

THE DIGITAL FIRST SALE DOCTRINE IN A BLOCKCHAIN WORLD: NFTS AND THE TEMPORARY REPRODUCTION EXCEPTION

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In 2021, non-fungible tokens (NFTs) exploded in popularity. Representing over sixty million dollars in sales, NFTs are currently being bought and sold in almost every industry, in the form of exclusive videos in the sports industry and digital paintings in the art industry. NFTs are digital certificates that use blockchain technology to verify authenticity and proof of ownership. Through NFTs' non-fungible and immutable characteristics, owners are able to create scarcity for and authenticity in digital copies of their works, replicating the tangible experience of owning a physical, limited-edition item. NFTs have also been able to promote a unique secondary marketplace, in which blockchain capabilities ensure that only the first consumer of an NFT has ownership and access to a particular copy and is able to show a record of any previous owners.

Copyright law and the first sale doctrine have unique implications for the evolving NFT market. Under the first sale doctrine, a lawful owner of a copy of a good has the right to sell or dispose of the copy. Once a copy is bought, the buyer no longer requires the copyright owner's permission to do whatever they want to do with the copy (i.e., sell it, lend it, destroy it, etc.). Thus, the first sale doctrine effectively limits the copyright owner's exclusive right to distribute copies. However, the first sale doctrine has yet to be applied to digital transfers. For that reason, many copyright owners use contractual licenses to control subsequent digital transfers. Congress and the courts have remained hesitant in applying the first sale doctrine to digital copies, mainly due to the copies' intangibility and their behavior in the marketplace as compared to physical copies. Most importantly, a digital transfer requires an owner to reproduce a copy before sending the copy to someone else, thereby disturbing the copyright owner's reproduction right, to which the first sale doctrine does not apply. Over the years, scholars and commentators have proposed several solutions, ranging from forward-and-delete technology to proposed legislation to simply deferring to the courts to decide as issues arise. The decades-long question of the types

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of technology that should fall within the scope of the first sale doctrine is intensifying as the digital marketplace grows.

At time of writing, this is the first piece of legal scholarship on NFTs that examines their interaction with the first sale doctrine. This Note examines the rise of the NFT phenomenon and the historical articulation of the first sale doctrine in the digital era. As NFTs present challenges for the copyright owner's reproduction right, this Note recommends legislative intervention to clarify the doctrine's applicability within the digital marketplace. This Note proposes an addition to the Copyright Act of 1976 that expressly allows for a first sale to be effective upon a digital transfer, albeit under certain conditions. Amending the act in this manner promotes the Copyright Act's purpose of balancing the interests of copyright owners and consumers in a dynamic digital marketplace, and serves as a guide that will be necessary to avoid legal ambiguities and increased litigation.

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INTRODUCTION

In 2021, non-fungible tokens (NFTs) skyrocketed in popularity.¹ In March 2021, Twitter founder and CEO, Jack Dorsey, sold his first tweet, “just setting up my twtr,” as an NFT for \$2.9 million.² During the same month, digital artist Beeple sold an NFT of his artwork for \$69 million, becoming the most expensive NFT ever sold.³ LeBron James sold an NFT of him dunking a basketball for over \$200,000,⁴ and musical artists such as Grimes and Kings of Leon have made hundreds of thousands of dollars off of NFTs of their albums and artwork.⁵ NFTs’ recent popularity has sparked fascination among digital creators, collectors, media, and more, who are now wondering whether NFTs are an untapped resource for success for digital creators or merely an industry trend.⁶

An NFT is a digital certificate that uses blockchain technology to prove authenticity and ownership.⁷ An NFT has a specific code that makes each NFT unique and not interchangeable (i.e., “non-fungible”).⁸ When an NFT is created or “minted,” it is powered by a “smart contract” that certifies that

1. Roger Wohlner, *What Are Non-Fungible Tokens (NFTs)?*, THE BALANCE (Jan. 31, 2022), <https://www.thebalance.com/non-fungible-tokens-nfts-5184054> [<https://perma.cc/63FF-NHYW>] (“[I]n [2020], . . . the total volume of NFTs traded in the U.S. was \$250.85 million, up almost 300 percent from . . . 2019.”); Robyn Conti & John Schmidt, *What Is An NFT?: Non-Fungible Tokens Explained*, FORBES (Apr. 8, 2022, 8:36 AM), <https://www.forbes.com/advisor/investing/nft-non-fungible-token/> [<https://perma.cc/E9D5-MQJG>] (stating that NFTs have exploded in popularity with digital assets selling for millions of dollars).

2. Lynne Lewis, Jane Owen, Hamish Fraser & Rohit Dighe, *Non-fungible Tokens (NFTs) and Copyright Law*, BIRD & BIRD (June 2, 2021), <https://www.twobirds.com/en/news/articles/2021/australia/non-fungible-tokens-nfts-and-copyright-law> [<https://perma.cc/MXT3-PTWY>].

3. Jeanne Hamburg, *Tokenizing Creative Works: Dash, Jay-Z, and a Lesson in Copyright*, NAT’L L. REV. (July 16, 2021), <https://www.natlawreview.com/article/tokenizing-creative-works-dash-jay-z-and-lesson-copyright> [<https://perma.cc/6HCH-NSQR>].

4. Christine K. Au-Yeung, *The World of NFTs and Their Implications in Intellectual Property Law*, LAW.COM (May 3, 2021, 4:43 PM), <https://www.law.com/2021/05/03/the-world-of-nfts-and-their-implications-in-intellectual-property-law/> [<https://perma.cc/76GB-NY7Z>].

5. Marc Hogan, *Why Do NFTs Matter for Music?*, PITCHFORK (Mar. 5, 2021), <https://pitchfork.com/the-pitch/why-do-nfts-matter-for-music/> [<https://perma.cc/H49C-WXXR>].

6. NFTs are a polarizing technological phenomenon. Many are skeptical of their use and value in the marketplace, while many others are enthusiastic. Others buy and sell NFTs because of their high financial returns. See Andrew R. Chow, *The Problem With NFTs’: A Crypto Expert Responds to Viral Takedown*, TIME (Feb. 3, 2022, 5:40 AM), <https://time.com/6144332/the-problem-with-nfts-video/> [<https://perma.cc/ZVT2-Q5PB>]. This Note does not aim to persuade or dissuade people from participating in the NFT marketplace; rather, it aims to discuss the rise of NFTs in a factual sense and its relationship with the first sale doctrine.

7. Hogan, *supra* note 5; see also Conti & Schmidt, *supra* note 1 (“An NFT is a digital asset that represents real-world objects.”); Wohlner, *supra* note 1 (“NFTs are tokens offering ownership of digital assets.”).

8. Lewis et al., *supra* note 2.

the metadata cannot be altered and is “immutable.”⁹ NFTs are different from cryptocurrencies such as Bitcoin because each NFT has a unique, unchangeable code, allowing each NFT to hold a specific value.¹⁰ NFTs allow creators to provide an experience of obtaining a digital collectible item, albeit in the digital marketplace as opposed to in the physical one.¹¹ Thus, many digital creators use and sell NFTs that represent their digital artwork, songs, and videos.¹²

Apart from creating digital scarcity and authenticity, creators of NFTs have been able to create a secondary market for their works, in which NFTs allow creators to receive royalties from subsequent resale.¹³ The Copyright Act of 1976¹⁴ provides copyright owners with exclusive rights such as the right to distribute their work.¹⁵ The act also provides an exception to their exclusive distribution right, the first sale doctrine, which allows the lawful owner of a copy of work to resell that work to others without the copyright owner’s permission.¹⁶ However, Congress and courts have not extended this doctrine to apply to digital copies because digital transfers involve reproduction of the copyrighted work, another exclusive right that the first sale doctrine does not address.¹⁷ This concern is also married to the doctrine’s policy of promoting a healthy balance between the interests of copyright owners and consumers.¹⁸ As NFTs’ blockchain technology allows the tracking of a specific copy of the creator’s work and also for a creator to “program automatic royalty payments every time the tokens are resold,”¹⁹ the question of whether the first sale doctrine should be readdressed and expanded to apply to digital transfers is likely to intensify.

This Note examines NFTs and their entrance to the decades-long debate of whether the first sale doctrine should apply to digital transfers. Part I

9. *Id.*; see also Dante Pacella, *The Power of NFT: How Non-Fungible Tokens Will Change the Content World*, VERIZON (Sept. 24, 2021), <https://www.verizon.com/about/news/how-nft-will-change-content-world> [<https://perma.cc/LB82-QQVR>] (stating that NFTs are immutable because of “blockchain’s cryptographic linking properties” and have provenance because all subsequent NFT transactions are in a linked list that can be viewed by anyone on the blockchain); Gokul Dass, *What Is Immutable Ledger in Blockchain and Its Benefits*, SOLULAB, <https://www.solulab.com/what-is-immutable-ledger-in-blockchain-and-its-benefits/> [<https://perma.cc/SN7M-JKMX>] (last visited Oct. 7, 2022) (stating that immutability is the “ability of a blockchain ledger to remain unchanged, unaltered, and indelible”).

10. See Au-Yeung, *supra* note 4.

11. See *id.*

12. See Lewis et al., *supra* note 2 (stating that NFTs are “most often used to [link to] digital content” but could also be used to verify the authenticity of physical assets). This Note will focus on the use of NFTs that represent digital content only.

13. See Au-Yeung, *supra* note 4.

14. Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended in scattered sections of the U.S.C.).

15. 17 U.S.C. § 106.

16. *Id.* § 109(a).

17. U.S. COPYRIGHT OFF., DMCA SECTION 104 REPORT 80 (2001), <https://www.copyright.gov/reports/studies/dmca/sec-104-report-vol-1.pdf> [<https://perma.cc/4YDK-7SVJ>].

18. See *id.* at 86.

19. See Au-Yeung, *supra* note 4.

presents an introduction to NFTs within the digital marketplace and an overview of the Copyright Act and the first sale doctrine. Part II examines policy-based challenges and outlines the debates for and against applying the first sale doctrine to digital assets in the digital era. Part III proposes that Congress readdress the first sale doctrine in the age of blockchain technology and NFTs by amending the Copyright Act to include an additional subsection, 17 U.S.C. § 109(f).

I. NAVIGATING NFTS AND THE FIRST SALE DOCTRINE

NFTs turn creative, digital works into authentic, verifiable assets that are tradeable on the blockchain.²⁰ Much of the intrigue around NFTs stems from the new experience of being able to assert ownership and claim the value of a digital copy.²¹ Therefore, many have sought to leverage this ownership and value to resell the NFT at a higher price, birthing a new dynamic in the market in which digital items can be easily and endlessly replicated.²² An NFT's unique blockchain characteristics facilitate this technological phenomenon.²³

This part provides an overview and background of NFTs and their unique characteristics. Parts I.A.1 and I.A.2 describe NFTs' main elements: non-fungibility and immutability. Part I.A.3 examines NFTs' effects on the marketplace.

A. *What Is an NFT?*

An NFT is a digital certificate that links to a digital asset (such as a photo, music album, or video clip) and uses blockchain technology to verify proof of ownership of the asset.²⁴ Blockchain is a digital database that serves as an electronic book of transactions, where every transaction is verified by complex computer algorithms.²⁵ NFTs primarily live on a blockchain called Ethereum, which has unique coding that enables an NFT to generate a "smart contract."²⁶ A smart contract includes information pertaining to ownership,

20. Jazmin Goodwin, *What Is an NFT?: Non-fungible Tokens Explained*, CNN (Nov. 10, 2021, 3:03 PM), <https://www.cnn.com/2021/03/17/business/what-is-nft-meaning-fe-series/index.html> [<https://perma.cc/GKN4-K45D>] ("NFTs transform digital works of art and other collectibles into one-of-a-kind, verifiable assets that are easy to trade on the blockchain.")

21. *Id.* (quoting the CEO of Artsy, who stated that "[o]thers are intrigued by the idea of taking a digital asset that anyone can copy and claiming ownership of it").

22. *Id.* (noting that the financial return has been high and that investors are willing to pay to own NFTs of digital images).

23. Elizabeth Howcroft, *Explainer: What Are NFTs?*, REUTERS (Nov. 18, 2021, 8:55 AM), <https://www.reuters.com/technology/what-are-nfts-2021-11-17/> [<https://perma.cc/J6QZ-G72R>] (noting that unlike most digital images that can be endlessly reproduced, an NFT's blockchain abilities allow for it to be one-of-a-kind).

24. *See* Conti & Schmidt, *supra* note 1; *see also* Hogan, *supra* note 5; Wohlner, *supra* note 1.

25. Wohlner, *supra* note 1 ("Every transaction on the blockchain is verified by computers across the world . . . [through] complicated math problems."); *see also* Conti & Schmidt, *supra* note 1 (explaining that a blockchain is "a distributed public ledger that records transactions").

26. Wohlner, *supra* note 1.

transaction history, costs, and any other terms or conditions (much like a traditional contract).²⁷

An NFT is minted when it is added onto the blockchain.²⁸ A creator can mint in any NFT marketplace or online platform that supports NFT transactions.²⁹ Such a procedure is similar to setting up an eBay seller account.³⁰ For example, in NFT marketplace Rarible, a user must create an account, add their payment information,³¹ upload their underlying work (as a GIF, PNG, or MP3 file), and choose how to sell the work.³² Options can range from selling the work at a fixed price to selling it at an unlimited auction, where potential buyers become bidders and can increase the NFT's value.³³ Thus, when a buyer purchases an NFT of a digital work, such as a painting, the NFT will contain a file of the painting itself, along with the smart contract that serves as the "digital proof of ownership and uniqueness" of the painting.³⁴

NFTs are often compared to cryptocurrency, such as Bitcoin, because both use blockchain technology.³⁵ However, unlike cryptocurrency, NFTs' unique coding makes them non-fungible and immutable.³⁶ Part I.A.1 evaluates NFTs' non-fungibility, which can add specific value to NFTs and help differentiate between other NFTs. Part I.A.2 evaluates NFTs' immutability, which permits NFTs to generate contractual terms that are permanent and to certify authenticity and ownership. Part I.A.3 discusses NFTs' effects on the marketplace, which includes promoting authenticity, scarcity, and a digital secondary marketplace.

1. Non-fungibility

The first important element of an NFT is that it is non-fungible. A fungible item is one that does not carry unique characteristics and can replace another item, making it interchangeable.³⁷ For example, fungible currencies such as the U.S. dollar or Bitcoin "can be traded or exchanged for one another" and

27. *See id.*

28. Ian Dean, *How to Make and Sell an NFT*, CREATIVE BLOQ (Aug. 10, 2022), <https://www.creativebloq.com/how-to/make-and-sell-an-nft> [https://perma.cc/LV3T-VTXZ].

29. Connor Campbell, *The NFT Marketplace: How to Buy, Sell, and Create NFTs*, NERD WALLET, <https://www.nerdwallet.com/uk/investing/how-to-buy-nft/> [https://perma.cc/PK8X-UYSJ] (Sept. 1, 2021).

30. *See id.*

31. *See id.*

32. *See id.*

33. *See id.*

34. Jack Morse, *So You Spent Millions on an NFT. Here's What You Actually Bought*, MASHABLE (Mar. 13, 2021), <https://mashable.com/article/what-is-an-nft-non-fungible-token> [https://perma.cc/V25T-TTEN].

35. *See* Conti & Schmidt, *supra* note 1.

36. *See id.*

37. Lisa Theng, *Non-Fungible Tokens and Their Legal Implications*, IR GLOB. (June 9, 2021), <https://www.irglobal.com/article/non-fungible-tokens-and-their-legal-implications-2/> [https://perma.cc/HAP3-26LC].

are valued equally.³⁸ In contrast, because each NFT includes a unique, digital code that can only appear once on the blockchain, each NFT's value can differ from another's,³⁹ and each token can easily be distinguished from others.⁴⁰ For example, an NFT of a video clip of LeBron James's slam dunk is not worth the same as another NFT of the same video clip because each has its own identifying code and may have a different smart contract.⁴¹ Thus, NFTs carry different values and are non-fungible.⁴² NFTs' non-fungibility allows for a "one-of-a-kind" digital asset and creates an experience of obtaining a digital collector's item.⁴³

2. Immutability

The second important element is that an NFT is immutable. The information stored in an NFT cannot be fundamentally changed or amended in the future.⁴⁴ When an NFT is minted, its smart contract contains the unique information that the creator has chosen to include and becomes permanent.⁴⁵ Such information can include a buyer's limitations on use of the NFT, payment terms, transfer uses, and record of ownership.⁴⁶ For example, Australian artist Serwah Attafuah, who sold an NFT of her artwork, included language in the smart contract providing that Attafuah was to retain 10 percent equity of her artwork.⁴⁷ The smart contract ensured that each time the NFT was resold, Attafuah automatically received 10 percent of the sales price.⁴⁸ Therefore, an NFT's immutability allows creators to not only establish a digital certificate of ownership of their digital work, but also control how their digital work is sold and resold.⁴⁹

3. Authenticity, Scarcity, and the Digital Secondary Market

Uniqueness and scarcity are important concepts in the creative arts, but they are often challenged in the digital marketplace. Creators often struggle with how to prove ownership and authorship of the artwork because digital

38. Conti & Schmidt, *supra* note 1 (“[O]ne dollar is always worth another dollar; one Bitcoin is always equal to another Bitcoin.”).

39. Theng, *supra* note 37.

40. *See id.*

41. Conti & Schmidt, *supra* note 1.

42. *See id.*

43. Hamish Fraser, *Non-Fungible Tokens Are Here to Stay: How Can Technology Law Harness Them?*, THE FASHION L. (Aug. 4, 2021), <https://www.thefashionlaw.com/non-fungible-tokens-are-here-to-stay-how-can-technology-law-harness-them/> [https://perma.cc/5ZMF-EL5V].

44. *Id.*

45. See Ron Dreben & Amelia Pennington, *Nonfungible Tokens and Copyright: Diligence Issues to Consider*, JD SUPRA (Apr. 13, 2021), <https://www.jdsupra.com/legalnews/nonfungible-tokens-and-copyright-3961333/> [https://perma.cc/ZE8P-FVCH].

46. *Id.*

47. Fraser, *supra* note 43.

48. *See id.*

49. Conti & Schmidt, *supra* note 1.

files can easily be infinitely replicated, downloaded, and transferred.⁵⁰ For example, if a creator draws a happy face on Photoshop, downloads it as a JPG file, and posts the file on their website, another user who visits the website can download the same JPG file.⁵¹ There would then be two copies on two different computers; this duplication process could be repeated a million times by millions of different people.⁵² Because everyone is able to own the file, the value of digital files is considered to be near zero.⁵³ However, an NFT's non-fungibility and immutability present the opportunity for creators to limit the number of copies and create non-fungible versions of their digital work.⁵⁴ For the first time, digital creators who use blockchain technology to verify their works are able to provide authenticity and scarcity that is usually reserved for physical art.

To illustrate this, suppose a famous artist has launched their first digital art piece. If the artist sells it on their website and allows for the purchaser to download their work as a PDF or JPG file, they run the risk of having that PDF or JPG endlessly copied and sent to millions of people.⁵⁵ To ensure that their purchaser can know that the digital copy they receive is the *only* copy, the artist sells the file as an NFT.⁵⁶ The NFT's blockchain features ensure that it cannot be duplicated, deleted, or manipulated, and serves as a digital certificate of ownership and authenticity to the purchaser.⁵⁷

Perhaps the most novel consequence of NFTs in the digital creative industry is the ability to promote a secondary marketplace, which traditionally existed only for physical works. The "primary market" is where an artwork is first sold, and the "secondary market" is where the work is subsequently resold.⁵⁸ NFTs' smart contracts allow for a creator to include secondary-sale royalties that are automatically applied with each NFT resale.⁵⁹ This allows creators to continue to earn royalties on their digital works, while the NFTs' blockchain technology ensures their authenticity with every subsequent sale. The secondary market has grown at a rapid rate and is expected to continuously grow, which would encourage more creators to get involved and would attract potential buyers to purchase digital art.⁶⁰

50. See Elena Zavelev, *How Blockchain Empowers the Digital Art Market*, FORBES (Nov. 7, 2018, 11:34 AM), <https://www.forbes.com/sites/elenezavelev/2018/11/07/how-blockchain-empowers-the-digital-art-market> [<https://perma.cc/92DZ-CY34>].

51. Emilia Petraca, *Everything You Need to Know to Make it Through a Conversation About NFTs*, THE CUT (Apr. 5, 2021), <https://www.thecut.com/2021/04/what-is-an-nft-explainer.html> [<https://perma.cc/K55A-NYF7>].

52. *Id.*

53. *See id.*

54. Zavelev, *supra* note 50.

55. *See* Petraca, *supra* note 51.

56. *See id.*

57. *See id.*

58. *The Next Big Thing: Secondary Markets*, FOUNDATION (Feb. 1, 2022), <https://foundation.app/blog/secondary-markets> [<https://perma.cc/BE9F-Y2Z3>].

59. *See id.*

60. Tim Copeland, *NFTs Are Selling for Millions. But Are They Reselling?*, DECRYPT (Apr. 1, 2021), <https://decrypt.co/63678/nfts-are-selling-millions-reselling> [<https://perma.cc/>].

As the secondary market in NFTs grows, so will the legal ambiguities that surround its interaction with copyright law, and specifically, under the first sale doctrine.

B. *The First Sale Doctrine in the Digital World*

Undoubtedly, NFTs are intertwined with copyright law because they are closely linked to creative and digital works.⁶¹ It is imperative, however, to separate ownership of the NFT from ownership of the underlying copyrighted work that the NFT represents. Only the authorized copyright owner may legally mint a copy of their work into an NFT.⁶² Absent an express transfer of rights upon the NFT sale, an NFT purchaser normally only has ownership of the NFT and not the underlying work itself.⁶³ For example, an artist who sells an NFT of their digital drawing would retain copyright rights to the drawing after selling it, while the purchaser would only acquire ownership of the NFT.

Although copyright ownership may not be as clear in the NFT market, NFTs involve transfers of digital copies that can be resold in the secondary marketplace, much like the resale of physical copies of books and CDs in secondhand stores.⁶⁴ This practice falls under copyright law's first sale doctrine, an exception that terminates a copyright owner's exclusive right to distribute a copy upon its first sale.⁶⁵ However, as this Note discusses in Part II, the first sale doctrine has not been applied or extended to digital transfers.⁶⁶ It is important to understand the first sale doctrine's legal background and its historical operation with physical copies, as well as the legislative and judicial perspectives on extending the first sale doctrine to digital transfers.

This part demonstrates the common-law and judicial interpretations of the first sale doctrine, as well as its current relationship with digital transfers. Part I.B.1 introduces the first sale doctrine and its operation in the context of physical goods. Part I.B.2 discusses the U.S. Copyright Office's 2001 report

C3U6-KCM5] ("In March, the secondary market on SuperRare, the second biggest NFT marketplace, accounted for 36% of its NFT sales volume.").

61. See *supra* notes 13–15 and accompanying text.

62. Hamburg, *supra* note 3 (stating that one cannot tokenize a creative work that is copyright protected).

63. Jonathan Bick, *Legal Issues Arise as Tangible Assets Acquire Internet Identities*, LAW.COM (Nov. 1, 2021, 10:00 AM), <https://www.law.com/njlawjournal/2021/11/01/legal-issues-arise-as-tangible-assets-acquire-internet-identities/> [<https://perma.cc/P8C8-4J2G>] (stating that "[w]hen the NFT is transferred to another, both the NFT and the copyright are transferred. However, the intellectual property rights associated with the underlying asset may not . . . unless stated otherwise."); Adarsh Ramanujan, *Non-Fungible Tokens (NFT) Sales and Copyright Assignment: Part I (The Contract Is the Key)*, SPICYIP (Apr. 5, 2021), <https://spicyip.com/2021/04/non-fungible-tokens-nft-sales-and-copyright-assignment-part-1-the-contract-is-the-key.html> [<https://perma.cc/QE49-55SQ>] (stating that purchasing an NFT is a transfer of ownership in the NFT, and nothing more, but noting that it may depend on the contract).

64. See *supra* notes 57–58 and accompanying text.

65. 17 U.S.C. § 109(a).

66. See U.S. COPYRIGHT OFF., *supra* note 17.

on the Digital Millennium Copyright Act and its hesitancy to apply the doctrine to digital transfers. Part I.B.3 presents the same hesitancy in the judicial arena, such as when the court in *Capitol Records, LLC v. ReDigi, Inc.*⁶⁷ refused to apply the doctrine to digital transfers made through forward-and-delete technology.⁶⁸ Part I.B.4 discusses the European Union's interpretation of its first sale doctrine on digital transfers.⁶⁹

1. The First Sale Doctrine

The U.S. Constitution grants Congress the power to “promote the Progress and Science of Useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”⁷⁰ Copyright law is seen as promoting a balance between providing creators or owners incentives to create their works and providing public access to those works.⁷¹ Under the Copyright Act of 1976, a work receives copyright protection at creation when it is an original work that is fixed in a tangible medium of expression.⁷² Originally, a “tangible medium of expression” covered only physical mediums such as books or vinyl records.⁷³ However, 17 U.S.C. § 102 has expanded to include a tangible medium of expression “now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.”⁷⁴ Thus, copyright ownership can be granted to creators who have fixed their original work in digital mediums such as electronic books and video recordings.⁷⁵

The Copyright Act grants the owner exclusive rights to their work—including the rights to reproduce and distribute copies, or perform, display, and make derivatives of the work.⁷⁶ These rights allow the author to control the dissemination of their work.⁷⁷ However, these rights are limited by the

67. 934 F. Supp. 2d 640 (S.D.N.Y. 2013), *aff'd*, 910 F.3d 649 (2d Cir. 2018).

68. *Id.* at 656.

69. *See generally* UsedSoft GmbH v. Oracle Int'l Corp., 2012 E.C.R. 407 (Eur.).

70. U.S. CONST. art. I, § 8, cl. 8.

71. Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copyright Ownership*, 42 WM. & MARY L. REV. 1245, 1248 (2001) (noting that the bundle of copyright rights is determined by a careful balancing of private incentives and public access); R. Anthony Reese, *The First Sale Doctrine in the Era of Digital Networks*, 44 BOS. COLL. L. REV. 577, 577 (2003) (stating that copyright law is “a balance of providing authors with sufficient incentives to create their works and maximizing public access to those works”); Evan Hess, Note, *Code-ifying Copyright: An Architectural Solution to Digitally Expanding the First Sale Doctrine*, 81 FORDHAM L. REV. 1965, 1970–71 (2013) (noting that scholars have interpreted copyright law protection as requiring a balancing in interests).

72. 17 U.S.C. § 102.

73. *See* Luke Toft, *Is There a Digital First Sale?*, JD SUPRA (Mar. 12, 2018), <https://www.jdsupra.com/legalnews/is-there-a-digital-first-sale-26680/> [<https://perma.cc/FY7G-3HX2>].

74. 17 U.S.C. § 102(a) (stating that if original works are fixed in these mediums, copyright protection extends to “literary, musical, dramatic, pantomimes and choreographic, pictorial, graphic, sculptural and other audiovisual works, sound recordings, and architectural works”).

75. *See id.*

76. 17 U.S.C. § 106; *see* Au-Yeung, *supra* note 4.

77. 17 U.S.C. § 106; *see* Au-Yeung, *supra* note 4.

act's exceptions.⁷⁸ One of these exceptions limits the copyright owner's distribution right—it is known as the “first sale doctrine,” and it limits the owner's authority over resold copies.⁷⁹

The first sale doctrine is codified in 17 U.S.C. § 109(a), which states that the “owner of a lawful copy [is permitted] to sell or otherwise dispose of its copy notwithstanding the exclusive rights of the copyright owner.”⁸⁰ For example, if one purchases a CD, that purchaser owns that particular copy of the copyrighted work. As the lawful owner of the copy, the owner can decide to resell, give away, or destroy the copy without the permission of the copyright owner.⁸¹ However, § 109(d) states that the first sale doctrine does not extend to “any person who has acquired possession of the copy . . . by rental, lease, loan, or otherwise, without acquiring ownership of it.”⁸² But absent a rental, lease, loan or unauthorized ownership, the copyright owner's exclusive right to distribute is terminated upon the first sale.⁸³

The first sale doctrine is a pillar in promoting public access and has traditionally applied to copyrighted works that are fixed in mediums such as CDs, photographs, and books.⁸⁴ Congress and the courts, however, have failed to extend the first sale doctrine to digital content. As a result, digital secondary-market participants, including NFT users, craft sales agreements that expressly state that the purchaser may resell, loan, or rent without the owner's permission upon the sale.⁸⁵ Nonetheless, the question remains: can one resell a digital copy of a song or an artwork that was lawfully purchased or downloaded?⁸⁶

2. The Copyright Office's Report on § 109

Congress acknowledged that it was in its early stages of examining how the digital era would impact copyrighted works when it introduced the Digital

78. 17 U.S.C. § 106; *see* Au-Yeung, *supra* note 4.

79. 17 U.S.C. § 109(a); Toft, *supra* note 73.

80. 17 U.S.C. § 109(a); Toft, *supra* note 73; Dreben & Pennington, *supra* note 45.

81. 17 U.S.C. § 109(a).

82. *Id.* § 109(d).

83. *See* *Bobbs-Merrill Co. v. Strauss*, 210 U.S. 339, 350–51 (1908) (holding that, once the copyright holder sold copies in quantities and at a satisfactory price, it exercised its right to vend or distribute, and has exhausted that right as to those particular copies sold).

84. Toft, *supra* note 73; Reese, *supra* note 71 (“[T]he first sale doctrine has been a major bulwark in providing public access by facilitating the existence of used book and record stores . . .”).

85. *See* *Bobbs-Merrill Co.*, 210 U.S. at 350 (noting that the case did not discuss contract limitations or license agreements that could control book resales); *see also* Simon J. Frankel, *What Copyright Lawyers Need to Know About NFTs*, BLOOMBERG L. (July 16, 2021, 4:01 AM), <https://news.bloomberglaw.com/ip-law/what-copyright-lawyers-need-to-know-about-nfts> [<https://perma.cc/P8SG-Q3QW>] (stating that many NFT agreements skirt away from the first sale doctrine by expressly stating that the consumer has the right to resell, or that the owner is entitled to royalties upon each resale).

86. *See* Toft, *supra* note 73.

Millennium Copyright Act⁸⁷ (DMCA) in 1998.⁸⁸ The DMCA criminalized the production and dissemination of technology used to circumvent measures that would control access to copyrighted works.⁸⁹ It represented Congress's acknowledgement of technological and digital advancement, and it directed the U.S. Copyright Office to issue a report to further evaluate emerging technology and its impact on the first sale doctrine.⁹⁰

In 2001, the Copyright Office issued a report in response to the DMCA, in which it also acknowledged digital advancement and addressed the possible expansion of § 109 to include the first sale doctrine's application to digital works.⁹¹ The Copyright Office clarified that the doctrine did apply to works in digital forms, such as CDs or DVDs, which were subject to the law in the same way that works in analog forms were.⁹² It also addressed the more specific question of whether *transmitting* a work digitally so that another user receives a copy of the work would be within the scope of the doctrine.⁹³

a. A Digital Transfer Requires Reproduction

Unlike a physical transfer, a digital transfer requires a recipient to obtain a new copy of the work while the sender retains the "source copy."⁹⁴ For example, when someone texts a photo to another person, the sender still retains their copy while the recipient receives a new one.⁹⁵ Because this action results in a reproduction of the work, a digital transfer would disturb not only the copyright owner's distribution right, but their reproduction right as well.⁹⁶ As discussed in Part I.B.1, § 109 only provides a defense to infringement of the distribution right, not the reproduction right.⁹⁷ Proponents in favor of the expansion of the first sale doctrine argue that "forward-and-delete" technology, which enables a sender to forward a copy to someone else and delete or disable their own access to the copy once sent, would solve this issue.⁹⁸ However, the Copyright Office maintained that, in applying the first sale doctrine in this situation, it would be difficult to prove whether the act of deletion had taken place, thus increasing the risk of infringement and harming the copyright owner.⁹⁹

87. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of the U.S.C.).

88. *Id.*

89. *See id.* § 103, at 2863–64.

90. *See id.* § 104, at 2876–77.

91. *See* U.S. COPYRIGHT OFF., *supra* note 17.

92. *Id.* at 68.

93. *See id.* at 78–79.

94. *See id.* at 79.

95. Toft, *supra* note 73.

96. *See* U.S. COPYRIGHT OFF., *supra* note 17, at 79.

97. *See id.* at 80; *see supra* note 79 and accompanying text.

98. *See* U.S. COPYRIGHT OFF., *supra* note 17, at 81–82.

99. *See id.* at 84. The Copyright Office also raised other concerns with forward-and-delete technology, which is vulnerable to hackers and would be expensive for the publisher to employ and for the consumer to use.

b. Upholding the First Sale Doctrine's Policy Justifications

In considering the differences between circulating digital and physical copies and their effect on copyright owners and users, the Copyright Office then addressed whether “an equivalent to the . . . doctrine *should* be crafted to apply in the digital environment.”¹⁰⁰ Such a move would have to be based on the policies behind the first sale doctrine and a consideration of whether a new exception would further those policies without an increased detriment to the copyright owner’s interest.¹⁰¹ The first sale doctrine was originally adopted based on the “common law rule against restraints on the alienation of tangible property,” through which courts disfavored an owner conditioning the conveyance of their real property on restrictions to future conveyance of that property.¹⁰² The doctrine was also motivated by competition concerns, specifically concerns about publishers’ ability to control the resale market for books.¹⁰³ Although the copyright owner can prevent alienation of the copy, this restraint ends when the copy is transferred to another person through a sale.¹⁰⁴

The Copyright Office stated that, unlike with a physical transfer, the digital transfer of a work does not prevent the alienability of physical property.¹⁰⁵ When a work is digitally transferred, the owner is not exercising their dominion over tangible property, but rather, they are exercising their reproduction right over an intangible work.¹⁰⁶ In contrast, when a work is physically transferred, the copyright owner’s reproduction right does not interfere with the right held by the owner of the physical copy to dispose of it or give it away because the first sale doctrine applies to the *tangible* object.¹⁰⁷ The Copyright Office added that physical copies of works degrade with time and use, whereas digital copies do not; as a result, the “compet[ition] for market share with new copies is thus far greater in the digital world.”¹⁰⁸

This key difference prevents optimal competition between new and old copies of copyrighted works and maintains the balance between public access and copyright owners’ interest in profits.¹⁰⁹ Therefore, the tangible nature of the copy is “critical” and is a “defining element” in the first sale doctrine, and, according to the Copyright Office, the doctrine’s underlying purpose of

100. *See id.* at 82, 85 (stating that “digital information does not degrade”).

101. *See id.*

102. *Id.* at 86 (quoting S. REP. NO. 98-162, at 4 (1983)).

103. *See id.*

104. *Id.* at 87.

105. *Id.*

106. *Id.*

107. *Id.*

108. *Id.* at 82–83.

109. Raul James, *NFT: A Revolution in Copyright*, LINKEDIN (Oct. 17, 2021), <https://www.linkedin.com/pulse/nft-revolution-copyright-raul-james/> [https://perma.cc/Y9B9-R7G3].

ensuring the free circulation of tangible copies would not be furthered by expanding § 109 to cover digital transmissions.¹¹⁰

The Copyright Office concluded that applying the first sale doctrine to digital transfers would create a greater negative impact on a copyright owner's interest¹¹¹ and recommended no changes to § 109.¹¹² It also argued that forward-and-delete technology was not yet viable and would not be 100 percent effective.¹¹³ Due to the nature of digital transfers and its risk of infringement and piracy, expanding the first sale doctrine would not further its purpose, and thus its operation should be left to the discretion of the marketplace.¹¹⁴

3. *Capitol Records, LLC v. ReDigi Inc.*

About a decade after the Copyright Office's report, the U.S. District Court for the Southern District of New York decided *Capitol Records, LLC v. ReDigi Inc.*,¹¹⁵ the current leading case concerning copyright infringement in the resale of digital music tracks. ReDigi described its company as "the world's first and only online marketplace for digital used music."¹¹⁶ Its website allowed users to sell their legally owned digital music files and buy used digital music from other users for a lower price than was available on iTunes.¹¹⁷ Users had to download ReDigi's program, which ran continuously on the user's computer, to ensure that the user did not retain the music file once it had been uploaded for sale or had been sold.¹¹⁸ If the program detected that the song had not been deleted, it would flag the song to the user.¹¹⁹ However, the program did not automatically delete the song; rather, it only warned the user to remove the song or risk account suspension.¹²⁰ Additionally, the program could not locate copies that were stored in other locations.¹²¹ Once the seller uploaded the song for sale and deleted the song from their computer, they no longer had access to the song, and another user could purchase the song.¹²² Capitol Records, which owned some of the songs sold on ReDigi, filed a complaint alleging copyright infringement.¹²³

The court addressed the issue of whether a lawfully purchased digital file can be resold under the first sale doctrine.¹²⁴ ReDigi argued that its service,

110. U.S. COPYRIGHT OFF., *supra* note 17, at 86–87.

111. *See id.* at 91.

112. *See id.* at 97.

113. *See id.* at 98.

114. *See id.* at 100–01.

115. 934 F. Supp. 2d 640, 645 (S.D.N.Y. 2013), *aff'd*, 910 F.3d 649 (2d Cir. 2018).

116. *Id.*

117. *Id.*

118. *Id.*

119. *Id.*

120. *Id.*

121. *Id.*

122. *Id.* at 646.

123. *Id.* at 646–47.

124. *Id.* at 648, 655.

which permitted the digital resale of music files lawfully purchased on iTunes, was protected by this defense.¹²⁵ The court disagreed and found that a user who wished to sell a song on ReDigi had to “produce a new phonorecord on the ReDigi server.”¹²⁶ In other words, the program did not allow for the user who owned a music file to sell *that same file*, as the first sale doctrine requires. The court stated that the first sale doctrine was limited to tangible items, such as records, that the owner could distribute.¹²⁷ In contrast, ReDigi did not distribute tangible items, but only reproductions of the copyrighted works.¹²⁸ A reproduction takes place when the copyrighted work is fixed to a new material item.¹²⁹ Thus, the court found that the digital music files were reproduced, and not transferred, when they were fixed in the new object, the ReDigi server.¹³⁰ The court therefore concluded that the first sale doctrine did not apply to ReDigi’s sales of digital music files and held that ReDigi infringed on Capitol Records’s reproduction right.¹³¹

The court also rejected ReDigi’s policy arguments premised on promoting economic interests and incentivization.¹³² It relied on the DMCA’s purpose and the Copyright Office’s report to maintain that the first sale doctrine could not apply to the digital world because of the difference in nature between physical and digital copies.¹³³

The U.S. Court of Appeals for the Second Circuit affirmed the lower court’s holding that ReDigi’s service infringed on Capitol Records’s reproduction right.¹³⁴ However, it noted that the decision did not decide whether *all* digital file transmissions were reproductions and concluded that it was not necessary to rule on the issue at that time.¹³⁵

4. *UsedSoft GmbH v. Oracle International Corp.* and the “First Download Doctrine”

In contrast to the Second Circuit’s decision in *ReDigi*, in 2012, the Court of Justice of the European Union (CJEU) expanded the first sale doctrine in its landmark case concerning the legal protection of computer programs in *UsedSoft GmbH v. Oracle International Corp.*¹³⁶ Computer software manufacturer Oracle filed suit against UsedSoft, a company that markets used software licenses, for copyright infringement in the sale of used Oracle software.¹³⁷ Oracle sells its own copyrighted software programs on its

125. *Id.* at 655.

126. *Id.*

127. *Id.*

128. *Id.*

129. *Id.* at 648.

130. *Id.* at 655.

131. *Id.* at 655–56.

132. *Id.*

133. *Id.* at 656; *see also* U.S. COPYRIGHT OFF., *supra* note 17.

134. *Capitol Records, LLC v. ReDigi Inc.*, 910 F.3d 649, 656 (2d Cir. 2018).

135. *Id.* at 660.

136. *See generally* *UsedSoft GmbH v. Oracle Int’l Corp.*, 2012 E.C.R. 407 (Eur.).

137. *Id.* ¶¶ 24, 28.

website, while also allowing users to download some of its programs for free.¹³⁸ It argued that it had license agreements in place that expressly stated that the right to use its software was non-transferable.¹³⁹ The main issue before the CJEU was whether the first sale doctrine applied to software programs.¹⁴⁰ If answered in the affirmative, the more specific question was whether the first grant of a copy of the program, with the copyright owner's consent, would exhaust the distribution right of that copy under European law.¹⁴¹

There are two relevant EU directives regarding copyright protection in this case—Directive 2001/29/EC¹⁴² (the “Copyright Directive”) and Directive 2009/24/EC¹⁴³ (the “Computer Programs Directive”). The Computer Programs Directive's version of the first sale doctrine provides that “first sale in the Community of a copy of a program by the rightholder or with his consent shall exhaust the distribution right within the Community of that copy.”¹⁴⁴ The CJEU found that the copyright protection issue in this case was subject to the Computer Programs Directive.¹⁴⁵

Oracle argued that it did not sell any copies, but rather had only charged a fee for the license for use of the downloaded copy.¹⁴⁶ However, the CJEU rejected this argument, reasoning that downloading a copy and providing a perpetual user license for a fee formed an inseparable whole that constituted a transfer of ownership of that copy.¹⁴⁷ Therefore, the CJEU stated that the first sale doctrine cannot be circumvented by a perpetual license agreement

138. *Id.* ¶¶ 20–21.

139. *Id.* ¶ 23. Although the programs were available to download for free, in order to use Oracle's programs, users had to purchase a license (for a fee), the terms of which stated that the user could not transfer its rights.

140. *Id.* ¶ 34. Oracle filed suit against UsedSoft in Munich, Germany, requesting a preliminary injunction for UsedSoft to cease its resale activities. The German court granted the injunction, and UsedSoft appealed to the Bundesgerichtshof (the federal court). *Id.* ¶ 27. The Bundesgerichtshof affirmed the lower court's holding that UsedSoft did infringe upon Oracle's reproduction right but considered whether a lawful user of the software program could distribute and reproduce it without the copyright owner's consent. Thus, the Bundesgerichtshof referred the case to the CJEU. *See id.* ¶¶ 28, 30.

141. *Id.* ¶ 35.

142. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, 2001 O.J. (L 167) 10, art. 5(1), (10) (EU).

143. Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs, 2009 O.J. (L 111) 16, art. 4(2) (EU). The Computer Programs Directive concerns the legal protection of computer programs in the European Union.

144. *See id.*

145. *UsedSoft*, 2012 E.C.R. ¶ 38 (stating that in order to determine whether a copyright holder's distribution right has been exhausted, the court must decide whether the downloading of a copy may be considered as a “first sale . . . of a copy of a program,” pursuant to article 4(2)).

146. *Id.* ¶ 26.

147. *Id.* ¶¶ 44, 47 (“Downloading a copy of a computer program is pointless if the copy cannot be used by its possessor.”).

as an attempt to differentiate it from a “sale,” because doing so would undermine the doctrine.¹⁴⁸

First, the CJEU sought to define the specific conditions in which downloading a copy of a computer program from the internet would render the first sale doctrine applicable, including by defining the term “sale.”¹⁴⁹ The CJEU stated that the term “sale” is defined as “an agreement by which a person, in return for payment, transfers to another person his rights of ownership in an item of tangible *or* intangible property.”¹⁵⁰ It reasoned that, from an economic standpoint, the sale of a digital item on a DVD and the sale of a digital item by internet download are similar because a digital transfer would be functionally the same as the “supply of a material medium.”¹⁵¹ The CJEU found that Oracle’s sale of its license was a “sale” as defined in the Computer Programs Directive and constituted a transfer of ownership of that copy.¹⁵²

Second, the CJEU addressed the fact that the first sale doctrine codified in the Computer Programs Directive did not make any reference to material mediums.¹⁵³ It simply referred to the “sale . . . of a copy of a program.”¹⁵⁴ However, article 1(2) of the Computer Programs Directive states that “[p]rotection . . . shall apply to the expression in any form of a computer program.”¹⁵⁵ Accordingly, the CJEU held that copies of computer programs retain the same protections, regardless of whether the copies are tangible or intangible.¹⁵⁶ The CJEU ruled that UsedSoft was allowed to resell Oracle’s used software licenses and held that the first sale doctrine applied to intangible copies that were downloaded over the internet.¹⁵⁷ This landmark ruling has allowed the European Union’s first sale doctrine to be expanded to digital transfers and has given birth to, as Lukas Feiler termed, the “First Download Doctrine.”¹⁵⁸ The CJEU established three prongs in its test to

148. *Id.* ¶ 49. The advocate general reasoned that, if “sale” were not given a broad meaning, the effectiveness of the doctrine would be undermined because suppliers would simply call a contract a “license” rather than a “sale” in order to skirt around the exhaustion rule. *See id.*

149. *Id.* ¶¶ 35, 42.

150. *Id.* ¶ 42 (emphasis added). The CJEU stated that the term “sale” is what has been a commonly accepted definition. *See id.*

151. *Id.* ¶ 61.

152. *Id.* ¶¶ 46–49.

153. *Id.* ¶ 55.

154. *See* Council Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs, *supra* note 143, art. 4(2).

155. *UsedSoft*, 2012 E.C.R. ¶¶ 57–58 (stating that it was legislative intent to “assimilate” tangible and intangible copies of a computer program); *see* Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs, *supra* note 143, art. 4(1). Recital 7 in the directive’s preamble also stated that the directive meant to protect computer programs that included programs in any form.

156. *See UsedSoft*, 2012 E.C.R. ¶ 58.

157. *Id.*

158. Lukas Feiler, *Birth of the First-Download Doctrine: The Application of the First Sale Doctrine to Internet Downloads Under EU and U.S. Copyright Law*, 5 (Stanford-Vienna Transatlantic Tech. L.F., Working Paper No. 17, 2013), https://law.stanford.edu/wp-content/uploads/sites/default/files/publication/378203/doc/slspublic/feiler_wp17.pdf [<https://perma.cc/6XH3-ZEAP>].

determine whether the first download doctrine applies: the copyright holder must have (1) provided a copy or authorized the download of that copy; (2) granted the copy for an unlimited time period; and (3) in return, received payment of a fee that corresponds to the economic value of the downloaded copy.¹⁵⁹

The CJEU's ruling in *Oracle* made two clarifications to the first sale doctrine. First, the digital transfer can take place through a tangible or intangible medium, and second, a license that allows a buyer to use a copy for an unlimited period of time in exchange for a fee is considered a sale rather than a license.¹⁶⁰ Although the CJEU's holding was based on the Computer Programs Directive rather than the Copyright Directive, both have statutory language suggesting that these interpretations may apply to other forms of copyrighted works as well.¹⁶¹ Article 4(2) of the Copyright Directive also includes a first sale right; however, recital 28 of the directive specifies that copyright protection includes the distribution right of the work in a *tangible* article.¹⁶² Nevertheless, the CJEU emphasized that such a formalistic reading undermines the underlying purpose of the exhaustion right, which is to "avoid partitioning of markets" by limiting restrictions on the distribution of works to protect the "subject matter of the intellectual property concerned."¹⁶³ Thus, there is a strong inference that the first download doctrine not only applies to computer programs but to other types of copyrighted works as well.¹⁶⁴

The CJEU's landmark case in *Oracle* will likely cause a ripple effect on other countries that are faced with the question of expanding the first sale doctrine to digital transfers. However, the decision of whether to expand the doctrine to cover digital transfers will hinge on the interpretation of national statutes, as well as on the consideration of the range of policies that drive the doctrine.

II. HESITANCY TOWARD A DIGITAL FIRST SALE DOCTRINE

The courts' and the Copyright Office's hesitancy toward applying the first sale doctrine to digital transfers stems from common law and the fundamental policies underlying the doctrine. The debate over whether first sale should extend to digital transfers focuses on comparing not only the specific characteristics of a physical copy to those of a digital copy, but also on their behavior in the marketplace.

159. See *UsedSoft*, 2012 E.C.R. ¶ 88; see Feiler, *supra* note 158, at 5.

160. See Feiler, *supra* note 158, at 5.

161. See *UsedSoft*, 2012 E.C.R. ¶ 60.

162. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, *supra* note 142, pmbl. 28 (emphasis added); see *UsedSoft*, 2012 E.C.R. ¶ 60.

163. *UsedSoft*, 2012 E.C.R. ¶ 62.

164. See Feiler, *supra* note 158, at 8; see also Emma Linklater, *UsedSoft and the Big Bang Theory: Is the e-Exhaustion Meteor About to Strike?*, 5 J. INTELL. PROP. INFO. TECH. & ELEC. COM. L. 12, 19 ¶ 47 (2014) ("[I]t is conceivable that the impact of the ruling could indeed be much broader than software, despite first appearances.").

This part outlines the debates in common law and the policy-based challenges to expanding the first sale doctrine to apply to digital transfers. Part II.A examines the reproduction of a copy through a digital transfer and the way in which it disturbs the copyright owner's reproduction right. Part II.B analyzes the first sale doctrine's policies and benefits in promoting the balance between the interests of copyright owners and consumers.

A. A Digital Transfer Disturbs the Reproduction Right

One main concern with expanding the first sale doctrine is that, due to the nature of digital copies, the reproduction of a new copy is almost inevitable upon a transfer. This would implicate the copyright owner's reproduction right, to which the first sale doctrine does not apply.¹⁶⁵ Both the Copyright Office and the *ReDigi* courts were concerned that the sender could retain the original copy, rendering the "particular" copy unsold and making the first sale doctrine inapplicable.¹⁶⁶ In *ReDigi*, this risk was high because the ReDigi service only warned the sender to delete the file that was to be resold and ultimately left it to them to remove the file.¹⁶⁷ Thus, the Copyright Office and the *ReDigi* courts have taken the stance that the forward-and-delete models presented were not effective in resolving the reproduction right issue. Copyright owners continue to echo the same concern with forward-and-delete models, reasoning that allowing the alienation of digital copies would result in consumers attempting to cheat the system by keeping a copy after a purported transfer.¹⁶⁸ Following *ReDigi*, California state courts have maintained that digital technology, including digital codes, reproduce a copy upon the transfer of a copy and thus falls outside the ambit of the first sale doctrine.¹⁶⁹

However, the possibility that digital technology could one day enable a digital transfer without the need to reproduce a copy has not been entirely rejected. Those who embrace this possibility have supported the wait-and-see approach.¹⁷⁰ Other scholars and legal commentators have

165. See U.S. COPYRIGHT OFF., *supra* note 17, at xi.

166. See *Capitol Records, LLC v. ReDigi Inc.*, 910 F.3d 649, 656–57 (2d Cir. 2017); *Capitol Records, LLC v. ReDigi Inc.*, 934 F. Supp. 2d 640, 644 (S.D.N.Y. 2013), *aff'd*, 910 F.3d 649 (2d Cir. 2017); see also U.S. COPYRIGHT OFF., *supra* note 17, at 79.

167. See 934 F. Supp. 2d at 654.

168. Aaron Perzanowski & Jason Schultz, *Digital Exhaustion*, 58 UCLA L. REV. 889, 938 & n.273 (2011) (noting that this concern is not new, and that there has always been a risk of consumers copying LPs, cassettes, or CDs before reselling them in the secondary market).

169. See *Redbox Automated Retail, LLC v. Buena Vista Home Ent., Inc.*, 399 F. Supp. 3d 1018, 1033 (C.D. Cal. 2019) (holding that the first sale doctrine is inapplicable to digital codes and digital code resales do not present the same barriers to application of the first sale doctrine that physical discs do); see also *Disney Enters. v. Redbox Automated Retail, LLC*, 336 F. Supp. 3d 1146, 1156 (C.D. Cal. 2018) (finding that another copy is legally created when a customer redeems a code and Disney creates a digital copy in the user's cloud-based locker).

170. See *ReDigi*, 910 F.3d at 659 (noting that "[o]ther technology may exist or be developed that could lawfully effectuate a digital first sale," and that the court does not need to "decide whether all digital file transmissions over the Internet make reproductions"); DEP'T OF COM. INTERNET POL'Y TASK FORCE, WHITE PAPER ON REMIXES, FIRST SALE, AND STATUTORY DAMAGES: COPYRIGHT POLICY, CREATIVITY, AND INNOVATION IN THE

begun to analyze the applicability of the first sale doctrine to a variety of newer digital technologies in the hopes of crossing the line into the doctrine's territory—including ReDigi itself.¹⁷¹ These technological developments include decryption processes, blockchain technology, and more recently, NFTs that foster a digital secondary marketplace.¹⁷² Some scholars and commentators have noted that blockchain could potentially relieve the reproduction issue through its ability to record transfer of title, in an immutable manner, to a digital file without making a copy of the file.¹⁷³ When a copy is added onto the blockchain and someone accesses the file, it can verify whether the particular copy has been used by another person.¹⁷⁴

DIGITAL ECONOMY 58 (2016), <https://www.uspto.gov/sites/default/files/documents/copyrightwhitepaper.pdf> [<https://perma.cc/8JVR-N54X>] (discussing how the U.S. Department of Commerce has considered the “digital offerings” brought forth and does not recommend extending the first sale doctrine to apply to digital transfers). Note that, during this time, the only use of forward-and-delete technology that the Department of Commerce task force was aware of was with the ReDigi service. It agreed with the Copyright Office's 2001 report that the risks to copyright owners have not been diminished. *Id.* at 3, 58; *see also* U.S. COPYRIGHT OFF., *supra* note 17, at xx, 96–97 (noting no current issues were present to recommend a change in the law, but the “time may come when Congress may wish to address these concerns should they materialize”); *see also* Reese, *supra* note 71 (“[W]e must wait and see how electronic commerce and technological protection measures will affect the operation of the first sale doctrine.”).

171. *See* DEP'T OF COM. INTERNET POL'Y TASK FORCE, *supra* note 170, at 53 n.329 (noting that ReDigi's CEO stated that “ReDigi 2.0” involves a buyer downloading the digital music file from its cloud server so that files are not copied or moved).

172. Gregory Capobianco, *Rethinking ReDigi: How a Characteristics-Based Test Advances the “Digital First Sale” Doctrine Debate*, 35 CARDOZO L. REV. 391, 423 (2013) (noting that it would be possible to create a decryption and re-encryption model that enables a digital transfer); Phillip Shaverdian, *Blockchain-Based Digital Assets and the Case for Revisiting Copyright's First Sale Doctrine*, UCLA L. REV. (Feb. 19, 2019), <https://www.uclalawreview.org/blockchain-based-digital-assets-and-the-case-for-revisiting-copyrights-first-sale-doctrine-2/> [<https://perma.cc/E972-W6EW>] (noting that blockchain technology can solve copyright's reproduction issue and enable expansion of the first sale doctrine); Matt Goldman, *Non-fungible Tokens: Copyright Implications in the Wild West of Blockchain Technology*, CARDOZO ARTS & ENT. L.J. (Apr. 5, 2021), <https://cardozoelj.com/2021/04/05/non-fungible-tokens-copyright-implications-in-the-wild-west-of-blockchain-technology/> [<https://perma.cc/7JTV-UG37>] (considering that the first sale doctrine would apply to NFTs because each NFT is a unique copy).

173. *See, e.g.*, Shaverdian, *supra* note 172 (noting that the breakthrough in blockchain could solve the issue of “double-spending,” which is the risk that a digital file can be sent while retaining the original). *But see* John Browning, *Hugh Jackman's Conundrum: Can the Blockchain Revitalize the First Sale Doctrine Under Copyright Law?*, JD SUPRA (Mar. 16, 2016), <https://www.jdsupra.com/legalnews/hugh-jackman-s-conundrum-can-the-78979/> [<https://perma.cc/E3X9-SV4P>] (“[Blockchain will not] create a digital teleportation device that will allow a seller to transfer ownership of an unwanted digital file to a buyer without making a copy.”).

174. Sebastian Pech, *Copyright Unchained: How Blockchain Technology Can Change the Administration and Distribution of Copyrighted Protected Works*, 18 NW. J. TECH. & INTELL. PROP. 1, 41 (2020) (arguing that blockchain technology can alter the distribution of used works through smart contracts); *see* Shaverdian, *supra* note 172 (noting that the reproduction of a digital file on the blockchain is not possible because, once verified and validated, “a transaction ensures that the particular digital asset is transferred in its entirety and that the original seller does not retain the original”); Browning, *supra* note 173 (arguing that blockchain can allow secondary markets to operate without the legal issue that the ReDigi service attempted to solve because of its ability to create an immutable record of title).

Specifically in the context of NFTs, legal experts have acknowledged that their non-fungibility makes transfers “conceptually closer” to tangible transfers.¹⁷⁵ However, cases concerning NFTs, blockchain, and the reproduction issue have yet to be litigated in court.¹⁷⁶

Although NFTs and blockchain have presented a more promising technological solution to the first sale doctrine’s reproduction issue, scholars and legal commentators remain divided on whether judicial or legislative intervention is needed. Some have stated that courts can interpret and apply the doctrine to digital transfers.¹⁷⁷ Many have argued that, ultimately, Congress will need to amend the law in order for the doctrine to apply to digital transfers.¹⁷⁸ First, legal experts highlight that the act of using the blockchain or minting an NFT would require a *new* copy to be made, making the first sale doctrine inapplicable.¹⁷⁹ Second, the first sale doctrine has been interpreted to require that a copy be tangible to fall within the scope of the doctrine, which presents a hurdle for digital transfers.¹⁸⁰ Courts and the Copyright Office have endorsed this requirement, although the Second Circuit noted the potential for readdressing changes to the doctrine.¹⁸¹ However, the Second Circuit maintained that it cannot apply the first sale

175. Lisa M. Tittlemore & Bailey Davall, *NFTs—A Novel Challenge for Traders, Investors and Copyright Lawyers*, SUNSTEIN INSIGHTS (May 5, 2021), <https://www.sunsteinlaw.com/publications/nfts-a-novel-challenge-for-traders-investors-and-copyright-lawyers> [<https://perma.cc/S3PF-27GM>]; see Dreben & Pennington, *supra* note 45 (arguing that, because NFT represents ownership of a specific copy, that one copy can be resold “like a physical book”).

176. Tittlemore & Davall, *supra* note 175 (noting that this issue seems like one that will soon be raised).

177. See Perzanowski & Schultz, *supra* note 168, at 938 (stating that courts have the power to further develop common-law principles and apply the first sale doctrine to digital works); Damien A. Riehl & Jumi Kassim, *Is “Buying” Digital Content Just “Renting” for Life?: Contemplating a Digital First-Sale Doctrine*, 40 WM. MITCHELL L. REV. 783, 801 (2014) (noting that, with technological advancements, the courts would be the ones to extend the first sale doctrine to digital works).

178. See Shaverdian, *supra* note 172 (concluding that Congress, not the courts, should revisit the first sale doctrine due to the Copyright Act’s tangibility requirement, which cannot be simply overturned by a court); Katya Fisher, *Once upon a Time in NFT: Blockchain, Copyright and the Right of First Sale Doctrine*, 37 CARDOZO ARTS & ENT. L.J. 629 (2019) (noting that, absent legislation, a digital first sale would not be possible with NFT technology); Davis Wright Tremaine LLP, *Copyright’s “Double Spend” Problem: Digital First Sales*, JD SUPRA (Apr. 29, 2016), <https://www.jdsupra.com/legalnews/copyright-s-double-spend-problem-22855/> [<https://perma.cc/VS6Q-C2AD>] (concluding that blockchain alone “cannot solve copyright’s first sale doctrine problem for digital copies”).

179. See Fisher, *supra* note 178, at 3 (“[T]he very act of a *copy* of a work being added onto a blockchain ledger renders a digital first sale impossible.”); Davis Wright Tremaine LLP, *supra* note 178 (noting that, currently, blockchain cannot allow transfer of a digital file without making a copy); see also Tom Kulik, *Why Blockchain Is No Panacea for the Digital First Sale Doctrine (For Now)*, ABOVE THE L. (Sept. 25, 2018, 11:48 AM), <https://abovethelaw.com/2018/09/why-blockchain-is-no-panacea-for-the-digital-first-sale-doctrine-for-now/> [<https://perma.cc/NEY5-FPY5>] (stating that using the blockchain would violate the reproduction right because a copy of the work has to be written into the blockchain).

180. See Shaverdian, *supra* note 172; Fisher, *supra* note 178.

181. See U.S. COPYRIGHT OFF., *supra* note 17, at xix (“The tangible nature of a copy is a defining element of the first sale doctrine and critical to its rationale.”); see also Capitol Records, LLC v. ReDigi Inc., 910 F.3d 649, 664 (2d Cir. 2018).

defense to digital transfers when Congress has declined to do so, and thus, the “sound policy” is for Congress to address the possibility of the first sale doctrine’s expansion, in light of new technology that may or may not have changed the marketplace for copyrighted works.¹⁸²

The need for Congress to amend the law has led to proponents of the first sale doctrine’s expansion to argue that a statutory amendment should address both the distribution and reproduction right.¹⁸³ In other words, proponents argue that, because a reproduction of a digital copy is inevitable, the law should embrace its reproduction. These arguments for statutory amendment are rooted in policy perspectives that this Note will analyze in Part II.B. There have been efforts to amend § 109 that include, most notably, two 2003 proposed bills that never left the U.S. House Committee on the Judiciary. The Benefit Authors Without Limiting Advancement or Net Consumer Expectations Act¹⁸⁴ (the “BALANCE Act”) would have amended § 109 to allow the owner to transmit a digital copy to a recipient as long as the owner did not retain their copy.¹⁸⁵ The Digital Media Consumers’ Rights Act of 2003¹⁸⁶ would have allowed the circumvention of technological measures that prevent copying as a fair use exception if the circumvention did not constitute copyright infringement.¹⁸⁷ Other legal commentators have proposed amendments, including embracing the reproduction of a copy as fair use¹⁸⁸ and enacting a statutory exemption that is applicable during a digital transfer.¹⁸⁹ The latter proposal is highlighted by another proposed bill

182. *Capitol Records, LLC v. ReDigi Inc.*, 934 F. Supp. 2d 640, 660–61 (S.D.N.Y. 2013) (“[S]ound policy, as well as history, supports [the Court’s] deference to Congress . . . [H]ere, the Court cannot of its own accord condone . . . application of the first sale defense to the digital sphere, particularly when Congress itself has declined to take that step.” (second alteration in original)).

183. *See* U.S. COPYRIGHT OFF., *supra* note 17, at 87; *see also* TRISTAN CAVADAS, WHO FIGHTS FOR THE USERS?: A LOOK AT THE FIRST SALE DOCTRINE AND WHY IT SHOULD APPLY IN THE DIGITAL WORLD (2012), https://scholarship.shu.edu/cgi/viewcontent.cgi?article=1091&context=student_scholarship [<https://perma.cc/6ND6-AS8H>].

184. H.R. 1066, 108th Cong. (2003).

185. *See* H.R. 1066 § 4 (proposing that the owner of a copy of a copyrighted work in a digital format be allowed to “sell[] or otherwise dispose[] of the work by means of a transmission to a single recipient”). The bill would have also made nonnegotiable license terms unenforceable and would have amended the DMCA anticircumvention provisions to allow a lawful owner of a digital copy to circumvent technological protection measures. *See id.* § 5.

186. H.R. 107, 108th Cong. (2003).

187. *See* H.R. 107 § 5. Like the BALANCE Act, the Digital Media Consumers’ Rights Act would have also allowed for the circumvention of technological measures that would have prevented copying, but in the form of a fair use exception. *Id.* § 5(b)(1).

188. Kimberly A. Condoulis, *Let Me Sell My Song!: The Need for a Digital First Sale Doctrine Amendment to the Copyright Act*, 22 B.U. J. SCI & TECH. L. 121, 139 (2016) (arguing that the Copyright Act may already hold an exception to the reproduction right, particularly through the fair use exception, when selling digital media); *see also* *Capitol Records, LLC v. ReDigi Inc.*, 934 F. Supp. 2d 640, 653 (S.D.N.Y. 2013). Defendants tried to argue that the fair use exception should apply, but the court ultimately rejected the argument because ReDigi did not meet the four factors. *Id.*

189. Condoulis, *supra* note 188, at 146 (proposing a statutory amendment that allows for the necessary reproduction that occurs through a digital transfer, requires that only a single copy should survive the transfer, and provides that a “buffer period” be available for owners

in 1997, entitled the Digital Era Copyright Enhancement Act,¹⁹⁰ proposed to amend § 109 so that the first sale doctrine would apply to a lawful owner that transfers a particular copy in a digital format as long as that person destroys the copy at “substantially the same time.”¹⁹¹ It also added that any *necessary* reproduction of the work would not constitute an infringement.¹⁹²

Although a string of bills addressing the reproduction issue in the United States have never left the House Committee on the Judiciary, the European Union’s Copyright Directive allows for such reproduction, but only if temporarily and for a noneconomic purpose.¹⁹³ Article 5(1) of the Copyright Directive states that *temporary* acts of reproduction will be exempted from the reproduction right if (1) they are transient or incidental, (2) they are an integral and essential part of a technological process, and (3) their sole purpose is to enable a lawful use that does not have independent economic significance.¹⁹⁴ For example, these requirements are fulfilled when someone simply plays a song on their personal computer, which involves the temporary copying of the work onto a device.¹⁹⁵ Article 5(2) then lists certain circumstances in which article 5(1) may apply, such as in the cases of reproductions made by public libraries and museums, as well as reproductions broadcast for noncommercial purposes.¹⁹⁶ In 2019, the European Union’s Directive 2019/790 amended this section, mandating that the exception apply to digital transfers of works solely for the purpose of teaching or in noncommercial uses.¹⁹⁷ The mandate is premised on the conditions that the transfer be done through a “secure electronic environment” and that the source and author’s name are provided.¹⁹⁸

to encode their digital copies with “anti-copy protection”); *see also* Digital Era Copyright Enhancement Act, H.R. 3048, 105th Cong., § 4 (1997); Monica L. Dobson, *ReDigi and the Resale of Digital Media: The Courts Reject a Digital First Sale Doctrine and Sustain the Imbalance Between Copyright Owners and Consumers*, 7 AKRON INTELL. PROP. J. 179, 208–09 (2015) (proposing an amendment to § 109 that would enable a digital transfer to take place as long as such transfer is made through software that ensures that the seller does not retain a copy after the transfer).

190. H.R. 3048.

191. *See id.* § 4.

192. *Id.* (“The authorization for use set forth in subsection (a) applies where the owner of a particular copy or phonorecord in a digital format lawfully made under this title, or any person authorized by such owner, performs, displays or distributes the work by means of transmission to a single recipient, if that person erases or destroys his or her copy or phonorecord at substantially the same time. The reproduction of the work, to the extent necessary for such performance, display, distribution, is not an infringement.”).

193. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, *supra* note 142, pmb. 33.

194. *Id.*

195. *See* Feiler, *supra* note 158, at 10.

196. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, *supra* note 142, art. 5(1)(c), (e).

197. *See* Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on Copyright and Related Rights in the Digital Single Market and Amending Directives 96/9/EC and 2001/29/EC, 2019 O.J. (L 130) 92, pmb. 20 (EU).

198. *See id.* art. 5(1)(a)–(b).

However, the exception applies to copies made through digital transfers—it does not apply to a creation of a *permanent* copy, especially if the purpose is to resell it. Although the CJEU did not address this issue in *Oracle*, Feiler argues that transferring permanent copies could meet the requirements for exemption, especially if a reproduction is a “technical necessity” for a digital transfer, and an “immediate deletion of the [original] copy” is similar to the “creation of a temporary copy.”¹⁹⁹ Thus, Feiler argues that article 5(1) should apply to digital transfers because the brief coexistence of the original copy and new copy essentially equate to a temporary act as defined under article 5(1).²⁰⁰

There has been a heavy debate on whether the first sale doctrine includes digital transfers and whether the doctrine should be expanded to include such transfers. Such debate is rooted in the policies that drive the first sale doctrine and in the need to maintain the balance between the interests of copyright owners and consumers.

B. An Uneasy Balancing Act

Copyrighted works that are made available to the public are disseminated through tangible objects such as books, vinyl records, and DVDs.²⁰¹ Tangible copies are viewed as transferable.²⁰² An owner who sells or lends their vinyl record to a friend allows their friend to obtain access to the work.²⁰³ This distribution has allowed the alienability aspect of the first sale doctrine to apply in full effect and balances the interests of copyright owners and the public.²⁰⁴ Scholars and legal commentators have noted the benefits that underpin the doctrine, such as access, preservation, and privacy, among others.²⁰⁵ However, the digital landscape, especially with regard to NFTs and blockchain, is beginning to change the way in which works are disseminated. Professor R. Anthony Reese suggests that the first sale doctrine has had two important effects on access to works: (1) affordability and (2) availability.²⁰⁶ Professor Reese further notes that these fundamental effects should be especially considered when evaluating how the doctrine

199. Feiler, *supra* note 158, at 11.

200. *See id.*

201. *See* Reese, *supra* note 71, at 584.

202. *Id.*

203. *Id.*

204. *See id.* at 577 (stating that copyright law often considers the balance between providing authors with incentives to create and maximizing public access, and that the first sale doctrine embraces this idea); Perzanowski & Schultz, *supra* note 168, at 930 (noting that the “courts looked to . . . the necessity of balancing the interests of rights holders and the public” in analyzing the operation of the first sale doctrine).

205. *See id.* at 584 (stating that the first sale doctrine has had benefits to access due to increased affordability and availability); Sarah Reis, *Toward a “Digital Transfer Doctrine”?: The First Sale Doctrine in the Digital Era*, 109 Nw. U. L. REV. 173, 189 (2015) (noting that “[s]cholars have identified access, preservation, privacy, and transactional clarity as benefits”); Perzanowski & Schultz, *supra* note 168, at 894–97 (noting the benefit of access and adding that two additional benefits of the first sale doctrine are innovation and platform competition).

206. *See* Reese, *supra* note 71, at 578.

should interact with technological advancements.²⁰⁷ However, owners and legal commentators are particularly concerned with piracy and how that might affect access.²⁰⁸ Further, scholars question the rivalrousness of digital copies in the marketplace, and whether they may undermine or promote the doctrine.²⁰⁹ As this Note explores the intersection of the first sale doctrine and the emergence of NFT technology, this section discusses the access policy and the common-law concept of tangibility and rivalrousness within the digital market.

Part II.B.1 analyzes the doctrine's policy of access, including its fundamental effects on availability and affordability, as well as the digital piracy concerns that may affect access. Part II.B.2 evaluates the common-law concept of tangibility and the economic concept of rivalrousness.

1. Access

A first sale enhances the affordability and availability of copyrighted works because it facilitates the work's entry into secondary markets, thereby allowing for lawful copies to be distributed without the copyright owner's permission.²¹⁰ Secondary markets such as bookstores and record stores benefit the public because they allow someone who could not otherwise afford a full-priced copy of a copyrighted work to obtain a cheaper, used copy of the work instead.²¹¹ Secondary markets and the first sale doctrine promote affordability because they pressure copyright owners to price-distinguish their works and distribute them through various channels.²¹² They also increase availability because it allows for a greater opportunity for consumers to purchase a copy of the work; whether it may be someone who can only purchase a used copy for a lower price or someone who is willing to buy a new copy so that they may resell it.²¹³ Thus, a work's entry into secondary markets balances the consumers' interest in public access against the copyright owners' interest in controlling dissemination of their work after the first sale.²¹⁴ However, as digital marketplaces become more commonplace, there are increasing concerns of piracy as a large risk that may undermine this balance, harming copyright owners' interests and exceeding copyright law's fundamental purpose of promoting the creation of new works.²¹⁵

207. *Id.* ("The impact on . . . affordability and availability . . . should be a primary focus as we monitor . . . technological change.")

208. *See* Reis, *supra* note 205, at 184; U.S. COPYRIGHT OFF., *supra* note 17.

209. *See* Reis, *supra* note 205, at 184; U.S. COPYRIGHT OFF., *supra* note 17; Capobianco, *supra* note 172, at 409–12 (discussing how piracy can control the digital market and how an intangible good can be a rival good).

210. Perzanowski & Schultz, *supra* note 168, at 894; *see also* Reis, *supra* note 205, at 189 ("The broad concept of access can be broken into two components: affordability and availability.")

211. Reis, *supra* note 205, at 189.

212. Perzanowski & Schultz, *supra* note 168, at 894.

213. *See* Reese, *supra* note 71, at 586–87.

214. *See* Reis, *supra* note 205, at 189–90.

215. *See id.* at 194.

Owners and creators argue that a digital first sale doctrine would limit their control over how they present their digital content and therefore disturb the creation of new works.²¹⁶ Digital files may be exchanged more freely than tangible objects, thereby increasing the risk of piracy.²¹⁷ It is much easier for a copyright owner to assert control over a physical copy of a book intended for one person's use than it is for them to assert control over a digital copy.²¹⁸ The near-zero cost of reproducing a digital copy is also a concern for owners and creators, as it harms their ability to control the proliferation of unauthorized copies in the market.²¹⁹

However, scholars in favor of expansion counter that piracy would actually decrease with a digital first sale doctrine, pointing to the unique manner in which a digital market behaves.²²⁰ In a digital market, they argue, because there are "no legal means" of digital transfer, some users resort to piracy in order to share their files with other users.²²¹ As a result, users infringe on both the owners' distribution and reproduction rights.²²² Creators suffer from a loss of revenue due to piracy, and some believe that if a digital first sale doctrine were to exist, piracy would decrease because users would have the "option to purchase digital content at cheaper prices" through a legitimate digital secondary market.²²³ If customers know that they are able to resell their digital files, they may be more likely to pay full price for new content.²²⁴ Thus, it can be inferred that a digital first sale doctrine may mitigate piracy concerns, keeping the doctrine's pillar of access and its beneficial effects for consumers in place.

2. Tangibility and Rivalrousness

Another difficulty in expanding the first sale doctrine arises from the concepts of rivalrousness and tangibility. "Rivalrousness" is an economic term that refers to the ability or inability for several people to simultaneously consume a good.²²⁵ For example, a tangible item, such as an apple, is a purely rival good because only one person can consume it.²²⁶ A tangible item such as a book can also be viewed as a rival good because typically, only one person can use the book at any one time. Rivalrousness has been viewed as a characteristic that must be present in order for the first sale doctrine to apply.²²⁷ A typical digital file is viewed as nonrivalrous because

216. *See id.*

217. *Id.* at 195.

218. *See* Capobianco, *supra* note 172, at 412.

219. *Id.* at 413.

220. Reis, *supra* note 205, at 188–89 (stating that Professor Clark D. Asay explained that a digital first sale doctrine would decrease piracy because consumers would be able to lawfully purchase from legitimate secondary markets instead of having to resort to illegal options).

221. *See id.* at 188.

222. *See id.*

223. *Id.* at 188, 193.

224. *Id.* at 193.

225. Capobianco, *supra* note 172, at 409.

226. *See id.*

227. *See id.*; Shaverdian, *supra* note 172.

of how easily it can be copied and widely shared with people.²²⁸ If consumers were to obtain a copy in a digital secondary marketplace with no difference in quality, then consumers would be less inclined to purchase new copies.²²⁹

However, proponents counter that digital copies can be rivalrous in some circumstances and thus, should not be excluded from the doctrine.²³⁰ Through emerging technology like blockchain, it is possible to create scarcity for each file, and intangible files could be made rivalrous.²³¹ A digital creator could limit the total number of copies distributed and limit future use.²³² Thus, proponents argue that conceiving the first sale doctrine as founded on the tangible-intangible distinction is antiquated and that emphasizing rivalrousness, not tangibility, would better balance copyright owners' interests with that of consumers.²³³

III. INTRODUCING NFTS AND TEMPORARY REPRODUCTION

NFTs have moved beyond the forward-and-delete technology that the Copyright Office and the *ReDigi* court have contemplated over the years. Blockchain capabilities have enabled copyright owners and creators to create scarcity and authenticity in a digital market.²³⁴ The birth of a digital secondary ecosystem provides increasing support for the contention that NFTs and other emerging technology can promote the policies of the first sale doctrine, protecting both copyright owners' and consumers' interests.²³⁵ Such behavior in the market may promote the most fundamental principle of all principles in copyright law—"promot[ing] the Progress of Science and useful Arts."²³⁶

This part argues that, with the rise of NFTs, it is an appropriate time for Congress to readdress the first sale doctrine by amending § 109 to expressly apply to digital transfers. Part III.A addresses what this Note views as a fundamental challenge to the first sale doctrine—that NFTs do not foreclose the inevitable reproduction of a digital copy. In light of this, this Note suggests adopting the CJEU's perspective on the reproduction of digital copies as embodied in *Oracle*. Part III.B argues that because Congress and the courts have analyzed the doctrine's applicability to digital copies with the expectation that they behave like physical copies, they ignore the principles and benefits that emerging technology can bring to the doctrine. Therefore, Part III.C proposes amending § 109 to include a new subsection, § 109(f), that expressly allows the doctrine to apply to digital transfers with a temporary reproduction exception.

228. Capobianco, *supra* note 172, at 409.

229. Reis, *supra* note 205, at 195.

230. Capobianco, *supra* note 172, at 409; Shaverdian, *supra* note 172.

231. *See* Shaverdian, *supra* note 172.

232. Capobianco, *supra* note 172, at 410.

233. *See* Shaverdian, *supra* note 172.

234. *See supra* Part I.A.3.

235. *See supra* Part II.B.

236. U.S. CONST. art. I, § 8, cl. 8.

A. Rethinking a Digital Copy's Reproduction

NFTs may *alleviate* the concern of reproducing many copies during subsequent digital transfers; however, it is important to clarify that a copy is still reproduced at least once with an NFT. This reproduction occurs when the copy is about to be minted on the blockchain for the first time and thus, falls outside the first sale doctrine's scope.²³⁷ As this Note discussed earlier, § 109 only allows for a defense to the copyright owner's distribution right and not the reproduction right.²³⁸ For example, when User A decides to mint an NFT of their digital file for the first time, they have to upload their digital copy that is currently saved in their computer to the NFT marketplace.²³⁹ Uploading the file would result in reproducing a copy of the file.²⁴⁰ Therefore, for a moment in time, there would essentially be two digital copies in existence: one in User A's computer and one that has been minted into the NFT. It is not until User A transfers the NFT (that is linked to the digital copy) through a sale to User B that the digital copy takes on the NFT's non-fungibility and immutability.²⁴¹ However, this still leaves the first copy in User A's computer: Would User A immediately delete their copy once they have minted a new copy as an NFT?²⁴² Would they have to certify that they would no longer use the original copy? Would an NFT marketplace have to implement a system similar to ReDigi's, which would prompt User A and other minters to delete their local file so that the only surviving copy is the one that was minted as an NFT?²⁴³ These questions would have to be answered in order to determine whether NFTs could completely avoid the reproduction issue in a way that the current scope of the first sale doctrine does not. As it most likely does not, then the next question, and perhaps the most critical one, is whether the first sale doctrine *should* allow for a reproduction of a copy and, if so, under what parameters.

The *Oracle* court and the European Union's Copyright Directive seem to answer these questions by allowing for the reproduction of a digital copy, albeit temporarily and only when necessary. *Oracle* expanded the European

237. *See supra* note 179 and accompanying text.

238. *See supra* note 97 and accompanying text.

239. This example assumes that User A is the lawful copyright owner of the digital file. This Note clarifies that those who are unauthorized to mint a copyrighted work would not be able to use the first sale defense.

240. *See supra* note 179 and accompanying text; *Capitol Records, LLC v. ReDigi Inc.*, 934 F. Supp. 2d 640, 655 (S.D.N.Y. 2013) (finding that a digital file was reproduced when it was fixed on the ReDigi server).

241. The minted digital copy is subject to piracy and hacking as well. Although the NFT becomes a digital certificate to the copy, the copy is located outside of the blockchain. When one purchases an NFT, the purchaser can access the digital copy through a URL link. If the link breaks or is taken down, the digital copy is at heightened risk of being accessed and reproduced by unauthorized users and hackers. This Note acknowledges that digital files are inevitably subject to piracy and hacking. *See Jacob Kastrenakes, Your Million-Dollar NFT Can Break Tomorrow If You're Not Careful*, THE VERGE (Mar. 25, 2021, 11:55 AM), <https://www.theverge.com/2021/3/25/22349242/nft-metadata-explained-art-crypto-urls-links-ipfs> [<https://perma.cc/UUL3-J4C5>].

242. *See supra* note 179 and accompanying text.

243. *See supra* note 177 and accompanying text.

Union's first sale doctrine on the three conditions that the owner had authorized the download of a copy, granted an ability to use the copy for an unlimited time period, and received payment for the copy.²⁴⁴ Although the CJEU does not explicitly mention reproduction in its opinion, its use of the word "download" embraces and follows article 5(1) of the Copyright Directive, which allows for temporary acts of reproduction as long as they are an "integral and essential" part of the process.²⁴⁵ Even though article 5(1) requires that the purpose of the download be a noneconomic one and that the new copy is not permanent, it can be argued that such acts of reproduction only occur so that it can allow for a different use—a resale under the first sale doctrine.²⁴⁶ Thus, it can be inferred that the directive embraces the digital copy's reproduction, as long as it is an essential part of the technological process and instills some responsibility to the sender to ensure that the reproduction is temporary.

As discussed earlier, the paradigm of placing responsibility on the sender to ensure that the reproduction of a copy is only temporary resembles the forward-and-delete models of which Congress and courts were skeptical.²⁴⁷ However, this is where emerging technologies like NFTs come into play. Secondary markets would not necessarily be in a position to remind User A to delete their original copy from their computer, but rather, would provide a verifiable mechanism that can prove, by virtue of the NFT's immutability, that once a particular copy is minted, the original copy in User's A computer is a mere result of a temporary act. Although this is not a perfect reconciliation, NFTs move the needle closer to preventing subsequent reproductions after minting.

If Congress and the courts maintain that the first sale doctrine should only exclude the distribution right, then it would likely be inapplicable to digital transfers. However, Congress should consider the fact that, through temporary acts of reproduction, emerging technology such as NFTs can promote the principles and benefits of the first sale doctrine.

B. Rebalancing in a Dynamic Digital Marketplace

At a time when NFTs and blockchain were not yet legally evaluated, the Copyright Office and the *ReDigi* court emphasized the difference between digital files and physical files in their analyses of whether a balance between the interests of copyright owners and consumers can be maintained in the context of digital transfers.²⁴⁸ They concluded that § 109(a) cannot apply because a digital copy's intangibility and its inability to degrade are important barriers.²⁴⁹ This Note argues that a formalist reading of the doctrine would never allow for digital transfers to participate in the doctrine,

244. See *UsedSoft GmbH v. Oracle Int'l Corp.*, 2012 E.C.R. 407, ¶ 88 (Eur.).

245. See *supra* note 194 and accompanying text.

246. See *supra* notes 198–99 and accompanying text.

247. See *supra* note 99 and accompanying text.

248. See *supra* notes 82–88, 132–33 and accompanying text.

249. See *supra* notes 107–10, 132–33 and accompanying text.

because a digital copy would never be tangible nor degrade like a physical copy. Rather than focusing on the differences between physical and digital copies, however, Congress and the courts should rebalance the dynamic between owners and consumers by considering how digital copies have been able to behave in the marketplace. Such a consideration would reveal that a first sale doctrine can continue to foster the balance between the interests of copyright owners and consumers in a growing digital market.

The main overarching policy of the Copyright Act is “to promote the Progress of Science and useful Arts.”²⁵⁰ However, the Copyright Office ignored this purpose when considering an expansion of the first sale doctrine, reasoning that the policy applied to the *entire* Copyright Act and not to particular provisions that have “more precise purposes.”²⁵¹ However, other copyright limitations, such as the fair use doctrine, have been known to consider the balance of the copyright owner’s interest and the consumer’s interest while preserving the act’s purpose.²⁵² It should follow that this policy would apply to all provisions under the Copyright Act, including the first sale doctrine.

As this Note discussed earlier, the first sale doctrine is based on the common-law rule that an owner’s right to alienability of physical property should not be restrained.²⁵³ Congress argued that, with digital transfers, an owner is not exercising their dominion over tangible property and thus, the owner’s right to alienability could not be restrained.²⁵⁴ Both Congress and the *ReDigi* court further stated that the doctrine applies to only tangible objects, and that tangibility is a defining element.²⁵⁵ With digital files, new and old copies are indistinguishable and would prevent perfect competition.²⁵⁶ Congress also stated that digital copies do not degrade like physical copies.²⁵⁷ Since digital copies can be easily replicated and do not degrade, some scholars have concluded that they could not be viewed as rivalrous goods.²⁵⁸ However, the comparison between a physical copy and a digital copy overlooks the nature of NFT technology and its effect on marketplace behavior.

250. U.S. CONST. art. I, § 8, cl. 8.

251. See U.S. COPYRIGHT OFF., *supra* note 17.

252. See Jessica Miendertsma, *Fair Use 101: Why Do We Need Fair Use?*, OHIO ST. UNIV. LIBR. (Feb. 17, 2014), <https://library.osu.edu/site/copyright/2014/02/17/fair-use-101-why-do-we-need-fair-use/> [<https://perma.cc/33ML-HWS7>] (stating that fair use “provides an important exception . . . that helps to balance the interests of creators and the public good” and, without copyright exceptions, it would be expensive and tedious to conduct everyday activities); HARV. UNIV. OFF. OF THE GEN. COUNS., COPYRIGHT AND FAIR USE: A GUIDE FOR THE HARVARD COMMUNITY 8 (2016), https://ogc.harvard.edu/files/ogc/files/ogc_copyright_and_fair_use_guide_5-31-16.pdf [<https://perma.cc/CUQ4-443L>] (stating that the fair use doctrine “helps prevent a rigid application of [the] law that would stifle creativity”).

253. See *supra* note 102 and accompanying text.

254. See *supra* note 105 and accompanying text.

255. See *supra* notes 110, 129 and accompanying text.

256. See *supra* notes 108–09, 132–33 and accompanying text.

257. See *supra* note 108 and accompanying text.

258. See *supra* note 227 and accompanying text.

An NFT's immutability and non-fungibility allow for the verification and ownership of a specific digital copy.²⁵⁹ If the first sale doctrine were to apply to digital transfers, the owner's right to alienate those copies would be restrained.²⁶⁰ The copyright owner would then be exercising their distribution right *and* their reproduction right.²⁶¹ As this Note stated earlier, an owner exercises their reproduction right because a new copy is reproduced when they mint an NFT. If the restraint on a copyright owner's right to alienate digital copies is the same as the restraint on the right to alienate physical copies, the copy's tangibility should be less relevant in determining the doctrine's applicability.

The *Oracle* court advised against a formalist reading of article 4(2) of the Computer Programs Directive in order to avoid partitioning the markets.²⁶² The same reasoning should apply to a formalist reading of the Copyright Act and § 109, under which many have emphasized that a copy's tangibility is important.²⁶³ The Copyright Act was amended in 2021 to allow for copies to be fixed in a tangible medium "now known or later developed."²⁶⁴ Section 109 does not create a separate requirement for all copies to be tangible. Decades ago, a copy's tangibility may have been a more relevant, distinguishing point used to determine the doctrine's applicability, but that may no longer be the case as blockchain and NFT technology continue to emerge. If Congress and the courts hold onto the tangibility element with the same rigor as they did years ago, then there will be a partition in the physical and digital market. This could be an unfavorable result for both copyright owners and consumers in an era where consumption has become increasingly digital.

Although digital copies do not age and degrade like physical copies do, it is possible to differentiate between old and new digital copies, which would allow them to be rival goods in competition with each other.²⁶⁵ NFTs enable copyright owners to limit the number of copies they create and promote scarcity in the digital marketplace.²⁶⁶ NFTs' non-fungible and immutable characteristics allow for owners to assign specific values to copies and to differentiate among those copies.²⁶⁷ Although digital copies may not be distinguished by scratches and ripped pages, NFTs can verify older and

259. *See supra* note 50 and accompanying text.

260. *But see supra* notes 105–06 and accompanying text.

261. *See supra* note 106 and accompanying text.

262. *See supra* notes 162–63 and accompanying text; *see also* Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, *supra* note 142, art. 4(2).

263. *See supra* note 110 and accompanying text.

264. *See supra* note 74 and accompanying text; *see also* 17 U.S.C. § 102(a).

265. *See supra* Parts II.B.1–2.

266. *See supra* notes 55, 230–31 and accompanying text; *see also* Rony Roy, *Why Do People Buy NFTs?*, CRYPTOWRITER (Oct. 31, 2021), <https://crypto.writer.io/p/why-do-people-buy-nfts> [<https://perma.cc/XFF3-4UX6>] (stating that artists normally issue a small number of limited-edition NFTs for sale, and consumers are willing to pay more for limited-edition items).

267. *See supra* Parts I.A.1–2.

newer copies, either through the information that an owner embeds into its smart contract or by the verifiable chain of title that accompanies the NFT. Thus, NFTs enable digital copies to be rivalrous and participate in competition even if they are intangible or not subject to degradation. It is possible that the distinction between tangible and intangible copies will become increasingly irrelevant as technology becomes better able to mimic a physical copy.

However, the concerns of digital piracy and the copyright owner's lack of control due to a digital copy's easy reproduction are valid.²⁶⁸ Copyright owners have every right to be concerned about this harm to their interests. Although applying the first sale doctrine to digital transfers would benefit consumers' interests by enhancing their access,²⁶⁹ it would also benefit copyright owners because it will likely decrease digital piracy. NFTs can alleviate piracy concerns because a specific digital copy's ownership information is made permanent on the blockchain and cannot be easily tampered with.²⁷⁰ This allows copyright owners to maintain control over their digital files and the files' movement in the marketplace. Consumers would be less likely to engage in piracy because they have the option to purchase digital copies at a cheaper price from a legitimate secondary marketplace.²⁷¹ If consumers know that they have the lawful right to resell a digital copy, they may be more inclined to pay for the full-priced copy.²⁷² This is particularly true with NFTs, which can initially sell from low to extremely high prices.²⁷³ Consumers are more likely to purchase NFTs at full price because they know they can resell it for a possibly even higher price.²⁷⁴

Since there is currently no legal framework for the resale of digital copies, other than that provided by licensing agreements, piracy is likely to continue because consumers only have the option to pay for full-priced digital

268. See *supra* notes 215–17 and accompanying text.

269. See *supra* notes 209–13 and accompanying text.

270. See *supra* Part I.A.2. But see *supra* notes 222–23 and accompanying text.

271. See *supra* notes 222–23 and accompanying text.

272. See *supra* notes 221–23 and accompanying text.

273. See Scott Reyburn, *JPG File Sells for \$69 Million, as 'NFT Mania' Gathers Pace*, N.Y. TIMES (March 11, 2021), <https://www.nytimes.com/2021/03/11/arts/design/nft-auction-christies-beeple.html> [<https://perma.cc/69MN-QJ7C>] (stating that Beeple's artwork has sold for \$69.3 million and Jack Dorsey's tweet has sold for \$2 million); Eileen Kinsella, *Think Everyone Is Getting Rich off NFTs?: Most Sales Are Actually \$200 or Less, According to One Report*, ARTNET NEWS (Apr. 29, 2021), <https://news.artnet.com/market/think-artists-are-getting-rich-off-nfts-think-again-1962752> [<https://perma.cc/KC9X-YH8S>] (stating that the "average sale" price suggested by the most popular NFT sites" ranges from \$2,000 to \$5,800, but noting that an analyst found that "[m]ore than 50 percent of all recorded sales were under \$200").

274. *People Are Flipping NFTs for Profit—How Do You Resell NFTs?*, LA STARTUPS (Apr. 13, 2022), <https://www.lastartups.com/people-are-flipping-nfts-for-profit-how-do-you-resell-nfts/> [<https://perma.cc/2HTM-D92E>] (noting that "most people buy an NFT at its current price based on how they believe it will appreciate over time"). As this Note discussed earlier, the copyright owner would have to expressly allow for the consumer to resell the copy. If the NFT sale takes the form of a license agreement, then the consumer may not resell it.

copies.²⁷⁵ Digital piracy disturbs both the owner's distribution and reproduction rights.²⁷⁶ This undoubtedly affects the balance between copyright owners' interests and consumers' interests, where a copyright owner's exclusive rights are implicated to a larger degree in the digital marketplace. Further, piracy without a digital first sale may even harm the act's purpose of promoting science and the arts, because owners and creators may feel less inclined to create works in the digital market.

It is important for Congress and the courts to consider how technology has altered digital copies and their behavior in the market. Not only have NFTs gone beyond forward-and-delete technology, but they have also allowed owners to distinguish between their digital works to create scarcity and value. Applying the first sale doctrine to digital transfers would maintain the balance between the copyright owners' interests and the consumers' interests. However, there will need to be legislative or judicial intervention for the first sale doctrine to apply, specifically by allowing for the reproduction of a digital copy.

C. The Temporary Reproduction Exception: § 109(f)

NFTs have gone beyond the forward-and-delete technology that Congress first considered over twenty years ago, but reproduction of a copy still occurs at least once with NFTs.²⁷⁷ For the first sale doctrine to fully apply to digital transfers, the copyright owner's reproduction right will have to be limited through either legislative or judicial intervention.²⁷⁸ This Note argues that legislative intervention would be the appropriate course of action because the doctrine will need to be amended to limit the distribution right. Further, courts have deferred evaluating the doctrine's application to digital transfers for Congress to decide.²⁷⁹

This Note proposes that § 109 be amended to expressly allow for the first sale doctrine to apply to digital transfers under the condition that any necessary reproduction of the copy is temporary.²⁸⁰ Such a transfer should occur through a secure electronic environment to ensure that the owner no longer retains the original copy after the transfer has been completed.²⁸¹ The amendment should add a new subsection, § 109(f), that reads as follows:

The authorization for use set forth in section 109(a) shall apply to the lawful owner of a particular copy or phonorecord who transfers such a copy to a recipient by means of a digital transmission. Such a transmission that involves the reproduction of a copy shall not constitute infringement if (1) it is a necessary reproduction and an essential part of the technological process, (2) it is made under a technological process that ensures that only the particular copy survives the transfer, and (3) such transmission is made

275. *See supra* notes 220–23 and accompanying text.

276. *See supra* notes 220–23 and accompanying text.

277. *See supra* Part III.A.

278. *See supra* Part III.A.

279. *See supra* notes 178, 182 and accompanying text.

280. *See supra* notes 193–94 and accompanying text.

281. *See supra* notes 197–98 and accompanying text.

through a secure electronic environment where the platform and author's name are provided.²⁸²

A proposed amendment such as this one may not be a perfect solution to the challenges that this Note has previously discussed, especially since NFTs have only existed for several years.²⁸³ Some may argue that there is a chance that an owner might fail to delete their original copy once another copy has been minted into an NFT. Also, the amendment still leaves room for copyright owners to contract out of the first sale doctrine through licensing contracts.²⁸⁴ Many may choose to continue to do so, especially if consumers show an indifference to paying for a license to use digital content. However, the rise of NFTs may result in a thornier situation when a copyright owner transfers ownership of the digital file but expressly indicates that the consumer is to only have a license. This may confuse a consumer who purchases the NFT with the expectation that they are able to resell it, which is becoming a common industry practice.²⁸⁵ Congress may then have to define what constitutes a "sale" under § 109, as the European Union has done in its Copyright Program Directive.²⁸⁶ The CJEU in *Oracle* stated that the doctrine could not be circumvented by owners calling transactions licenses, even when they meet the requirements to be considered a sale.²⁸⁷ This method is currently employed in American copyright law and an amendment such as this one may intensify this issue.²⁸⁸

However, a legislative intervention could alleviate potential liabilities and reduce copyright litigation that is likely to occur in an NFT environment. Such an amendment would provide a clear guide for the courts, copyright owners, and consumers when navigating resale in a blockchain and NFT world.

CONCLUSION

As NFTs and blockchain technology continue to evolve, there will be increasing pressure for either legislative or judicial intervention to determine whether the first sale doctrine may be applied to digital transfers. NFTs

282. *See supra* notes 189–92 and accompanying text. This amendment can be referred to as the "Digital First Sale Doctrine" or the "Digital Transfer Doctrine." However, this Note argues that "Digital Transfer Doctrine" may be more appropriate, as the first sale doctrine currently applies to digital works fixed in tangible mediums but not to digital transfers. *See supra* note 92 and accompanying text.

283. This Note acknowledges that the proposed amendment would further promote the use and resale of NFTs. Other criticisms of this amendment may be based on disfavoring the use of NFTs, such as environmental concerns, anti-money laundering practices, and data privacy issues. These criticisms are valid and should be taken under consideration when amending a law that may further promote these practices. *See 9 Legal Issues That Stand Behind NFTs*, OPENGEEKSLAB, <https://opengeekslab.com/blog/legal-issues-nfts/> [<https://perma.cc/6CP4-5WBS>] (last visited Oct. 7, 2022).

284. *See supra* note 84 and accompanying text.

285. *See supra* Part I.A.3.

286. *See supra* notes 149–50 and accompanying text.

287. *See supra* note 148 and accompanying text.

288. *See supra* note 85 and accompanying text.

present unique characteristics in the marketplace that are distinct from the forward-and-delete solutions that have been presented thus far. Although the legal analysis of NFTs is in its early stages, it is imperative that NFTs' immutable and non-fungible characteristics are carefully considered when analyzing the doctrine's common-law and fundamental principles. NFTs and other emerging technology present the unique opportunity to decrease a digital copy's reproductions, promote access, decrease piracy, and allow intangible copies to flourish as competing goods.²⁸⁹

Thus, Congress should consider the European Union's model of allowing for the doctrine to apply to digital transfers by embracing a necessary and temporary act of reproduction. An amendment—adding § 109(f)—will expressly codify the doctrine's applicability to digital transfers within set parameters and, as a result, continue to promote the fundamental balance between the interests of copyright owners and consumers in the digital marketplace.

289. *See supra* Part III.B.