopt the Server Test in two cases, the courts in *Flava* and *The Leader’s Institute* reached their decisions by distinguishing the facts of *Perfect 10*, not by entirely rejecting the test.²⁰⁶ That changed in 2018 with Judge Katherine B. Forrest’s opinion in *Goldman v. Breitbart News Network, LLC*.²⁰⁷

The court in *Goldman* considered the display rights of Justin Goldman, a rap and hip-hop artist manager, who had photographed football player Tom Brady walking down the street in East Hampton, New York.²⁰⁸ News outlets and blogs published online articles that included the photograph via in-line linking, but none of them actually stored the image on their own servers.²⁰⁹ Even though the news outlets’ web pages had not actually stored copies of the images, the court refused to apply the Server Test.²¹⁰

The Southern District of New York held that in-line linking constituted an act of “display” under the 1976 Copyright Act regardless of the content’s stored location.²¹¹ The court held that it could not justify the Server Test’s reliance on storage location based on the 1976 Copyright Act’s plain language, legislative history, and the ensuing Supreme Court jurisprudence.²¹² Judge Forrest distinguished *Perfect 10* as potentially appropriate for (1) cases involving search engines and (2) cases in which users must actively click on a thumbnail before the content is displayed.²¹³ Although the court declined to apply the Server Test in *Goldman*, it did not announce any alternative test or standard for determining whether a “display” had taken place.²¹⁴ The U.S. Court of Appeals for the Second Circuit denied Breitbart’s request for leave to appeal, and each of the ten defendant media

203. *See id.*

204. *See id.* (citing *Flava Works, Inc. v. Gunter*, No. 10-CV-6517, 2011 WL 3876910, at *4 (N.D. Ill. Sept. 1, 2011)).

205. *See* Goodyear, *supra* note 19, at 265.

206. *See supra* notes 182–85, 197–204 and accompanying text.

207. 302 F. Supp. 3d 585 (S.D.N.Y. 2018).

208. *See id.* at 585–86; *see also* *Justin Goldman*, FORBES, <https://www.forbes.com/profile/justin-goldman/> [<https://perma.cc/725F-AAN6>] (last visited Mar. 6, 2023).

209. *See Goldman*, 302 F. Supp. 3d at 587.

210. *See id.* at 592–93.

211. *See id.* at 593.

212. *See id.* (“The plain language of the Copyright Act, the legislative history undergirding its enactment, and subsequent Supreme Court jurisprudence provide no basis for a rule that allows the physical location or possession of an image to determine who may or may not have ‘displayed’ a work within the meaning of the Copyright Act.”).

213. *See id.* at 595.

214. *See id.* at 585.

outlets settled out of court for undisclosed sums over the course of several years.²¹⁵

Goldman's departure from the Server Test rippled across the Southern District of New York. In 2021, the court reaffirmed its view of the Server Test in *Nicklen v. Sinclair Broadcasting Group, Inc.*²¹⁶ Nature photographer Paul Nicklen shot a video of a polar bear that he published on his Instagram and Facebook pages.²¹⁷ Sinclair Broadcast Group, a media conglomerate that owns television stations and news websites, embedded Nicklen's Facebook and Instagram posts into several of its own websites via HTML code provided by Facebook and Instagram.²¹⁸ Although Sinclair's websites did not serve Nicklen's video, the court held that, by causing a copy of the work to be shown, Sinclair had infringed on Nicklen's public display right.²¹⁹ The Southern District of New York went on to hold that the Server Test should be cabined only to cases that (1) involved search engines and (2) required user interaction, such as clicking a link, in order to display the content.²²⁰ Although Judge Jed S. Rakoff left open the possibility that the Server Test might apply in cases that met these two specific criteria, he declined to apply it in any other instance, declaring it "a poor fit for this case."²²¹

Similarly, in *McGucken v. Newsweek LLC*,²²² a court in the Southern District of New York rejected the Server Test, holding that a defendant that in-line linked to an image on its website from a fine art photographer's Instagram page had displayed the image and was thereby directly liable.²²³ The court discussed concerns that the Ninth Circuit's reading of the 1976 Copyright Act under the Server Test would cause copyright owners to surrender control of their work as soon as they made it available through social media platforms.²²⁴ Newsweek argued that the owners retained control because they maintained the discretion to take down or change the image that the third-party website in-line linked to.²²⁵ Yet the court found this perspective to be unconvincing in light of the text and legislative intent underlying the 1976 Copyright Act.²²⁶

215. See Kyle Jahner, *Gannett Latest to Settle Brady Twitter Photo Copyright Suit*, BLOOMBERG (Mar. 28, 2019, 11:30 AM), <https://news.bloomberglaw.com/ip-law/gannett-latest-to-settle-brady-twitter-photo-copyright-suit-1> [<https://perma.cc/7WYQ-HG3QJ>].

216. 551 F. Supp. 3d 188 (S.D.N.Y. 2021).

217. See *id.* at 191.

218. See *id.* at 192.

219. See *id.* at 194–96.

220. See *id.* at 195.

221. See *id.*

222. No. 19-CV-9617, 2022 WL 836786 (S.D.N.Y. Mar. 21, 2022). The case has since been settled for an undisclosed amount. See Blake Brittain, *Newsweek Settles Copyright Fight over Instagram Embedding*, REUTERS (Apr. 14, 2022, 4:05 PM), <https://www.reuters.com/legal/transactional/newsweek-settles-copyright-fight-over-instagram-embedding-2022-04-14/> [<https://perma.cc/6T8F-NEWZ>].

223. See *McGucken*, 2022 WL 836786, at *1–2, *6.

224. See *id.* at *6.

225. See *id.*

226. See *id.*

III. THE NEW DIGITAL DISPLAY RIGHT

Web use as we know it depends on linking.²²⁷ The web's very premise is to link content for users to share and exchange data.²²⁸ At the same time, original works of authorship served on the web merit protection under the 1976 Copyright Act, as the act's drafters originally intended.²²⁹ Parts I and II of this Note explored the boundary between web functionality and protection of original authorship. Part III proposes a way forward for the display right in the digital age and reexamines the Server Test as a viable future for the display right. Part III.A analyzes the shortcomings of the Server Test and the important ways in which it diverges from the history and text of 17 U.S.C. § 106(5). Part III.B critiques proposals for safeguarding in-line linking in a world without the Server Test. Part III.C advocates for the Server Test as a useful guide for and an important first step toward obliging courts to engage with the digital mechanisms that underly web-based displays. Finally, Part III.D reimagines the Server Test as one factor in a three-part balancing test, called the Display Test, that can be used to determine liability under the display right. Although the location of content storage may inform liability, it need not be dispositive of whether infringement has occurred and could be reimagined as one of three balanced factors that courts consider in analyzing the display right: (1) whether a copy has been made and how the work is stored, (2) who has access to the work and whether that group is considered the "public," and (3) who caused the work to be shown.

A. *Critiques of the Server Test: Insufficiently Safeguarding Owners' Display Rights*

Professor Jane C. Ginsburg and Luke Ali Budiardjo critique the Server Test as being insufficiently protective of owners' intellectual property rights.²³⁰ The court in *McGucken* echoed this concern in the context of social media platforms, a context in which the Server Test might force copyright owners to cede their rights over their work when making it available on the internet.²³¹ Although the web has provided a platform that facilitates easy communication and informational exchange, Professor Ginsburg and Budiardjo argue that not all information need be provided for free at the user's will.²³² To this end, the Server Test may not strike the correct balance

227. See Burgunder & Floyd, *supra* note 10, at 2.

228. See Berners-Lee, *supra* note 11.

229. See *supra* note 87 and accompanying text.

230. See Ginsburg & Budiardjo, *supra* note 20, at 422–23 (“[The Server Test] convert[s] the display right into an atrophied appendage of the reproduction right, [and it] ignores Congress’s endeavor to ensure that the full ‘bundle’ of exclusive rights will address evolving modes of exploitation of works.”); see also Jane C. Ginsburg & Luke Ali Budiardjo, *Liability for Providing Hyperlinks to Copyright-Infringing Content: International and Comparative Law Perspectives*, 41 COLUM. J.L. & ARTS 153 (2018).

231. See *supra* notes 222–26.

232. See Ginsburg & Budiardjo, *supra* note 20, at 422–23 (discussing the importance of copyright as a strict-liability regime).

of weighing users' freedoms to view content against owners' rights to protect their works.²³³

Moreover, the Server Test can impose an arbitrary metric for liability from the owner's perspective. Although the owner of a creative work may find their work to be in-line linked to by a third-party website, the Server Test assumes a level of knowledge about the details of data storage that copyright owners may not possess. This particular issue is exacerbated when works are shared on social media platforms, where users may upload works without fully appreciating the ramifications of server location.²³⁴ In another scenario, an owner could share their work on the web, only for a third-party site to create a copy of the work on their server, which other sites subsequently make available through in-line linking.²³⁵ In spite of the shortcomings of the Server Test, a world without it may eliminate the display right's potential as a tool for evolving technology.²³⁶

B. A World Without the Server Test: Defenses, Waivers, and Legislative Fixes

Were all U.S. courts to fully reject the Server Test, web page owners would be open to direct liability claims, with the possibility of raising affirmative defenses such as fair use or the safe harbor provisions in the Digital Millennium Copyright Act²³⁷ (DMCA).²³⁸ This approach has played out in the Southern District of New York and the Northern District of Texas, where defendants were found liable for copyright infringement but were ultimately shielded from liability due to those affirmative defenses.²³⁹ Given that the future of fair use remains uncertain²⁴⁰ and the DMCA safe harbor provisions contain their own complexities,²⁴¹ a solution may yet be contained within the

233. *Cf. id.* at 419–23.

234. *See, e.g.,* Hunley v. Instagram, No. 21-CV-03778, 2021 WL 4243385 (N.D. Cal. Sept. 17, 2021).

235. *See, e.g.,* Flava Works v. Gunter, 689 F.3d 754 (7th Cir. 2012). In that case, the third party who made a copy was liable under 17 U.S.C. § 106(1), and even though the owner had no direct recourse against the sites that in-line linked to the third-party site, once the content was no longer live on the third-party site, it disappeared from the linked sites as well. *See supra* Part I.B.

236. *See supra* notes 48–55.

237. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of the U.S.C.); *see* 17 U.S.C. § 512(c).

238. *See, e.g.,* Ginsburg & Budiardjo, *supra* note 20, at 438–39, 445–61; Goodyear, *supra* note 19, at 297–300; *see also* Wassom, *supra* note 11, at 222–24; Jie Lian, Note, *Twitter Beware: The Display and Performance Rights*, 21 YALE J.L. & TECH. 227, 261–65 (2019); Thomas A. Rowland, Comment, *A Quarterback, a Snapchat, and the Future of Copyright Law on the Internet*, 46 SETON HALL LEGIS. J. 811, 822–27 (2022).

239. *See supra* Part II.B; *see, e.g.,* Nicklen v. Sinclair Broad. Grp., 551 F. Supp. 3d 188, 199 (S.D.N.Y. 2021) (holding that a prima facie case had been made for direct infringement in spite of the content not being hosted on the infringing site's servers, and that a prima facie case had been made for a fair use defense, leading to dismissal).

240. *Cf. Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith*, 11 F.4th 26 (2021), *cert. granted*, 142 S. Ct. 1412 (2022) (mem.).

241. *See* John Blevins, *Uncertainty as Enforcement Mechanism: The New Expansion of Secondary Copyright Liability to Internet Platforms*, 34 CARDOZO L. REV. 1821, 1879 (2013);

text and history of the 1976 Copyright Act. Moreover, those courts rejecting or distinguishing *Perfect 10* have yet to introduce any alternative test, offering little guidance to litigants and web users alike.²⁴² Not only would this create uncertainty for current web designers—opening many websites that currently utilize in-line linking to unforeseen liability—but it would also offer little guidance to courts for future web development.

Several scholars have, in turn, proposed that a rejection of the Server Test may create liability in a productive way by making room for user-driven solutions, such as by establishing new norms among web page designers and owners to seek permission for in-line linking.²⁴³ These proposals have been supplemented by novel representative systems that help owners indicate whether they permit or forbid—either tacitly or overtly—in-line linking to their content.²⁴⁴ Permission-driven solutions creatively and pragmatically allow for continued web functionality in a world without the Server Test. Yet they fundamentally concede that the injury occurs before the work actually appears on a user’s screen. A website could, for example, be coded to display an image but, for unrelated reasons, fail to correctly execute the command. Where would that leave the developer in terms of liability, since they directed a web browser to “display” a work but nothing actually appeared? This defies 17 U.S.C. § 101’s definition of “display” as “to show a work,” whereby a work may be “displayed” without ever actually being shown.²⁴⁵ Moreover, assigning liability to web developers grows even more complicated due to the role of machine input in writing web pages and directing users’ browsers.²⁴⁶ However, this proposal may still serve as a useful guide in determining the limits of the display right.

Finally, there remains the possibility that legislation could preempt the Server Test in the form of a statutory amendment to the 1976 Copyright Act that clarifies the display right with regard to in-line linking, or embedding

see also Lian, *supra* note 238, at 264. Lian’s critiques center on the view that the provisions’ formal requirements disadvantage defendants, given the unclear language in the exemption for service providers, and that it insufficiently protects parties from infringements on their free speech rights under the First Amendment. *See id.* at 263–65; *see also* Craig W. Walker, *Application of the DMCA Safe Harbor Provisions to Search Engines*, 9 VA. J.L. & TECH. 1, 1 (2004).

242. *See, e.g., Nicklen*, 551 F. Supp. 3d at 194–96; *McGucken v. Newsweek, LLC*, No. 19-CV-9617, 2022 WL 836786, at *6–7 (S.D.N.Y. Mar. 21, 2022); *Goldman v. Breitbart News Network, LLC*, 302 F. Supp. 3d 585, 595–96 (S.D.N.Y. 2018).

243. *See, e.g., Burgunder & Floyd, supra* note 10, at 4; *Goodyear, supra* note 19, at 308–311; *see also* Rowland, *supra* note 238, at 829–34.

244. *See, e.g., Rowland, supra* note 238, at 831 (recommending that courts consider whether aspects of web design indicate permission to or interdiction of in-line linking); *Goodyear, supra* note 19, at 311–15 (examining formal models for permission granting, akin to the Creative Commons licensing scheme); Marta Rocha, *The Brewing Battle: Copyright vs. Linking*, 35 BERKLEY TECH. L.J. 1179, 1210–11 (2020) (proposing a licensing scheme aligned with the music industry’s uses of licensing).

245. *See* 17 U.S.C. § 101 (“display”).

246. *See* Berners-Lee, *supra* note 11. Tim Berners-Lee, the inventor of the World Wide Web, once posited that “[t]he concept of ‘copyright’ as expressed in terms of copies made makes little sense” considering the automation involved in web design and development. *Id.*

more broadly.²⁴⁷ Although a clear statement of congressional acceptance, rejection, or modification of the Server Test would promote uniformity among jurisdictions in a way that the aforementioned solutions would not,²⁴⁸ the text and legislative history of 17 U.S.C. §§ 106(5) and 101 sufficiently equip courts to interpret the display right and fashion a workable test out of the extant statute.²⁴⁹ Moreover, clear interpretation of the display right with regard to in-line linking would permit courts to explicate the display right for application to future technological innovations, favorably eliminating the need for constant statutory revision with the advent of new technology.

C. In Defense of the Server Test: Technological Differences Matter

In *Aereo*, the Supreme Court, considering issues of copyright and technology, asked, “[w]hy should any . . . technological differences matter?”²⁵⁰ Simply put, in the context of the display right,²⁵¹ technological differences determine whether infringement has taken place, where it occurred, and who may be held directly liable—the very core of the display right.²⁵² Returning to the example of visiting a friend’s home and viewing Brâncuși sculptures in the MoMA, one’s view of where the act of “display” actually takes place will determine whether liability should be assigned. Should the apartment owner face liability for placing a mirror in their dining room that reflects the sculpture into the space? Should anyone in their apartment who views the work without paying the MoMA a twenty-five-dollar admission fee face liability? Or perhaps should the MoMA close its shades, if it would prefer that its neighbors or passers-by not be able to see through its windows? The ability to answer these questions depends on courts comprehending the dynamics of viewership and display, all of which are answerable only with a test that engages with the technology in question.²⁵³

The Server Test does just that, endeavoring to grapple with those “technological differences” by examining the digital storage mechanisms and the realities of web use.²⁵⁴ It further demands that courts applying the test do the same by learning about the embedding function that actually makes the content available.²⁵⁵ As evidenced by the *Flava* cases, in which cloud

247. See generally Lian, *supra* note 238.

248. See *id.* at 270.

249. See *infra* Part III.D.

250. Am. Broad. Cos. v. *Aereo*, Inc., 573 U.S. 431, 446 (2014).

251. *Aereo* specifically concerned infringement on the performance right, a useful analogue to the display right, but nevertheless a distinct right under 17 U.S.C. § 106. See *Aereo*, 573 U.S. at 446.

252. See *supra* Part I.

253. See Burgunder & Floyd, *supra* note 10, at 18–28. Professors Lee Burgunder and Barry D. Floyd propose two parallel analogies to the Server Test that describe the underlying technological mechanisms of in-line linking differently and that lead to differing outcomes on the question of whether the Server Test correctly captures the display right under 17 U.S.C. § 106. See Burgunder & Floyd, *supra* note 10, at 18–28.

254. See *supra* notes 138–45 and accompanying text.

255. See *supra* notes 141, 143 and accompanying text.

storage was contrasted with in-line linking and server storage, the location and method of storing content may be outcome determinative, which means that courts should read the text and history of 17 U.S.C. § 106(5) in the context of the specific technology employed.²⁵⁶

Technological differences matter both for the practical question of determining liability and for alignment with the legislative intent by the 1976 Copyright Act. The display right developed as a flexible mechanism for evolving technology to respond to the gap in rights that motion pictures presented, with potential for growth based on the emerging technologies of the 1960s and 1970s.²⁵⁷ The Judiciary Committee clearly understood the display right with respect to computing technology, especially web-based “information storage and retrieval.”²⁵⁸ The dissonance between the physical realities of computing and the legislative history of the 1976 Copyright Act previously appeared in the context of RAM copies constituting infringements under 17 U.S.C. § 106(1) in *MAI Systems*.²⁵⁹ Although the *MAI Systems* holding remains intact in the Ninth Circuit, its force as law has largely been stripped with the adoption of 17 U.S.C. § 117(a)(1) due to its disregard for the 1976 Copyright Act’s legislative history and the realities of modern web design.²⁶⁰ The Ninth Circuit’s approach to the Server Test and its holding in *Perfect 10* correct for *MAI Systems*’s shortcomings with regard to both issues.

D. A Way Forward for the Server Test: The Display Test

In a world of web development that rewards sharing and virality, linking is central to the web’s core functionality.²⁶¹ The idea that a wholesale rejection of the Server Test would “cause a tremendous chilling effect on the functionality of the web”²⁶² overstates a possible outcome, given the aforementioned solutions in user-driven web permissions or legal defenses to infringement, but this outcome strikes at the very purpose of web linking.²⁶³ The Server Test gives copyright owners the option to engage with or disengage from that reality: content owners are under no obligation to

256. See *Flava Works, Inc. v. Gunter*, 689 F.3d 754, 756 (7th Cir. 2012); *Flava Works, Inc. v. Gunter*, No. 10-CV-6517, 2018 WL 620035, at *1–2 (N.D. Ill. Sept. 1, 2011); *supra* Part II.B.1. Although the Northern District of Illinois in the first *Flava* case declined to apply the Server Test, it engaged with the test, and the presence of the test as an alternative necessitated full consideration, as well as discovery about the technology behind MyVidster’s storage system. See also *Flava Works, Inc. v. Gunter*, No. 17-CV-1171, 2018 WL 620035, at *2 (N.D. Ill. Jan. 30, 2018).

257. See *supra* Part I.A.

258. See *supra* note 88 and accompanying text.

259. See *MAI Sys. Corp. v. Peak Comput., Inc.*, 991 F.2d 511 (9th Cir. 1993); see also *supra* notes 67–74 and accompanying text.

260. See *MAI Sys.*, 911 F.2d at 511; see also 17 U.S.C. § 117(a)(1); *supra* notes 67–74 and accompanying text.

261. See *supra* notes 67–74 and accompanying text.

262. *Perfect 10 v. Google, Inc.*, 416 F. Supp. 2d 828, 839–40 (C.D. Cal. 2006), *aff’d sub nom. Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1155 (9th Cir. 2007).

263. See *supra* notes 138–40 and accompanying text.

publish in a space that is visible to the public.²⁶⁴ In this regard, the Server Test sometimes correctly places liability at the server level, the situs of content crossing from private to public.²⁶⁵ Still, it does not fully encompass all possible instances of public display via in-line linking. Moreover, the Server Test clumsily defines “display” as requiring a “copy” of the original work.²⁶⁶ Although the Server Test interprets the requirement of a copy literally, the legislative history of the 1976 Copyright Act reveals that a copy in digital media need not involve a literal copy and can include a transmission, that is, a showing of the work in a distant time or location.²⁶⁷ Strictly interpreting this aspect of a display threatens to elide the copy and display rights.

The Server Test seeks to accomplish five goals: (1) to reflect the realities of modern internet use, (2) to allow search engines to function without fear of liability for infringement, (3) to function as an easily applicable tool for courts and users alike, (4) to ensure that the parties involved were direct infringers, and (5) to promote the policy goals of copyright in the spread of creative works.²⁶⁸ The Server Test ably meets three of these five goals but has fallen short in truly reflecting the realities of modern internet use and considering the underlying policy of copyright law. In that sense, it has failed to fully protect owners’ rights once a work appears on the internet publicly.²⁶⁹ Moreover, it falls short by mislocating the situs of injury when, for example, an owner’s work appears on users’ computer screens through an in-line link.²⁷⁰ Placing the infringement at the server level accounts for only some instances of infringement, thereby failing to fully protect works and potentially diminishing the incentives to publicly display creative works on the internet.²⁷¹ The situs of display—and thus, of injury—may be at a server, but it could also be at the point where the linking site directing the user’s browser to retrieve the image, or at the point where a user who was not the audience for the original site visits the linking page.²⁷² A new test proposed by this Note, called the Display Test, could better guide courts through the process of examining each step of a display. It would help meet the Server Test’s fifth goal of promoting the underlying policy goals of copyright and also act as a path forward for the future of the display right for evolving technology, which closely follows the text and history of the 1976 Copyright Act.

264. *See* VHT, Inc. v. Zillow Grp., Inc., 918 F.3d 723, 737 (9th Cir. 2019) (holding that publishing images on a private page viewable only to the image owner in no way contravened the owner’s display rights).

265. *See supra* Part I.A.2.b.

266. *See* 17 U.S.C. § 101 (“display”).

267. *See supra* Part I.A.2.

268. *See supra* notes 141–45 and accompanying text.

269. *See supra* Part III.A.

270. *See supra* Part III.C.

271. *See supra* Part II.A.

272. *See supra* Part III.C.

1. Maintain the Server Test for Search Engines and User-Manipulated Linking

Even courts rejecting or distinguishing the Server Test agree that the test should remain fully intact in two specific instances: (1) cases involving search engines and (2) cases in which content is only viewable through user interactions, such as clicking a link or a thumbnail.²⁷³ Practically, these carve-outs ensure continued web functionality for major search engines and web hosts, namely Google and Amazon, and their billions of users.²⁷⁴ More broadly, courts distinguish these carve-outs as “manifestly not the same as opening up a favorite blog or website to find a full color image awaiting the user, whether he or she asks for it, looked for it, clicked on it or not.”²⁷⁵ This approach weighs the user’s role in displaying the image against the roles of the linking site and the image owner, such that user manipulation of a site does not constitute a “display” if the content is not stored on the search engine’s servers.²⁷⁶ This exception shields search engines from direct liability for infringement of the display right through in-line linking unless the search engine serves the image directly. Notably, the image owner remains at liberty to opt out of appearing on the search engine altogether.²⁷⁷ Ultimately, the carve-outs expose the reality that even for courts that reject it, the Server Test correctly describes the situs of injury in cases that involve user manipulation and search engines.²⁷⁸ In such cases, a court’s inquiry starts and ends with whether the work is stored on the linking site’s servers.²⁷⁹

2. Courts Should Apply a “Display Test” for All Other Instances of In-Line Linking

In all other cases, a modified test can guide courts and users in determining whether an instance of in-line linking infringes on a copyright owner’s display right. This Note proposes a novel test called the “Display Test,” which reconsiders the text and history of § 106(a) and § 101’s definition of “display” and reimagines the Server Test as one part of a broader test. Like

273. See, e.g., *Goldman v. Breitbart News Network, LLC*, 302 F. Supp. 3d 585, 596 (S.D.N.Y. 2018); *Nicklen v. Sinclair Broad. Grp.*, 551 F. Supp. 3d 188, 195 (S.D.N.Y. 2021); *The Leader’s Inst., LLC v. Jackson*, No. 14-CV-3572, 2017 WL 5629514, at *11 (N.D. Tex. Nov. 22, 2017).

274. See Rocha, *supra* note 244, at 1204.

275. *Goldman*, 302 F. Supp. 3d at 596; accord *Nicklen*, 551 F. Supp. 3d at 195.

276. The *Goldman* and *Nicklen* courts did not describe how the legislative history or text of 17 U.S.C. § 106(5) alone permits this interpretation of the display right for search engines, but they both accept that *Perfect 10* remains applicable in cases of user manipulation and search engines. See *Goldman*, 302 F. Supp. 3d at 596; *Nicklen*, 551 F. Supp. 3d at 195; cf. Ginsburg & Budiardjo, *supra* note 230, at 187 n.149; Ginsburg & Budiardjo, *supra* note 20, at 428 n.55.

277. See Goodyear, *supra* note 19, at 304–06; Rocha, *supra* note 244, at 1193.

278. One incidental result is that this approach to the Server Test leaves only smaller websites exposed to liability for in-line linking, thereby homogenizing web use and directing traffic toward a limited group of goliath websites. See Rocha, *supra* note 244, at 1203–04.

279. See, e.g., *Goldman*, 302 F. Supp. 3d at 596; accord *Nicklen*, 551 F. Supp. 3d at 195.

the Server Test, the Display Test endeavors to locate where the injury of infringement took place. However, unlike the Server Test, the Display Test does not limit its inquiry to the location of storage but rather looks at the act of displaying more broadly to determine what causes the work to be shown, whether it was shown publicly, and whether the work shown should be considered a copy.²⁸⁰

The Display Test asks courts to follow the process required to make an image visible on a user's screen through in-line linking to determine at what point, if at all, a display took place. To locate the situs, courts should answer several guiding questions: (1) what is being displayed—i.e., whether the work is an original or a copy and where that work is stored (the Server Test); (2) who the work is being displayed to, meaning whether the display is made public; and (3) who caused the display, weighing the roles of user, developer, and original owner.

To trigger the Display Test, parties would have to plead facts indicating that a specific point or set of points gave rise to a display. Professors Lee Burgunder and Barry D. Floyd propose an eleven-part inquiry to examine specific facets of web design primarily for use by web designers and determine whether a “display” has taken place via in-line linking.²⁸¹ To ensure that the Display Test does not become unwieldy for courts and web users alike, the Display Test seeks to balance three factors that help locate the site of injury. Unlike the location of an act of trespass in real property, the location of display is not fixed and requires chains in a link of transmission to function for the content to appear on a user's screen, and thus necessitates a flexible mechanism that examines each link in the chain.²⁸²

a. What Is Being Displayed?

The inquiry begins by asking what is being displayed—an original or a copy—to determine which right or rights afforded under 17 U.S.C. § 106 have been infringed. If a work is copied onto the linking site's server, it can be analyzed under either § 106(1) (the exclusive right to copy) or § 106(5) (the exclusive right to display).²⁸³ Embedded in the issue of whether an original is being displayed is where that work is stored, into which the Server Test inquires. A linking site that stores a work on its server infringes on the owner's display right under the Display Test, since a copy has been made

280. See *Perfect 10 v. Google, Inc.*, 416 F. Supp. 2d 828, 839 (C.D. Cal. 2006), *aff'd sub nom.* *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1155 (9th Cir. 2007).

281. See Burgunder & Floyd, *supra* note 10, at 47.

282. See Feigin, *supra* note 7, at 931 (“The idea of ‘visiting’ a web ‘site,’ while a colorful colloquial linguistic construction, doesn’t describe the transaction well at all. At the HTTP level, most of the data is actually traveling in the other direction: The bulk of the data is sent from the server to the client. It’s much more like watching television than it is like visiting a piece of land—the client is mainly a passive receptor of data.”).

283. See 17 U.S.C. § 106. This part of the test could also afford courts the opportunity to clarify *MAI Systems*'s holding, establishing that RAM copies do not constitute actionable copies under 17 U.S.C. § 106(1) but could constitute copies under § 106(5), which codifies the display right. See *MAI Sys. Corp. v. Peak Comput., Inc.*, 991 F.2d 511 (9th Cir. 1993).

and the party facilitating the linking definitively directed the user's web browser to show a copy of an image they do not own or have not licensed. In the process of in-line linking, storage location is the first link in the chain that leads to the eventual display, so starting at the origin situates courts to either end the inquiry there—by concluding that a display has taken place—or continue onto the next steps in the process.²⁸⁴

Even if a work is not stored on the linking site's server, courts should continue to the next link and ask whether the work shown is a copy. In the context of the display right, § 101's definition of "copy" should be read to encompass the original as "perceived, reproduced, or otherwise communicated . . . with the aid of a machine or device."²⁸⁵ This definition allows for original work that is in-line linked to a different server to constitute a "copy."²⁸⁶ Here, the Display Test diverges from the Server Test, allowing the point of display to arise beyond the point of origin and placing it instead at the point of transmission. If presented with an original work transmitted via in-line link and not stored on the linking site's server, courts should examine whether viewers can actually perceive the work. The inquiry thus shifts from a focus on storage location to the scope of the display by examining the amount of the work shown and whether it modifies the original work in any significant way. In a case in which the in-line linking is *de minimis*, it may not rise to the level of a completed display and thus would not impede on the owner's rights.

Applying this test to the analogy of Brâncuși's *Bird in Space*, courts would first establish that the work itself resides at the MoMA and clarify that the person who lives in the apartment across the street has not produced a replica of the original work on display in their dining room. Once the court determines that the work resides at the MoMA, the question then becomes, what is seen from the dining room across the street? Is merely looking out the window at the sculpture the same as viewing it through a telescope or CCTV? Although all of these mechanisms create a way to view the work in real time, they make the work available to different extents, and not all might be called "displays." Whereas viewing a CCTV feed replicates the experience of seeing the sculpture in the gallery space, looking out the window across the street causes an incidental viewing of the work, capturing other aspects of the street and even other works in the museum. Even though the CCTV comparison may be similar to viewing an in-line linked image or video that appears as though it is served directly on the linking site, the example of looking out the window is similar to viewing an image through an in-line link on a web page full of other images, whereby the work viewed might not constitute a display.

284. If a court finds that a work is a copy, but the copy is stored on a third-party site other than the original and the linking sites, this may lead to part three of the test, which asks who caused the display, implicating other parties as liable for the display.

285. 17 U.S.C. § 101 ("copies").

286. *See id.*

b. To Whom Is the Work Being Shown?

Secondly, a display may have taken place only if the work is shown publicly. Proceeding to the next step in the process of display from origin to execution, if a work is not made available *to the public*, there can be no display. “Public” currently has no clear definition with respect to the display right.²⁸⁷ Superimposing the traditional public display right into the digital context may sweep too broadly for in-line linking.²⁸⁸ In an age of high-grade analytics capable of tracking viewership, “public” may more accurately be defined as users reached by the linked content, beyond those reached by the original source. This definition does not raise the standard required for owners to show that a display has taken place or necessitate that viewer analytics be fully available. Instead, it is one factor that, if available, speaks to the extent that a public display may have taken place.

By associating this Note’s proposed definition of “public” with both the original work and the linking page, the definition of display would exclude original works that are not published and in-line linked pages that do not reach a public audience. To address a situation like the one in *VHT, Inc. v. Zillow Group, Inc.*,²⁸⁹ in which the page serving the original work was entirely private, the definition of “public” proposed here maintains the possibility that the work can be “displayed,” since the in-line linked audience reached would be greater than the audience of the original.²⁹⁰ Likewise, this definition accounts for a situation in which an owner relocates the image on the source page.²⁹¹ Akin to the MoMA’s ability to relocate *Bird in Space* to evade the prying eyes of an intrusive neighbor, websites are capable of relocating original images to misdirect a preexisting in-line link. This Note’s proposed definition of “public” does not require websites to play cat-and-mouse in relocating images to ensure protection. Although not required, a court could use this step to balance the other factors with the hardship that relocating the image on the source page would impose on the image’s owner.

c. Who Caused the Display?

Finally, the test concludes by asking what party is responsible for making the work available. Returning to the scenario of search engines (in which case, only the Server Test applies), when user manipulation causes the works to appear, there is no liability for the search engines unless they serve the work. On the other hand, underlying HTML or HTTP source code of a non-search engine website that contains an in-line link can indicate that the

287. See *supra* notes 81–82 and accompanying text.

288. See 17 U.S.C. § 101 (“publicly”).

289. 918 F.3d 723 (9th Cir. 2019).

290. See *supra* note 58. This Note does not address password-protected pages, as those would likely be protected under the DMCA or the Computer Fraud and Abuse Act of 1986, Pub. L. No. 99-474, 100 Stat. 1213 (codified as amended at 18 U.S.C. §§ 1001 note, 1030).

291. See *supra* note 116 and accompanying text.

code directing a user's browser to locate the work on a different server and retrieve it actually "caused" the display.²⁹² In that scenario, liability is correctly assigned to the developer or owner, as the display took place at their behest. This inquiry is related to the original question of whether the work shown is an original or copy, given that the source code will likely be used to garner that information. Yet this step is distinct in that it allows for courts to examine the roles played by the copyright owner, in publicly displaying the work in the first instance, and the user, in manipulating a site to show the work. In cases in which a work is copied to a third-party site, and that site is in-line linked to by further sites, this step of the test would ensure that the chain of copying and displaying is traced back to the original infringing act.

This test is intended to push courts toward refining their definition of "display" in a way that will guide web developers and copyright owners for future iterations of the display right as new technologies emerge. By asking courts to identify the exact point at which display took place by analyzing a series of consistent factors, courts will narrow the definition of "display" with each case it considers.

3. The Display Test at Work: *Miller* Case Study

The case of *Miller v. 4Internet, LLC* may help to illustrate the utility of the Display Test. In that case, Robert Miller sold the rights to his photograph of a runaway goat to the *New York Post*, which published the image on its website in a news article.²⁹³ Subsequently, two websites owned by 4Internet in-line linked to the photo from their sites.²⁹⁴ Considering a motion for summary judgment, the court applied the Server Test and held that because the images were not housed on 4Internet's servers, 4Internet could not be held liable; however, the court's use of the Server Test may have been underprotective of the full panoply of rights afforded to Miller by 17 U.S.C. § 106.²⁹⁵ Source code on the *New York Post*'s website indicates that the underlying work was stored on the *Post*'s own server.²⁹⁶

292. See *supra* Part I.B.

293. See *Miller v. 4Internet, LLC*, No. 18-CV-02097, 2022 WL 2438815, at *1 (D. Nev. July 5, 2022); see also *supra* notes 164–67 and accompanying text.

294. See *Miller*, 2022 WL 2438815, at *1.

295. See *id.*; see also *Miller v. 4Internet, LLC*, No. 18-CV-02097, 2022 WL 17823560, at *2 (D. Nev. Dec. 20, 2022).

296. See Jennifer Bain & Amanda Woods, *Rogue Goat May Have Helped Dozens of Farm Animals Escape*, N.Y. POST (Aug. 9, 2018, 7:44 PM), <https://nypost.com/2018/08/09/rogue-goat-may-have-helped-dozens-of-farm-animals-escape/> [https://perma.cc/7MA3-BK3L] (hover cursor on image of "Fred" the goat) (src='https://nypost.com/wp-content/uploads/sites/2/2018/08/fred-the-goat-breakout.jpg?quality=75&strip=all&w=1488').

Figure 6: Screen Capture of NYPost.com—*Rogue Goat May Have Helped Dozens of Farm Animals Escape*²⁹⁷



Although 4Internet initially pleaded that it operated a search engine, and thus, the Server Test applied, Miller argued that 4Internet’s subsidiary sites that had in-line linked to the image—4jewish.com and 4rightwing.com—were not search engines.²⁹⁸ Consequently, the court could employ the Display Test.

A court would begin with the first step, asking whether the images were copies and where they were stored, thereby applying the Server Test. Although the underlying HTML from the sites was not documented before the pages were deleted, discovery indicated that the image on the *Post*’s server had been in-line linked to and was not stored on either 4jewish.com or 4rightwing.com.²⁹⁹ Nevertheless, under the Display Test’s definition of a “copy,” the court would next look at the extent to which the image is displayed. Even though the image was not actually stored on the 4jewish.com or 4rightwing.com servers, the in-line linking was so exacting as to make it appear as though Miller’s image did originate from those

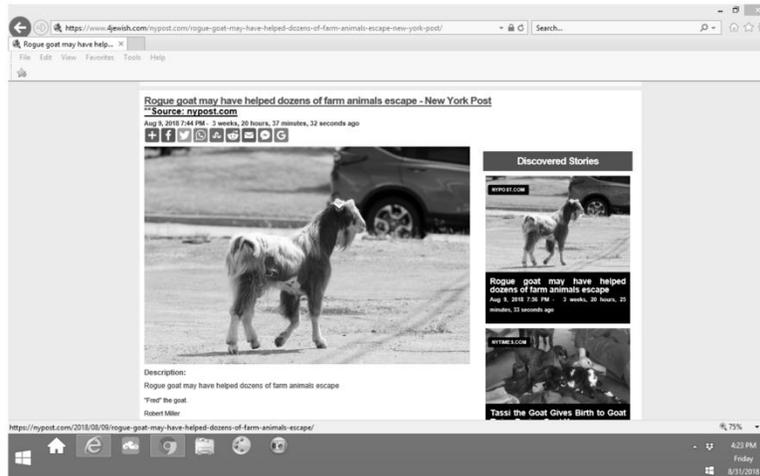
297. *See id.*

298. *See* Complaint for Damages and Injunctive Relief for Copyright Infringement at 7, Miller v. 4Internet, LLC, No. 18-CV-02097, 2022 WL 2438815 (D. Nev. July 5, 2022), ECF No. 1.

299. *See* Reply in Support of Motion for Summary Judgment at 5 n.3, Miller v. 4Internet, LLC, No. 18-CV-02097, 2022 WL 2438815 (D. Nev. July 5, 2022), 2021 WL 9782498; *see also* Miller v. 4Internet, LLC, No. 18-CV-02097, 2022 WL 2438815, at *1 (D. Nev. July 5, 2022) (discussing the spoliation sanctions imposed on 4Internet).

servers.³⁰⁰ Rather than displaying the entire *New York Post* article, which includes the image amid other features like ads, banners, and logos, the linking is precise enough to create a “copy.” Thus, the first factor weighs heavily in favor of a breach of Miller’s display right.

Figure 7: Screen Capture of 4jewish.com—*Rogue Goat May Have Helped Dozens of Farm Animals Escape—New York Post*³⁰¹



Next, the court would ask at what point the content was “displayed” by examining how the content may have been shown publicly. Here, viewers other than those originally reached by the *Post*’s site would have likely seen the image through its linked display on 4jewish.com and 4rightwing.com. The 4jewish.com and 4rightwing.com pages were available to anyone who knew the web addresses and did not include any design features that limited the audience to whom it showed the copy of Miller’s image. That aspect of the public display right—i.e., showing the work to a greater public than may have been able to access the original—weighs heavily in favor of a display having taken place.³⁰²

Finally, although the HTML and HTTP instructions are no longer extant, discovery indicated that in-line linking was used, and thus, several fundamental commands were required to make the image appear.³⁰³ This dynamic implicates the web developer as the cause of the display, since the 4jewish.com and 4rightwing.com sites were coded to direct visitors’ browsers to the *Post*’s page without user intervention or even any apparent indication that the browser was doing so. Barring any new information that

300. See Complaint for Damages and Injunctive Relief for Copyright Infringement, *supra* note 298, at 28–29.

301. See *id.* at 28.

302. See *supra* notes 75–89 and accompanying text.

303. See Complaint for Damages and Injunctive Relief for Copyright Infringement, *supra* note 298, at 7.

indicates that the site was machine coded or that the display was otherwise not caused by the code that linked the pages together, the fact that the image was in-line linked weighs toward a finding that a display has taken place at the behest of the website, creating liability for its owner.

This application of the test shows that display took place at the time the HTML and HTTP pointed the user's browser to the *Post's* website and showed a cropped image of the site, displaying only the photograph. That act caused the transmission of the image to viewers other than those who would have been able to see it on the *Post's* website directly. Thus, the owner of the site whose code directs users to display the image would be liable. Here, the Display Test would result in liability for 4Internet, barring any affirmative defenses. This application of the test would strike an appropriate balance between Miller's rights as a copyright holder and 4Internet's rights as a website owner.

4. Justifications for the Display Test

Unlike the Server Test, this modified test sacrifices the clarity of only examining storage location in favor of flexibility and the potential to accommodate the nuances of ownership by asking courts to examine web development more closely. Courts may seem poorly equipped to inquire into the mechanics of web development. However, since the Ninth Circuit's adoption of the Server Test in 2007, courts across the United States have increasingly navigated the moors of servers and networks.³⁰⁴ Moreover, this inquiry has pushed courts to refine the meaning of "display" with respect to digital media. The legislative history of the display right betrays clear intent by the act's drafters for the right's continued development and application to digital media and, specifically, computing technology.³⁰⁵ The need to adapt for future advancement was something the drafters clearly understood, and given the first steps taken by the Server Test, courts seem well situated to take up this mantle and continue that development.³⁰⁶

The Server Test has imperfectly created a framework that requires courts to reckon with the digital realities of web design, what it means for a work to be publicly displayed on the web, and how to locate the situs of injury for infringement of the display right.³⁰⁷ It is compelling for both courts and developers to apply as a hard-line rule; however, in its current form, the Server Test may shield web page developers and owners too extensively in a way that underprotects copyright owners.³⁰⁸ The Display Test could account for this shortcoming because it incorporates the Server Test by using the served location of the work as one among a series of factors to consider in determining whether infringement of the display right has taken place through in-line linking.

304. *See supra* Part II.

305. *See supra* Part I.A.

306. *See supra* notes 52–55 and accompanying text.

307. *See Perfect 10 v. Amazon.com, Inc.*, 508 F.3d 1146, 1159–60 (9th Cir. 2007).

308. *See supra* Part III.A.

Presently, the Server Test is likely to remain good law in the Ninth Circuit, as evidenced by its most recent reaffirmation in *Evox Productions, LLC v. Verizon Media Inc.*³⁰⁹ Meanwhile, courts in the Southern District of New York remain committed to a different interpretation of the display right—one that rejects the Server Test—creating a dissonance among fora about an outcome-determinative interpretation of the display right.³¹⁰ The Display Test addresses concerns raised both by courts that reject the Server Test and by those who adopt it, and it may serve as a viable path forward for a modern interpretation of the display right.

CONCLUSION

The display right is a relatively recent addition to the bundle of rights afforded under the American copyright regime, as enshrined in the 1976 Copyright Act under 17 U.S.C. § 106(5).³¹¹ Most recently, it has been interpreted by the Ninth Circuit in its adoption of the Server Test, a tool to discern whether a “display” has taken place once a web page in-line links to content stored on another page.³¹² The Server Test asks courts to consider where the image is stored as a means to locate the situs of infringement.³¹³ Although it is a useful, bright-line rule that helps users and courts navigate changing technology, the Server Test sometimes misidentifies the situs of injury at the server level, foreclosing the possibility that the injury took place at the time of “display,” which may have been when the underlying HTML instructions directed the user’s browser to retrieve the image or even when an audience beyond the originally intended audience gained access to the image. In short, the Server Test requires rebalancing to better capture the original purpose of the display right—i.e., that it adapt to accommodate new digital technologies.³¹⁴

Specifically, the Server Test might be adapted into a new test—the Display Test. This comprehensive test could guide courts through the entire process of in-line linking and can locate the situs of display—and injury—at more points than just the server.³¹⁵ Courts should examine whether the work is displayed as a copy, the server on which the work is stored, the public audience to whom the work is displayed, and who or what caused the display to take place, especially by examining the underlying code, if available. This test defines the term “copy” to include both replications of the original work and transmissions of the original work through in-line linking. The test also redefines “public” as the users reached by the in-line linking beyond those reached by the original site. Ultimately, this test may more effectively

309. No. 21-CV-56046, 2022 WL 17430309 (9th Cir. Dec. 6, 2022).

310. *See, e.g.,* McGucken v. Newsweek, LLC, No. 19-CV-9617, 2022 WL 836786 (S.D.N.Y. Mar. 21, 2022); Goldman v. Breitbart News Network, LLC, 302 F. Supp. 3d 585 (S.D.N.Y. 2018).

311. *See supra* Part I.A.1.

312. *See supra* notes 18–23 and accompanying text.

313. *See supra* Part II.A.

314. *See supra* notes 75–80 and accompanying text.

315. *See supra* Part III.D.

balance the realities of modern web use and the ownership rights that copyright owners are entitled to retain, even after they make their work available on the web.