"ARE APPS PRODUCTS?": CONSUMER SOFTWARE AND PRODUCTS LIABILITY

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ABSTRACT

Products liability law is unclear on whether apps are products. Trial courts are faced with an increasing number of products liability cases brought against companies that create apps offering a blend of technology, content, and services. Without guiding authority, trial courts inconsistently conclude that apps are or are not products. Although many scholars have posed products liability as a mechanism to promote safety in the development of emerging digital technology such as autonomous vehicles and AI, the threshold question of whether software is a product and remains unanswered.

The court in *In re Social Media Adolescent Addiction/Personal Injury Products Liability Litigation* sought to streamline the analysis of whether an app is a product by looking at functionality within the app rather than the app as whole. To further promote administrability and consistency, this Note advocates extending *In re Social Media*'s framework: an app or a feature should be considered a product when it has a user experience or user interface intended for consumer use.

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I. INTRODUCTION

For many of us, consumer apps, such as TikTok, Facebook, and ChatGPT, are part of daily life. Given the digital nature of apps, it seems far-fetched that they could hurt us. Unfortunately, we are beginning to see the tangible and nefarious harms that apps can pose to society and especially to children. In October 2024, fourteen-year-old Sewell Seltzer III used Character.ai's chatbot, became severely emotionally distressed, and then tragically took his own life.[1] The Seltzer family has since brought products liability claims against Character.ai for the defective design of its chatbot.[2] If the trial court assessed

1. Kevin Roose, *Can A.I. Be Blamed for a Teen's Suicide?*, N.Y. TIMES (Oct. 23, 2024), https://www.nytimes.com/2024/10/23/technology/characterai-lawsuit-teen-suicide.html.

2. Complaint, Garcia v. Character Techs., Inc., No. 6:24-CV-01903 (M.D. Fla. Oct. 22, 2024).

claims against Character.ai under traditional products liability law, the court could dismiss them because an AI chatbot is not a tangible product. The court could hold that Character.ai is not subject to products liability claims at all without addressing whether Character.ai's chatbot malfunctioned, had insufficient warnings, or lacked reasonable safety features.

Throughout American history, the law has confronted new technologies that endanger consumers. Motorized transportation is a safe and ubiquitous part of modern life, but trains and cars malfunctioned and injured citizens often when they first became available. To balance the benefits and risks of new transportation technology, courts created products liability law. As Judge Cardozo said in the 1916 landmark case *MacPherson v. Buick Motor Co.*, the principle that manufacturers of technology should be liable for harms caused by defects "does not change, but the things subject to the principle do change. They are whatever the needs of life in a developing civilization require them to be."[3]

This principle adapted over the past century to provide injured consumers relief from harm caused by anything from medical devices to power tools, water heaters, and more.[4] The next frontier is to apply products liability to consumer software. Many scholars believe that products liability should apply to software. For example, John Villasenor of the Brookings Institute stated, "if implemented with appropriate frameworks, products liability law represents an important mechanism to mitigate possible [AI] harms."[5] But, under the existing legal framework, consumer software is not neatly classifiable as a product. As opposed to a medication or mechanical device, which are canonically considered products under the existing products liability framework, consumer software often blurs the line between software's services and content. No American appeals court—state or federal—has directly addressed whether consumer software is a product for the purposes of products liability. Some international governments explicitly define when products liability applies to consumer software, such as AI.[6] However, the United States does not have a governance framework that guides courts on how to address products liability claims against consumer software. Based on

3. 217 N.Y. 382, 391 (1916).

4. *See* RESTATEMENT (SECOND) OF TORTS § 402A cmt. d (A.L.I. 1965).

5. John Villasenor, *Products Liability Law as a Way to Address AI Harms*, BROOKINGS (Oct. 31, 2019), https://www.brookings.edu/articles/products-liability-law-as-a-way-to-address-ai-harms/.

6. *See, e.g.*, TAMBIAMA MADIEGA, EUR. PARL. RSCH. SERV., ARTIFICIAL INTELLIGENCE LIABILITY DIRECTIVE (2023) (stating that the EU products liability directive applies to harm caused by AI-driven devices).

existing case law, the answer to the question of whether consumer software is a "product" under products liability is "remarkably unclear and unsettled."[7] As a result, trial courts struggle to determine when consumer software is a product and often reach inconsistent conclusions.

In a recent products liability case brought against social media companies for psychological harm, District Judge Yvonne Gonzalez Rogers offered a new approach.[8] In *In re Social Media*, the court analyzed whether social media apps were products overall and examined whether individual functionalities within the apps were products.[9] The court consolidated the common law requirements of a "product" into a multi-step inquiry that the court applied to the social media apps as a whole and to the accused functionalities within the apps.[10] The court concluded that certain features of social media apps—such as making it difficult for users to delete their accounts—were products for products liability purposes.[11] Multiple trial courts have since cited *In re Social Media*'s framework to determine that apps like Uber and Grindr are also products.[12]

The issue of whether consumer apps are products has not been addressed extensively in modern scholarship, leaving courts to engage in guesswork as to whether plaintiffs can sustain products liability claims against consumer software companies. In 1992, Michael R. Maule argued that the application of strict products liability to software would be desirable, but challenging because software is not neatly classifiable as a traditional product or service.[13] In 2018, Professor Karni Chagal-Feferkorn explored whether and when products liability law should apply to an autonomous system.[14] In 2022, Ian Wardell noted the active debate on whether artificial intelligence (AI) and machine

7. Ketan Ramakrishan, Gregory Smith & Conor Downey, *U.S. Tort Liability for Large-Scale Artificial Intelligence Damages*, RAND GLOB. & EMERGING RISKS 27 (2024).

8. *See In re* Soc. Media Adolescent Addiction/Pers. Inj. Prods. Liab. Litig., 702 F. Supp. 3d 809, 842–54 (N.D. Cal. 2023).

9. *Id.*

10. *Id.* at 842.

11. *Id.* at 849–54.

12. *See In re* Uber Techs., Inc., Passenger Sexual Assault Litig., 2024 WL 4211217 (N.D. Cal. Aug. 15, 2024) (holding that the Uber app was a product for the purposes of products liability because it was sufficiently analogous to tangible personal property); T.V. v. Grindr, LLC, 2024 WL 4128796 (M.D. Fla. Aug. 13, 2024) (holding that the Grindr app was a product for the purposes of products liability because plaintiff alleged harm from Grindr's app design choices and because Grindr was in the best position to prevent such harm).

13. Michael R. Maule, *Applying Strict Products Liability to Computer Software*, 27 TULSA L. REV. 735, 755 (1992).

14. *See generally* Karni A. Chagal-Feferkorn, *Am I an Algorithm or a Product? When Products Liability Should Apply to Algorithmic Decision-Makers*, 30 STAN. L. & POL'Y REV. 61 (2019).

learning (ML) are products or services, but did not analyze the issue extensively.[15] In 2023, Professor Nina Brown argued that chatbots powered by AI should be considered products for the purposes of products liability and examined how plaintiffs might bring a manufacturing defect, design defect, or failure to warn claims for defective chatbots.[16] In 2024, Retired Justice John G. Browning noted that courts are increasingly finding that products liability claims against social media and dating apps are not barred by § 230.[17]

Building on *In re Social Media*'s holding, this Note argues that a consumer app—or functionality within the app—is a product if it has a consumer-facing user interface or user experience. Part II summarizes the relevant historical and legal background of products liability law, the existing legal definitions of a "product," and how consumer software fits those definitions. Part III analyzes the *In re Social Media* framework for determining whether consumer software is a product and how it has been applied in other trial courts. Part IV analyzes the strengths and weaknesses of *In re Social Media*'s framework and suggests a modification that will further the policy goals of products liability law: determining whether an app or feature is a product by its user interface or user experience.

II. BACKGROUND

A products liability claimant must show that the allegedly defective object that injured them is a product, as opposed to a service or content.[18] Part II of this Note will examine the legal framework that determines whether consumer software is a product:[19] (A) an overview of products liability law, including its

15. *See generally* Ian A. Wardell, *Product Liability Applied to Automated Decisions*, SETON HALL L. STUDENT WORKS (2022).

16. *See generally* Nina Brown, *Bots Behaving Badly: A Products Liability Approach to Chatbot-Generated Defamation*, 3 J. FREE SPEECH 389 (2023).

17. *See generally* John G. Browning, *A Product by Any Other Name? The Evolving Trend of Product Liability Exposure for Technology Platforms*, 16 ELON L. REV. 181 (2024).

18. *See* Brooks v. Eugene Burger Mgmt. Corp., 215 Cal. App. 3d 1611, 1626 (1989).

19. Some scholars analyze the treatment of software as a "good" under Article 2 of the Uniform Commercial Code (UCC) to argue that software should be a product for the purposes of products liability. *See, e.g.*, Lori A. Weber, *Bad Bytes: The Application of Strict Products Liability to Computer Software*, 66 ST. JOHN'S L. REV. 469 (1992); Lawrence B. Levy & Suzanne Y. Bell, *Software Product Liability: Understanding and Minimizing the Risks*, 5 HIGH TECH. L.J. 1 (1990). This Note will not address Article 2 because cases that analyze whether software is a good under the UCC typically involve contracts for enterprise software. *See, e.g.*, RRX Indus. v. Lab-Con, Inc., 772 F.2d 543, 546 (9th Cir. 1985) (holding that a hybrid transaction for medical lab software was a contract for the sale of goods); Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737, 742–43 (2d. Cir. 1979) (holding that a hybrid transaction for an enterprise

historical roots and policy goals; (B) the legal definitions of a product under the Second and Third Restatements of Torts; (C) the scope of § 230 immunity in the context of products liability claims; and (D) the technical, business, and legal background of consumer apps.

A. PRODUCTS LIABILITY LAW

Under modern products liability law, a seller of products is liable for physical harm caused by a defective product.[20] A product is defective when it contains a manufacturing defect, design defect, or has inadequate instructions or warnings.[21] Section II.A (1) provides historical background on the innovation-driven purpose of products liability law; and (2) explains that products liability's policy goals are allocative efficiency, deterrence, and administrability.

1. The Historical Purpose of Products Liability Is to Balance Innovation and Safety

Products liability law is a policy-driven legal framework developed in response to technological change.[22] In the nineteenth century, the privity requirement mandated that a consumer had to have a contractual relationship with the manufacturer to sue the manufacturer for an injury caused by a defective product.[23] At the time the privity requirement was developed, goods were produced by consumers themselves, family members, or local craftsmen.[24] After the Industrial Revolution, manufacturers sent their goods to networks of distributors and retailers who in turn sold the products to consumers.[25] By the turn of the twentieth century, the privity requirement made it nearly impossible for consumers of defective products to sue manufacturers for injuries because consumers and manufacturers lacked direct

computer system was a contract for the sale of goods because the goods predominated the transaction).

20. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 1 (A.L.I. 1998).

21. *Id.* § 2.

22. *See* Donald G. Gifford, *Technological Triggers to Tort Revolutions: Steam Locomotives, Autonomous Vehicles, and Accident Compensation*, 11 J. TORT L. 71, 117 (2018).

23. *See* Winterbottom v. Wright, 152 Eng. Rep. 402, 405 (Ct. Exch. 1842) (holding that a plaintiff cannot sustain claims for negligent performance of a contract if the plaintiff lacks privity of contract with the defendant).

24. Gifford, *supra* note 22, at 116.

25. *Id.*; *see also* Escola v. Coca Cola Bottling Co., 24 Cal. 2d. 453, 467 (1944) (Traynor, J., concurring) ("As handicrafts have been replaced by mass production with its great markets and transportation facilities, the close relationship between the producer and consumer of a product has been altered.").

contractual relationships.[26] In response, courts abolished the privity requirement and instead concluded that a manufacturer owes a duty of care to consumers whenever its products are "reasonably certain to place life and limb in peril when negligently made," regardless of whether a contractual relationship existed.[27]

2. The Goals of Products Liability Are Allocative Efficiency, Deterrence, and Administrability

Products liability has three concurrent policy goals: allocative efficiency, deterrence, and administrability.[28] The allocative efficiency theory of products liability aims to place the burden of injury on the manufacturer, who is in a better position than an injured consumer to prevent accidents and spread costs.[29] By reallocating injury costs onto the manufacturer, products liability aims to replicate market functions and achieve a socially-optimal level of product accidents that rational consumers and manufacturers would bargain for.[30]

Second, the deterrence theory of products liability aims to incentivize manufacturers to place safe goods into the stream of commerce where the market fails to do so.[31] Product manufacturers have an informational advantage over consumers because they have more knowledge about product design, production, and potential alternatives.[32] Because it is often impossible for plaintiffs to know all the ways manufacturers are negligent, a negligence-only framework incentivizes manufacturers to bypass safety measures whenever doing so reduces costs.[33] In contrast, holding products manufacturers strictly liable for harm caused by their products prevents

26. Gifford, *supra* note 22, at 116.

27. *MacPherson v. Buick*, 217 N.Y. at 389.

28. *See* KEITH N. HYLTON, TORT LAW: A MODERN PERSPECTIVE 335 (2016); *Escola*, 24 Cal. 2d. at 464–68 (Traynor, J., concurring).

29. *See* John E. Montgomery & David G. Owen, *Reflections on the Theory and Administration of Strict Tort Liability for Defective Products*, 27 S.C. L. REV. 803, 809 (1976).

30. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. a (A.L.I. 1998) (stating that the goal of products liability is to "achieve optimal levels of safety in designing and marketing products"); MARSHALL S. SHAPO, SHAPO ON THE LAW OF PRODUCTS LIABILITY 7-42–43 (7th ed. 2017) (stating that the allocative efficiency rests on "the idea that rational, bargaining sellers and purchasers will achieve together the general level of accidents that is optimal").

31. *See* SHAPO, *supra* note 30, at 7–43 (noting that deterrence "does not necessarily imply an optimizing feature" and that some courts "would like to see an absolute reduction in the level of personal injuries, even if that level falls below what the market would support").

32. HYLTON, *supra* note 28, at 335.

33. *See id.*

manufacturers from exploiting this informational advantage and encourages a greater investment in product safety than a negligence framework.[34] Therefore, products liability law's strict liability regime deters manufacturers from bypassing safety measures.[35]

Third, the administrability theory of products liability aims to streamline litigation. Products liability eliminates the elements of duty and breach and therefore "avoids complicated doctrinal rules that either serve no useful purpose or take us to the same conclusion."[36] In contrast, negligence is fact-specific, unpredictable, and involves complicated rules that often divert liability away from manufacturers.[37] Therefore, products liability aims to create consistent litigation outcomes that put defendants on notice of potential liability.[38]

B. DEFINITION OF A PRODUCT

Unless an alternative definition is provided by statute,[39] the question of whether something is a product is always a question of law determined by the court.[40] "When the applicable definition fails to provide an unequivocal answer, decisions regarding whether a 'product' is involved are reached in light of the public policies behind the imposition of strict liability in tort."[41] Section II.B outlines definitions of a product under (1) the Second Restatement of Torts and (2) the Third Restatement of Torts.

1. The Second Restatement of Torts Defines Products as Tangible Personal Property and Not Content, Ideas, and Expression

The American Law Institute incorporated products liability in the first volume of the Second Restatement of Torts in 1965.[42] Although the Second

34. *Id.*

35. *See id.*

36. *Id.* at 336.

37. *See* GUIDO CALABRESI, THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS 47–64 (1970); *see also* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. a (A.L.I. 1998) ("[B]y eliminating the issue of manufacturer fault from plaintiff's case, strict liability reduces the transaction costs involved in litigating that issue.").

38. *See* CALABRESI, *supra* note 37, at 47–64.

39. *See, e.g.*, RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 cmt. a (A.L.I. 1998) (providing statutory definitions of a "product" under Maryland, Ohio, and Tennessee law) (internal citations omitted); RWCA 7.72.010(3) (providing a definition of a "product" under Washington state law).

40. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 cmt. a (A.L.I. 1998).

41. *Id.* at Reporters' Note.

42. *See* Lana Barnett, *Restatement to the Rescue*, HARV. L. BULL. (May 3, 2024), https://hls.harvard.edu/today/restatement-to-the-rescue/ ("Each Restatement aims to organize and

Restatement did not define a "product," comment d of Section 402A provided some guidance:

> "The rule stated in this Section . . . extends to any product sold in the condition . . . in which it is expected to reach the ultimate user or consumer. Thus the rule stated applies to an automobile, a tire, an airplane, a grinding wheel, a water heater, a gas stove, a power tool, a riveting machine, a chair, and an insecticide."[43]

Courts have interpreted the list of tangible items provided in comment d to imply that products liability law only applies to tangible items under the Second Restatement.[44] In *Winter v. G.P. Putnam's Sons*, the Ninth Circuit used the implied tangibility requirement to hold that products liability law does not apply to content, ideas, and expression.[45] In that case, the Ninth Circuit also noted that "[c]omputer software that fails to yield the result for which it was designed" may be considered a product.[46]

2. *The Third Restatement of Torts Expands the Second Restatement's Definition of a "Product" to Include Intangibles and Exclude Services*

The American Law Institute published the Third Restatement of Torts: Products Liability in 1998.[47] In response to the ambiguity created by the Second Restatement, the Third Restatement provided an explicit definition of a product in Section 19: (a) a product is tangible personal property or other intangible items, such as electricity, "when the context of their distribution and use is sufficiently analogous" to the distribution and use of tangible personal property; and (b) services are not products.[48]

First, consistent with the Second Restatement, the Third Restatement's definition of a product states that "most but not necessarily all products are tangible personal property."[49] Tangible items considered products under the Second Restatement, such as automobiles, tires, planes, water heaters, power tools, and insecticides, are also products under the Third Restatement.[50] The

present in a systematic manner the legal rules and principles in a particular area of law, such as . . . torts."); *see generally* RESTATEMENT (SECOND) OF TORTS (A.L.I. 1965).

43. RESTATEMENT (SECOND) OF TORTS § 402A cmt. d (A.L.I. 1965).

44. *See, e.g.*, Winter v. G.P. Putnam's Sons, 938 F.2d 1033, 1034 (9th Cir. 1991) ("The American Law Institute clearly was concerned with including all physical items but gave no indication that the doctrine should be expanded beyond that area.").

45. *Id.* at 1036.

46. *Id.*

47. *See generally* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. (A.L.I. 1998).

48. *Id.* § 19(a)–(b).

49. *Id.* § 19 cmt. b.

50. *See* RESTATEMENT (SECOND) OF TORTS § 402A cmt. d (A.L.I. 1965).

Third Restatement also expanded the Second Restatement's definition of a product to include some forms of intangible property.[51] Section 19(a) states that intangibles are products for the purposes of products liability "when the context of [their] distribution and use is sufficiently analogous to the distribution and use of tangible personal property."[52] One example is the transmission of intangible forces, such as electricity, which a majority of courts have held "becomes a product when it passes through the customer's meter and enters the customer's premises."[53] Embodying *Winter v. G.P. Putnam's Sons*, comment d explains that intangible content, expression, and ideas are not a valid basis for a products liability claim.[54]

Second, the Third Restatement provides that products liability law does not apply to services.[55] Those who sell services are not liable in the absence of negligence or intentional misconduct.[56] In hybrid transactions that involve products and services, the plaintiff must show that the "primary objective was to acquire ownership or use of a product" and not "to obtain a service" to maintain a strict products liability claim.[57]

C. SECTION 230 DOES NOT BAR PRODUCTS LIABILITY CLAIMS AGAINST INTERNET COMPANIES

Section 230[58] "provides internet companies with immunity from certain claims" in order to "promote the continued development of the Internet and other interactive computer services."[59] Under *Barnes v. Yahoo!, Inc.*, § 230 shields an internet company from liability if the company is "(1) a provider or user of an interactive computer service (2) whom a plaintiff seeks to treat, under a state law cause of action, as a publisher or speaker (3) of information provided by another information content provider."[60]

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51. *See id.* (stating that intangible property may be products in some cases).

52. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19(a) (A.L.I. 1998).

53. *Id.*; *see also* Pierce v. Pac. Gas & Elec. Co., 212 Cal. Rptr. 283, 292 (Ct. App. 1985) (holding that electricity is a product when it is in the "stream of commerce" and "expected to be a marketable voltage"); Hou. Lighting & Power Co. v. Reynolds, 765 S.W.2d 784, 785 (Tex. 1988) (holding that electricity is a product (citing *Pierce*, 212 Cal. Rptr. at 290)).

54. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 cmt. d (A.L.I. 1998).

55. Murphy v. E.R. Squibb & Sons, Inc., 40 Cal. 3d 672, 677 (1985).

56. Gagne v. Bertran, 43 Cal. 2d 481, 487 (1989).

57. Hennigan v. White, 199 Cal. App. 4th 395, 403 (2011) (citing Ferrari v. Grand Canyon Dories, 32 Cal. App. 4th 248, 258 (1995)).

58. *See generally* 47 U.S.C. § 230(c)(1).

59. HomeAway.com, Inc. v. City of Santa Monica, 918 F.3d 676, 681 (9th Cir. 2019) (quoting 47 U.S.C. § 230(b)(1)).

60. 570 F.3d 1096, 1100–01 (9th Cir. 2009).

Retired Justice John G. Browning notes that there is a growing trend of courts upholding products liability claims against consumer apps when faced with § 230 defenses.[61] When plaintiffs bring products liability claims for allegedly defective technology, defendants do not have § 230 immunity because plaintiffs seek to hold defendants liable as manufacturers and therefore fail the second prong of the *Barnes* test.[62] When plaintiffs bring products liability claims for harmful content posted by third parties,[63] § 230 bars their claims because they imply that the app has a publishing duty to monitor and censor user-generated content.[64] This Note reserves the question of how § 230 impacts products liability claims brought against consumer apps for future scholarship. However, the question of what app features are content and whether those features are first or third-party content is critical to determining whether products liability claims are barred by § 230.

D. WHETHER SOFTWARE IS A PRODUCT

Under existing jurisprudence, it is unclear if and how products liability applies to consumer software.[65] Because mutual understanding between technical and legal scholarship creates effective interdisciplinary solutions,[66] it is important to understand the technical and business context of consumer software. Section II.D of this Note (1) defines technical terms essential for understanding consumer apps; (2) provides business context behind the development of consumer apps; and (3) summarizes the challenges trial courts face in classifying consumer apps as products for the purposes of products liability.

61. *See generally* Browning, *supra* note 17.

62. *See* Lemmon v. Snap, Inc., 995 F.3d 1085, 1093 (9th Cir. 2021) (holding that § 230 did not bar plaintiffs' negligent design claims against Snap for the defective design of its content filters and in-app reward system).

63. Even without § 230, content-based does not form a valid basis for products liability claims. *See Winter v. G.P. Putnam's Sons*, 938 F.2d at 1036.

64. Herrick v. Grindr, LLC, 765 F. App'x 586, 591 (2d Cir. 2019) (holding that § 230 barred products liability claims brought against a dating app for harassment caused by the plaintiff's ex-boyfriend posting fake profiles of the plaintiff).

65. Ramakrishan et. al., *supra* note 7, at 27.

66. *See* Ryan Calo, *Robotics and the Lessons of Cyberlaw*, 103 CAL. L. REV. 513, 561 (2015) (stating that "the legally and technically savvy will need to be in constant conversation" to provide effective legal solutions to the burgeoning robotics industry).

1. *Defining Consumer Apps*

Tech industry professionals use the term "product" to describe software built and maintained to satisfy user needs.[67] Tech companies may build software for businesses or the public, called enterprise software and consumer software respectively.[68] Users might derive value from the technology embodied in the app itself or from content, goods, or services that the app makes available. For example, users on marketplace apps, such as Amazon, Etsy, and Airbnb, derive value from transactions for goods and services that the apps facilitate.[69] On the other hand, users of ChatGPT derive value from the ability to use OpenAI's large language model (LLM)—an algorithm that understands and generates human language using AI.[70]

User experience—or "UX" for short—is a tech industry term referring to the user's overall experience with the app or website.[71] User experience is a broad term that includes the app's visual display on the screen as well as the data and algorithms that make the app work. The user interface—or "UI"—is a subset of the user experience that refers strictly to the interactivity, look, and feel of an app or website as embodied in the visual elements.[72] Consider Apple's feature that allows users to automatically fill in one-time verification codes sent via text to log in to websites on their iPhones.[73] Apple's user experience is better for the user because it allows for quick verification without the difficulty of remembering the verification code or switching back and forth between texts and the web browser. The user experience for this feature includes the entire process of signing in, starting with you signing into a website on your iPhone, receiving a text message with your verification code,

67. *See, e.g.*, Anna Grigoryan, *What Is a Software Product?*, WRIKE, https://www.wrike.com/product-management-guide/software-product/ (last visited Nov. 16, 2024).

68. Sid Nasnodkar, *Enterprise vs Consumer Product Management*, PROD. SCH. (Jan. 24, 2024), https://productschool.com/blog/product-fundamentals/enterprise-vs-consumer-product-management.

69. *See Marketplaces vs. Platforms: What's the Difference Between Them?*, STRIPE (Oct. 1, 2023), https://stripe.com/resources/more/marketplaces-vs-platforms (defining a marketplace as "a digital platform or ecommerce hub where a diverse array of goods, services, or digital content is bought, sold, and exchanged").

70. *Models*, OPENAI PLATFORM, https://platform.openai.com/docs/models (last visited Nov. 16, 2024).

71. *What Is the Difference Between UI and UX?*, FIGMA, https://www.figma.com/resource-library/difference-between-ui-and-ux/ (last visited Nov. 16, 2024).

72. *Id.*

73. *Automatically Fill in SMS Passcodes on iPhone*, IPHONE USER GUIDE, https://support.apple.com/guide/iphone/automatically-fill-in-sms-passcodes-iphc89a3a3af/ios (last visited Nov. 16, 2024).

seeing a window that asks if you want to use the code, and auto-filling the texted code to log in.[74] The user interface for this feature is only the pop-up window and buttons that appear on your screen.[75]

2. The Business of Consumer Apps and Product Management

It is industry standard to hire product managers to oversee software development.[76] Product managers collaborate with business stakeholders to prioritize business problems and design new features in apps to solve them.[77] The new features are tied to a success metric, or key performance indicator (KPI), that is often tied to the business's profitability.[78] For example, a product manager for an eCommerce app may be asked to oversee the development of a feature that increases conversion rate—i.e., "the percentage of website visitors who complete a desired action (like make a purchase)."[79] The product manager will oversee the design and development of a new feature that will convert more visitors into customers.[80] Once the feature is completed by software engineers, the product manager will measure changes to the conversion rate with monitoring software built into the app that tracks user behavior.[81] If the feature shows changes to the conversion rate that aligns with business goals during the monitoring phase, the product manager will launch the feature; otherwise, the product manager will revert the app to its original state and brainstorm an alternative solution.[82] Insofar as products liability aims to use market forces to incentivize companies to place safe technology into the stream of commerce,[83] we should expect that tech companies will respond

74. *See id.*

75. *See id.*

76. Christopher Selden, *Product Management Process: Stages, Tips & Diagrams*, AMPLITUDE (Aug. 27, 2024), https://amplitude.com/blog/product-management-process.

77. *Id.*

78. *See* Carlos González De Villaumbrosia, *20+ Key Metrics for Product Management*, PROD. SCH. (Apr. 3, 2024), https://productschool.com/blog/analytics/metrics- product-management [https://perma.cc/YG7F-CBSB] (defining KPIS as "key indicators of performance over time" and noting that a KPI for an eCommerce business might be conversion rate, which "measures the percentage of website visitors who complete a desired action (like making a purchase)").

79. *Id.*

80. *See id.*

81. *See id.*; Sam Tardif, *What Every Product Manager Needs to Know About Product Analytics*, ATLASSIAN, https://www.atlassian.com/agile/product-management/product-analytics (last visited Nov. 16, 2024).

82. *See* Tardif, *supra* note 81.

83. *See supra* text accompanying notes 29–30.

accordingly given the sophisticated economic analysis that drives the production of new consumer software features.

3. How Courts Have Viewed Whether Consumer Software Is a Product

In the context of consumer software, trial courts have found that apps are not tangible personal property,[84] but that finding does not preclude finding that consumer software is a product.[85] As discussed, *supra*, in Section II.B, under the Third Restatement, an intangible can still be a product if it is sufficiently analogous to tangible personal property in the context of its distribution and use, it is not a service, and it is not akin to content, ideas, and expression.[86] Courts have not extensively addressed the question of whether software is sufficiently analogous to tangible personal property to constitute a product for the purposes of products liability.[87] The case law shows that (a) plaintiffs cannot maintain a products liability action if their harm was caused by content, ideas, or expression contained in digital media; and (b) it is unclear whether consumer apps are products under the Third Restatement.

a) Plaintiff Cannot Bring Products Liability Claims Based on Harm Caused by Content in Apps

There is substantial case law establishing that harmful digital media cannot form the basis of a products liability claim. For example, in *James v. Meow Media, Inc.*, the Sixth Circuit cited *Winter v. G.P. Putnam's Sons* to determine that video games, movies, and internet sites were not sufficiently tangible to be considered products under the Second Restatement of Torts.[88] Plaintiffs brought products liability claims alleging that defendants' video games, movies, and internet sites contained violent content that caused a third party to shoot and kill three high school students.[89] Although the cartridges, cassettes, and internet transmissions were tangible, the Sixth Circuit found that plaintiffs' alleged harm was caused by the communicative properties rather than the

84. *See, e.g.*, Jackson v. Airbnb, Inc., 639 F. Supp. 3d 994, 1011 (C.D. Cal. 2022) (finding that plaintiff's products liability claims failed for lack of a tangible product because they were not seeking to hold Airbnb liable based on the house as the end product); Doe v. Uber Techs., Inc., 2020 WL 13801354, at *6 (Cal. Super. Nov. 30, 2020) ("The Uber App is not tangible personal property").

85. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19(a) (A.L.I. 1998).

86. *See id.* § 19(a)–(b) cmt. d; *Winter v. G.P. Putnam's Sons*, 938 F.2d at 1036.

87. *See, e.g.*, *Doe v. Uber*, 2020 WL 13801354, at *7 (stating, without analysis, that the Uber app is not analogous to tangible personal property).

88. 300 F.3d 683, 701 (6th Cir. 2002).

89. *Id.* at 687.

tangible properties of the video games, movies, and internet sites.[90] Therefore, the Sixth Circuit concluded that the communicative content in the video games, movies, and internet sites were not "products" for the purposes of products liability.[91]

In *Estate of B.H. v. Netflix, Inc.*, the Northern District of California also cited *Winter v. G.P. Putnam's Sons* to conclude that content contained in a show produced, distributed, and recommended by Netflix could not form the basis of a products liability claim.[92] Plaintiffs brought products liability claims against Netflix for distributing a TV show containing depictions of suicide that caused a young girl to take her own life.[93] The court noted that "[w]ithout the content, there would be no claim" and granted the defendant's motion to dismiss on the ground that the plaintiff's harm was caused by Netflix's expressive content.[94] Therefore, harmful content is not a valid basis for a products liability action. However, similarly to the § 230 analysis, the line between content-based harm and product-based harm can be blurry.[95]

b) Courts Come to Inconsistent Conclusions as to Whether Apps Are Products

Trial courts are divided on whether apps are products—eligible for products liability claims—or services—precluded from products liability claims.[96] Some courts hold that consumer apps are services.[97] Other courts hold that apps are products.[98] In fact, they often come to opposite conclusions on the same app. For example, Snapchat is an app that allows users to communicate with each other by sending and receiving messages, photos, and

90. *Id.* ("Certainly if a video cassette exploded and injured its user, we would hold it a 'product' and its producer strictly liable for the user's physical damages.").

91. *Id.*

92. 2022 WL 551701, at *3 (N.D. Cal. Jan. 12, 2022).

93. *Id.*

94. *Id.*

95. *See supra* Section II.C.

96. *See Murphy v. E.R. Squibb & Sons*, 40 Cal. 3d at 677.

97. *See, e.g.*, *Doe v. Uber*, 2020 WL 13801354, at *7 (holding that plaintiffs could not maintain a products liability claim against Uber because "the Uber App was used to gain a service: a ride"); *Jackson v. Airbnb*, 639 F. Supp. 3d at 1010–11 (holding that Airbnb is not a product because it is used to provide services); Jacobs v. Meta Platforms, Inc., 2023 WL 2655586, at *4 (Cal. Super. Mar. 10, 2023) ("Facebook is a service for the purposes of the products liability analysis.").

98. *See, e.g.*, Brookes v. Lyft, Inc., 2022 WL 19799628, at *2 (Fla. Cir. Ct. Sep. 30, 2022) (holding that the Lyft app is a product for the purposes of Florida products liability law).

videos.[99] In *Zeincik v. Snap*, plaintiffs claimed products liability based on Snapchat's alleged failure to respond to alerts of threatening messages.[100] The court concluded that "Snapchat is more like a service than a product," and plaintiffs could therefore not sustain products liability claims.[101] In *Lemmon*, the Ninth Circuit implied the opposite conclusion.[102] The Ninth Circuit found that plaintiffs' negligent design claims against Snapchat for its speed filter[103] and internal reward system[104] "treat[ed] Snap as a products manufacturer."[105]

Two trial courts also came to conflicting conclusions as to whether the Uber app was a product. In *Doe v. Uber*, plaintiffs brought products liability claims against Uber, alleging that "fake driver[s]" displayed the Uber decal in their vehicle to trick victims into entering their vehicle and then committing sexual assault.[106] The California Superior Court concluded, without analysis, that the Uber app is not analogous to tangible personal property in the context of its distribution and use.[107] The court reasoned that because the Uber app was downloaded to obtain a service, it could not be subject to products liability claims.[108] In *In re Uber*, plaintiffs claimed products liability based on an alleged failure to implement specific safety features into the Uber app that resulted in the sexual assault of passengers.[109] But here, the Northern District of California concluded that the Uber app was sufficiently analogous to the distribution and use of tangible personal property and held that the Uber app was a product.[110]

99. Zeincik v. Snap, Inc., 2023 WL 2638314, at *1 (N.D. Cal. Feb. 3, 2023); *Lemmon v. Snap*, 995 F.3d at 1088.

100. *Zeincik*, 2023 WL 2638314, at *1–2.

101. *Id.* at *4.

102. *See Lemmon*, 995 F.3d at 1092.

103. Snapchat's speed filter is a content filter that allows users to overlay the speed the user is traveling at (ex. "20.1mph") onto a photo or video that they take on Snapchat. *Id.* at 1088–89.

104. Plaintiffs alleged that Snap created an incentive system within Snapchat that "encouraged its users to pursue certain unknown achievements and rewards." *Id.* at 1091.

105. *Id.* at 1092. There is disagreement in trial courts as to whether the Ninth Circuit implicitly recognized Snapchat as a product in *Lemmon*. *Compare Jacobs v. Meta Platforms*, 2023 WL 2655586, at *3 (holding that the Ninth Circuit did not recognize Snapchat as a product), *with In re Soc. Media,* 702 F. Supp. 3d at 846 ("the Ninth Circuit [in *Lemmon*] assumed (perhaps because they found it obvious) that plaintiffs adequately alleged a product-based negligence claim against Snap").

106. 2020 WL 13801354, at *1.

107. *Id.* at *6.

108. *Id.* at *6–7.

109. *In re Uber*, 2024 WL 4211217, at *1.

110. *Id.* at * 22.

In the case of rival rideshare app Lyft, the trial court in *Brookes v. Lyft* concluded that the Lyft app was a product for the purposes of products liability when the plaintiff alleged she was hit by a driver because the app was designed to take drivers' eyes off the road.[111] Referencing the allocative efficiency goals of torts, the court reasoned that "Lyft is the designer and sole distributor of the Lyft application."[112] Although the Lyft app was designed to provide a service, the court analogized the Lyft app to commercial laundry machines.[113] "If Lyft had designed commercial laundry machines and mass distributed them to laundromats operated by third-parties to provide a laundry service, Lyft could not credibly argue that the laundry machine was a service and not a product."[114] The court found "no rational basis to distinguish" the Lyft app from tangible products "just because it involves enhanced technology."[115] In *Lemmon*, *In re Uber*, and *Brookes*, the courts were all inclined to find that the accused apps were products when the plaintiffs alleged a defect in an app's user experience or user interface. In contrast, in *Zeincik* and *Doe v. Uber*, the courts did not find that the accused apps were products when the plaintiffs alleged problems with the defendant tech companies' business practices.

Ideally, courts would consistently find that the same app is or is not a product across all cases. However, as the preceding examples illustrate, trial courts can view an app as a product or a service depending on the plaintiffs' allegations. When faced with products liability claims against tech companies that are clearly unsupported by the allegations, courts sometimes sidestep the issues of defect and causation by concluding that the defendants' apps are not products. For example, in *Jackson v. Airbnb, Inc.*, the court concluded that Airbnb was not a product in a case involving the shooting and death of a boy on an Airbnb property.[116] A trial court cited *Jackson* in *Jacobs v. Meta Platforms, Inc.* to hold that Facebook was not a product in a case involving the shooting and death of a security guard at a federal courthouse.[117] In both cases, the courts shortcut the analysis of plaintiffs' products liability claims by categorizing Airbnb and Facebook as services.[118]

111. 2022 WL 19799628, at *1–2.
112. *Id.* at *2.
113. *Id.* at *5.
114. *Id.*
115. *Id.*
116. 639 F. Supp. 3d 994, 1000–11 (C.D. Cal. 2022).
117. 2023 WL 265586, at *4.
118. *Jackson*, 639 F. Supp. 3d at 1011 (dismissing products liability claims because plaintiffs failed to adequately allege a product); *Jacobs*, 2023 WL 2655586, at *4 (finding that because Facebook was a service and not a product, plaintiffs products liability claims "cannot proceed beyond the threshold question").

III. IN RE SOCIAL MEDIA

District Judge Yvonne Gonzalez Rogers noticed trial courts' inconsistent conclusions on whether consumer apps are products.[119] In *In re Social Media*, she offered a new approach to create consistent outcomes in software products liability cases. Part III of this Note (A) provides the procedural history and background of *In re Social Media*; (B) examines the analysis of *In re Social Media*'s holding that features within social media apps were products rather than the apps as a whole; and (C) examines how trial courts apply *In re Social Media*.

A. PROCEDURAL HISTORY AND BACKGROUND

In 2022, the Judicial Panel on Multidistrict Litigation (JPML) created MDL No. 3047, centralizing twenty civil actions from courts across the country that alleged psychological harm to children as a result of social media use.[120] MDL No. 3047 consolidated cases brought by individuals, school districts, and state Attorneys General against social media apps[121] operated by Meta (Facebook and Instagram), Google (YouTube), ByteDance (TikTok), and Snap (Snapchat).[122] After filing a master amended complaint, plaintiffs identified five priority claims.[123] Four of those claims were products liability.[124]

Plaintiffs alleged that the social media apps allowed users to search for and share content and that the apps "determine[d] when and to whom certain content is shown."[125] Because the social media apps relied on revenue from advertisements, "profits from these [apps] are highly dependent on the number

119. *In re Soc. Media*, 702 F. Supp. 3d at 838 (noting that "[c]ases exist on both sides of the questions posed by this litigation").

120. *In re* Soc. Media Adolescent Addiction/Pers. Inj. Prods. Liab. Litig., 637 F. Supp. 3d 1377 (U.S. Jud. Pan. Mult. Lit. 2022).

121. Per industry usage, a software "product" is software that is intended to be used directly by end-users, while a software "platform" is intended to be built upon by other software developers and support integrations. *What's the Difference Between a Software Product and a Platform?*, FORBES (Mar. 17, 2015), https://www.forbes.com/sites/adrianbridgwater/ 2015/ 03/17/whats-the-difference-between-a-software-product-and-a-platform/. Although the court and defendants refer to the social media apps as "platforms," this Note will refer to them as "apps" to avoid confusion between the legal and technical industry definitions of the term "product" and "platform." *See generally In re Soc. Media*, 702 F. Supp. 3d at 809; Defendants' Joint Motion to Dismiss, *In re Soc. Media*, 702 F. Supp. 3d at 809; Defendants' Joint Supplemental Motion to Dismiss, *In re Soc. Media*, 702 F. Supp. 3d at 809.

122. *In re Soc. Media*, 702 F. Supp. 3d at 817.

123. *Id.* at 818.

124. *Id.* at 817 (noting that plaintiffs prioritized claims of design defect, failure to warn, negligent design, negligent failure to warn, and negligence *per se*).

125. *Id.* at 818.

of users, the amount of time each user spends on the [app], and the amount of information a user provides, directly or indirectly, to the [app] about themselves."[126] Plaintiffs alleged that defendants designed their apps to "appeal and addict" child users and that the apps facilitated sexual exploitation of children.[127] Examples of alleged design defects included:

> failure to implement robust age verification and parental controls;
>
> failure to assist users in limiting screen time;
>
> creating barriers to account deletion and deactivation;
>
> making filters available to alter content;
>
> failing to label filtered content; and
>
> failure to provide processes for reporting suspected child sexual abuse materials (CSAM).[128]

Defendants filed two motions to dismiss: one addressing plaintiffs' priority claims[129] and the other addressing § 230 immunity and First Amendment defenses.[130] In the former motion to dismiss, the defendants argued that their apps were services and that the plaintiff's allegations concerned content that could not form the basis of a products liability claim.[131] Plaintiffs argued in response that the alleged cause of harm was the defendants' software design choices.[132] The court granted in part and denied in part the motions to dismiss, with some of the products liability claims surviving.[133] Defendants moved for interlocutory appeal to contest, amongst other things, that their apps are not products.[134] The court denied the motion for untimeliness.[135]

B. JUDGE GONZALEZ ROGERS'S FRAMEWORK FOR DETERMINING PRODUCT STATUS

In re Social Media established a two-step framework for determining whether an app is a product under the Third Restatement: (1) choosing to analyze the app as a whole or as individual features within the app, and (2)

126. *Id.* at 819.
127. *Id.*
128. *Id.* at 839.
129. Defendants' Joint Motion to Dismiss, *In re Soc. Media*, 702 F. Supp. 3d at 809.
130. Defendants' Joint Supplemental Motion to Dismiss, *In re Soc. Media*, 702 F. Supp. 3d at 809.
131. *In re Soc. Media*, 702 F. Supp. 3d at 838.
132. *Id.*
133. *Id.* at 862–63. The court held that § 230 barred a subset of plaintiffs' products liability claims. *See id.* at 829.
134. *See* Defendants' Motion to Certify Appeal, *In re Soc. Media*, 702 F. Supp. 3d at 809.
135. Order, *In re Soc. Media*, 702 F. Supp. 3d at 809.

determining whether the app or feature meets the common law requirements of a product under the Third Restatement.[136]

1. Choosing the "All-or-Nothing" Approach, "Defect-Specific" Approach, or Both

Whereas prior cases evaluated the product status of apps as a whole, Judge Gonzalez Rogers recognized that the parties' analyses of the app as a whole were "overly simplistic and misguided."[137] The court recognized that trial courts come to inconsistent conclusions as to whether consumer apps are products because "it is the *functionalities* of the alleged products that must be analyzed."[138] The court held that plaintiffs alleging products liability claims for app-caused harm can survive a motion to dismiss if they adequately allege a product at either or both of (1) the app level using the "all-or-nothing" approach; and (2) the functionality level using the "defect-specific approach."[139]

2. The Third Restatement Multi-Step Inquiry

Judge Gonzalez Rogers also consolidated the common law requirements of a product into a multi-step inquiry.[140] The Second Restatement of Torts established that tangible personal property can form the basis of a products liability and that content, ideas, and expression cannot.[141] The Third Restatement of Torts expanded this definition to include items analogous to tangible property in the context of their distribution and use and exclude services.[142] Therefore, the court held that in order to analyze whether something is a product under the Third Restatement of Torts, courts must assess whether the accused object or instrumentality is: (a) tangible or analogous to tangible personal property; (b) a service; and/or (c) akin to content, ideas, or expression.[143]

136. *See In re Soc. Media*, 702 F. Supp. 3d at 842.

137. *Id.* at 838 (stating that the parties' approaches that analyze the apps as a whole "are overly simplistic and misguided").

138. *Id.*

139. *Id.* at 843–53.

140. *See supra* Section II.B.

141. *See supra* Section II.B.1.

142. *See supra* Section II.B.2.

143. *In re Soc. Media*, 702 F. Supp. 3d at 842. The court also considered the arguments that software is a product because software is sometimes considered a "good" under the Uniform Commercial Code. *Id.* The court noted "there may be a workable analogy" to the treatment of software under the UCC, but that "plaintiffs have not identified it." *Id.* at 848.

C. APPLYING THE FRAMEWORK TO DETERMINE WHETHER SOCIAL MEDIA APPS ARE PRODUCTS

The court analyzed the merits of plaintiffs' claims at both the app and feature levels. For each level of analysis, the court applied the multi-step inquiry to determine if the app or feature was a product under the Third Restatement: (a) was the app or feature tangible or analogous to tangible property?; (b) was the app or feature akin to a service?; and (c) was the app or feature akin to content, ideas, or expression?[144]

1. Under the "All-or-Nothing" Approach, Plaintiffs Failed to Adequately Allege that Apps Were Products

First, the court analyzed whether the apps as a whole were: (a) tangible or analogous to tangible personal property; (b) services; or (c) akin to ideas, content, and expression.[145]

a) Social Media Apps Are Not Tangible or Analogous to Tangible Property

The court found that the defendants' social media apps were neither tangible nor analogous to tangible personal property.[146] The court found that the connection between the defendants' apps and haptics—such as noises, vibrations, notifications, and user interface prompts—was too attenuated to consider the apps tangible.[147] Second, the court reasoned that the defendants' apps as a whole were not sufficiently analogous to tangible personal property.[148] The court reasoned that buying a tangible good in a store was not sufficiently analogous to downloading an app from an online marketplace, because the app could be accessed through websites and on certain integrated devices as well.[149] The plaintiffs attempted to analogize social media apps to a container, stating, without analysis, that "[t]here is no functional difference between downloading an app from the App Store and using it on your phone, and buying a container from the Container Store and using it on your counter top."[150] The court did not find this analogy persuasive.[151]

144. *Id.*
145. *Id.* at 842.
146. *Id.* at 843.
147. *Id.* at 843–44.
148. *Id.* at 843.
149. *Id.*
150. *Id.* (internal citations omitted).
151. *Id.*

b) Social Media Apps Are Not Services

Although the court acknowledged that the accused social media apps facilitated users' interactions with other users and content, the court was not persuaded that the apps as a whole were services.[152] However, the court also did not declare that the apps were products as a whole, noting that the parties' "global arguments" did not resolve the issue.[153] The court noted that cases classifying apps as products or services "offered minimal, if any, rationale for such classifications."[154] The court also noted that hiring product managers to work on a social media app and referring to a social media app as a product, without more, did not render the app a product for legal purposes.[155]

c) Social Media Apps Are Not Akin to Ideas, Content, and Expression

The court found that the defendants' apps as a whole were not akin to ideas, content, and expression.[156] The court distinguished "between products liability claims that are focused on content (and thus, were not cognizable) and those focused on design (which are cognizable)."[157] For example, the court noted that the plaintiffs' claims in *Estate of B.H. v. Netflix* were not cognizable because they were based on harmful depictions of suicide in a television show.[158] On the other hand, the court noted that the plaintiffs' claims were cognizable in *Lemmon v. Snap*, which alleged a negligently designed speed filter that encouraged dangerous behavior, and *Brookes v. Lyft*, which alleged a defectively designed app that encouraged drivers to take their eyes off the road.[159]

2. Under the "Defect-Specific" Approach, Plaintiffs Adequately Alleged That Functionalities of Apps Are Products

After finding that plaintiffs failed to establish that the defendants' apps were products as a whole, the court analyzed whether the accused

152. *Id.*
153. *Id.*
154. *Id.*; *see also id.* at 843 n.36 (collecting cases).
155. *Id.* at 843; *see also id.* at 843 n.37 ("it is surely not the case that hiring 'Product Managers' to work on a [app] makes that [app] a product in a legal sense").
156. *Id.* at 847.
157. *Id.* at 846–47.
158. *Id.* at 845 (citing *Estate of B.H. v. Netflix*, 2022 WL 551701, at *1–3).
159. *Id.* at 846–47 (citing *Brookes v. Lyft*, 2022 WL 19799628, at *1–3; *Lemmon v. Snap*, 995 F.3d at 1093).

functionalities within the apps were products.[160] The court found that the following features met the legal definition of a "product":

- Defective parental controls and age verification;
- Failure to assist users in limiting in-app screen time;
- Creating barriers to account deactivation and/or deletion;
- Failure to label edited content; and
- Making filters available to users to manipulate content.[161]

For each accused feature, the court asked the same questions as it did when it examined the apps as a whole: is the feature tangible or analogous to tangible property?; is the feature a service?; and, is the feature analogous to ideas, content, and expression?[162] The court concluded that the plaintiffs sufficiently showed that each feature was a product to survive a motion to dismiss.[163] The court reasoned that (a) parental controls, age verification, and screen time limitations were sufficiently analogous to tangible property; (b) account deletion was not a service; and, (c) filters and content labels were not akin to content.

a) Parental Controls, Age Verification, and Screen Time Limitations Are Analogous to Tangible Property

The court found that defective parental controls, age verification, and failure to implement screen time limitations were products.[164] Applying a strict interpretation of the tangibility requirement in Section 19(a) of the Third Restatement of Torts,[165] the court noted that both features had analogous physical products. Parental controls and age verifications were analogous to child-proof locks on prescription medication bottles and parental controls on televisions.[166] Screen time limitations were analogous to timers, alarms, and smartphones with screen time limitation software.[167] The court therefore concluded that the accused features were "akin to user interface/experience choices" and therefore were products.[168]

160. *Id.* at 849.

161. *Id.* at 849–54. In addition to the listed features, the court also held that functionality for reporting child sexual abuse material ("CSAM") was a product. *Id.* at 853.

162. *Id.* at 849.

163. *Id.* at 853.

164. *Id.* at 849–51.

165. *See supra* text accompanying notes 124–126.

166. *In re Soc. Media*, 702 F. Supp. 3d at 849.

167. *Id.* at 850.

168. *Id.* at 849–50.

b) Account Deletion is Not a Service

The court analyzed whether alleged barriers to account deactivation and deletion were a product or a service.[169] The court noted that "in some senses, account deletion and deactivation may be analogized to interactions a consumer might have with a service provider (such as closing an account with a bank or a credit card company, for instance)."[170] The distinction in this case is that account deactivation and deletion was a process directed by the user.[171] Unlike closing an account with a bank, the defendants' employees were not involved in processing user requests to delete or deactivate accounts.[172] Therefore, the court concluded that plaintiffs adequately alleged that barriers to account deactivation and deletion were a product.[173]

c) Filters and Content Labels Are Not Akin to Content, Ideas, or Expression

The court analyzed whether making filters available and failing to label edited content were either products or content, ideas, and expression.[174] In doing so, the court noted a meaningful distinction between "a 'tool,' or functionality, that permit[s] users to manipulate the content and the content itself."[175] The filters fell into the former category because they were tools to modify expression.[176] The court also concluded that labeling edited or filtered content "does not alter the underlying photo as much as it guides the user in better understanding how to interpret that photo."[177] Therefore, the court concluded that filters and labeling edited content were both products.[178]

D. APPLICATION IN OTHER TRIAL COURTS

As explained, *supra*, in Section III.B, the *In re Social Media* framework has two steps: (1) deciding to analyze product status at the app level (the "all-or-nothing" approach), at the feature level (the "defect-specific" approach), or at both levels; and (2) applying a multi-step inquiry to determine whether the app or feature is a product under the Third Restatement by asking (a) is the

169. *Id.* at 851.
170. *Id.*
171. *Id.*
172. *Id.*
173. *Id.*
174. *Id.* at 851–53.
175. *Id.* at 852.
176. *Id.*
177. *Id.*
178. *Id.* at 852–53.

software a service?; (b) is the software tangible or analogous to tangible property?; and, (c) is the software akin to content, ideas, and expression?[179] Recently, trial courts cite *In re Social Media* to assess whether consumer apps are products for the purposes of products liability.

1. In re Uber Technologies, Inc., Passenger Sexual Assault Litigation

For example, in *In re Uber Technologies, Inc., Passenger Sexual Assault Litigation*, District Judge Charles R. Breyer held that the Uber app and features of the Uber app are products under the Third Restatement of Torts using both the "defect-specific" and "all-or-nothing" approaches.[180] In October 2023, the Judicial Panel on Multidistrict Litigation (JPML) created MDL No. 3084, centralizing twenty-two actions from courts across the country concerning the sexual misconduct of Uber drivers.[181] Plaintiffs brought products liability claims for Uber's failure to implement features in its app to prevent sexual misconduct of Uber drivers.[182]

The court applied the "all-or-nothing" and "defect-specific" approaches to hold that the Uber app was a product under the Third Restatement of Torts.[183] Under the "all-or-nothing" approach, the court reasoned that the Uber app was designed and distributed by Uber[184] and the app as a whole was analogous to tangible personal property.[185] The court cautioned that "it does not follow from [the conclusion that the Uber app is a product] that strict liability applies to everything that might go wrong in relation to the use of the app."[186]

The court also found that the allegedly defective functionality was analogous to tangible products under the "defect-specific" approach.[187] The court asked whether the accused functionality was specific to the product, the Uber app, or was an issue with Uber's services or business practices.[188] Alleged defects that were product-specific included failure to implement video or audio

179. *Id.* at 847–54.

180. 2024 WL 4211217, at *22–23.

181. *In re* Uber Techs., Inc., Passenger Sexual Assault Litig., 669 F. Supp. 3d. 1396, 1400–01 (U.S. Jud. Pan. Mult. Lit. Oct. 4, 2023).

182. *In re Uber*, 2024 WL 4211217, at *1.

183. *Id.* at *22.

184. *Id.*

185. *Id.* (reasoning that the Uber app is analogous to a tangible mobile phone accessory that could summon an Uber ride to the user's location).

186. *Id.* at *24.

187. *Id.* (reasoning that the alleged defective GPS alerting system was analogous to GPS-based alerting in an Apple AirTag).

188. *Id.* at *23–25.

monitoring of rides, GPS-based safety alert systems, and biometric scanning for identity verification of drivers.[189] On the other hand, alleged defects that were service-specific and therefore not subject to strict products liability included failure to offer support during unsafe rides, failure to background check drivers, failure to enact and enforce a zero-tolerance policy towards drivers with histories of inappropriate behavior, and failure to monitor rides.[190]

2. T.V. v. Grinder, LLC

Another case citing *In re Social Media* was *T.V. v. Grindr*.[191] Magistrate Judge Patricia D. Barksdale used the "all-or-nothing" approach to determine that the Grindr app was a product.[192] In 2022, T.V. sued Grindr in federal court under Florida state law on behalf of the estate of A.V. claiming, among other things, products liability.[193] Grindr is a dating app marketed to gay, bisexual, transgender, and queer people.[194] The plaintiff's child, A.V., allegedly used Grindr while he was a minor, was exposed to adult Grindr users, and engaged in sexual relationships and activities with adult Grindr users.[195] A.V.'s use of Grindr resulted in severe emotional distress and bodily injuries, culminating in A.V. taking his own life.[196] T.V. alleged that the design of the Grindr app facilitated sexual relationships between adults and minors through features such as ineffective age verification and "Grindr Tribes," which made it easier for adult users to narrow their search to minor users.[197]

Grindr filed a motion to dismiss T.V.'s complaint, contending that the Grindr app was not a product.[198] Citing *In re Social Media*, the court analyzed the Grindr app using the "all-or-nothing" approach but not the "defect-specific" approach. First, the court concluded that Grindr was not a service provider because it designed and distributed the Grindr app, "putting Grindr in the best position to control the risk of harm associated with the Grindr app."[199] The court further held that the alleged defects did not seek to hold Grindr liable for users' communications, but rather Grindr's design choices in

189. *Id.* at *25.
190. *Id.* at *24.
191. 2024 WL 4128796, at *21–26.
192. *Id.* at *26.
193. *Id.* at *1.
194. *Id.*
195. *Id.* at *6.
196. *Id.*
197. *Id.* at *4–5.
198. *Id.* at *17.
199. *Id.* at *26.

its app.[200] Applying just the "all-or-nothing" approach, the court concluded that the Grindr app was a product.[201]

IV. EXTENDING *IN RE SOCIAL MEDIA* PROMOTES THE POLICY GOALS OF PRODUCTS LIABILITY LAW

Does the *In re Social Media* framework advance products liability law's policy goals of allocative efficiency, deterrence, and administrability? Prior to *In re Social Media*, trial courts had to determine whether apps were products as a whole—even when the accused apps embodied a mixture of content, services, and technology. As a result, trial courts arrived at conflicting conclusions. In Section IV.A, this Note argues that *In re Social Media*'s "defect-specific" and "all-or-nothing" approaches promote the policy goals of products liability law, but *In re Social Media*'s multi-step inquiry does not. In Section IV.B, this Note advocates for an extension of *In re Social Media*'s approach to determining whether an app or feature is a product under the Third Restatement of Torts: the user experience (UX)/user interface (UI) approach.

A. CRITIQUE OF IN RE SOCIAL MEDIA

Section IV.A of this Note argues that: (1) *In re Social Media*'s "defect-specific" and "all-or-nothing" approaches promote administrability and (2) *In re Social Media*'s multi-step inquiry is not administrable and does not deter companies from putting unsafe consumer software into the stream of commerce.

1. "Defect-Specific" and "All-or-Nothing" Approach

As discussed in Section II.D.1 *supra*, consumer apps have varying and multifaceted purposes.[202] Users on some apps, such as marketplace and social media apps, interact with technology, services, and content simultaneously.[203] Users on other apps, such as generative AI apps that leverage LLMs, only interact with technology.[204] Before *In re Social Media*, these varied purposes made it difficult for trial courts to determine whether consumer apps were products.[205] This Note argues that *In re Social Media* eliminates this difficulty because (a) the "defect-specific" approach eliminates zero-sum outcomes for

200. *Id.*
201. *Id.*
202. *See supra* Section II.D.1.
203. *See supra* text accompanying notes 72–74.
204. *See supra* text accompanying note 71.
205. *See supra* Section II.D.3.

apps that are used to access goods, services, and content and (b) the "all-or-nothing" approach is more administrable for apps that are used for technology alone, as opposed to apps that are used for accessing content or services.

a) Defect-Specific Approach

The "defect-specific" approach is well suited to apps that are used to access goods, services, and content, such as marketplace and social media apps. Under existing products liability law, courts may find that these apps are not products for two reasons. First, the user downloads the app to consume content or obtain services.[206] Second, most of the products liability litigation against tech companies thus far concerns harm caused by third parties rather than harm caused directly by the defendant's technology, and therefore claims against the defendant tech companies would clearly fail for causation.[207] Rather than reaching the fact-intensive question of causation, courts may have chosen to dispose of unmeritorious claims quickly by holding that defendants' apps were not products as a matter of law.[208]

Determining whether an app is a product as a whole when it encompasses technology, content, and services puts courts in a catch twenty-two. Holding that an app is not a product insulates defendants from products liability claims even when harm arises from the app's technology and there is an obvious defect.[209] In the reverse scenario, holding that an app as a whole is a product allows plaintiffs to sustain products liability claims for *any* injury caused by the app.[210] This includes injuries defendants are not in a position to mitigate through the design of their apps, such as harm caused by third-party content or services. This zero-sum outcome makes products liability litigation of consumer apps very unpredictable. For example, as noted, *supra*, in Section

206. *See, e.g.*, STRIPE, *supra* note 69.

207. *See, e.g.*, *Doe v. Uber*, 2020 WL 13801354, at *1 (alleging sexual assault by individuals pretending to be Uber drivers); *Jackson v. Airbnb*, 639 F. Supp. 3d at 1000 (alleging that the plaintiff's son was shot and killed at an Airbnb rental property).

208. The act of a third party does not automatically disclaim a defendant from tort liability; a defendant can be the proximate cause of harm if the third party's conduct was foreseeable. See Brauer v. New York Cent. & H.R.R. Co., 103 A. 166, 167 (1918) (internal citations omitted). Whether third-party harm is foreseeable is a question of fact that must be decided by the jury, while the question of whether something is or is not a product is a question of law. See Restatement (Third) of Torts: Prods. Liab. § 19 cmt. a (A.L.I. 1998).

209. See Brookes v. Lyft, 2022 WL 19799628, at *3 (stating that "Lyft should be responsible for any harm caused by its digital application in the same way the designer of any defective physical product is held accountable").

210. *See In re Uber*, 2024 WL 4211217, at *24 (noting that it does not follow from the conclusion that the Uber app is a product "that strict liability applies to everything that might go wrong in relation to the use of the app").

II.D.3, two trial courts came to the exact opposite conclusion on the question of whether the Uber app was a product or a service.[211]

The "defect-specific" approach avoids zero-sum outcomes. The question of whether certain functionality constitutes a product is far simpler than whether an entire marketplace or social media app is a product. As a result, courts will accurately classify products liability claims at a higher rate, leading to greater predictability for courts and litigants. This simplified analysis promotes the administrability goals of products liability law.

b) All-or-Nothing Approach

The "all-or-nothing" approach is well suited to apps that are used for technology alone. One example of apps that are used for their technology and not for third-party content or services are generative AI apps powered by LLMs.[212] Because applied AI and generative AI are major focuses of the tech industry,[213] we will likely see an uptick in future products liability litigation against AI apps. The judiciary will need a products liability framework adaptable to AI.

As explained, *supra*, in Section II.A.2.c, one purpose of products liability law is to simplify complicated doctrinal rules that produce the same result.[214] Taking the "all-or-nothing" approach in the case of apps used for the technology alone—such as generative AI apps—does exactly that. Courts can use the "all-or-nothing" approach to make a quick and simple determination that a consumer app is a product as a whole.[215] Functionality-level analysis is not necessary because users are not interacting with content, services, or other users at all. Therefore, the "all-or-nothing" approach increases the efficiency of products liability litigation and promotes administrability when analyzing apps used for their technology alone. Having the option of implementing the "defect-specific" approach, "all-or-nothing" approach, or both gives courts the tools to efficiently address a wide variety of consumer technologies, including generative AI apps that may face products liability claims in the future.

211. *See Doe v. Uber*, 2020 WL 13801354, at *7 (holding that the Uber app is not a product); *In re Uber*, 2024 WL 4211217, at *22 (holding that the Uber app is a product for the purposes of products liability under the Third Restatement of Torts).

212. *See supra* text accompanying note 65.

213. Lareina Yee, Michael Chui & Roger Roberts, *McKinsey Technology Trends Outlook 2024*, MCKINSEY (July 16, 2024), https://www.mckinsey.com/capabilities/mckinsey-digital/ our-insights/the-top-trends-in-tech.

214. HYLTON, *supra* note 28, at 336.

215. *See id.*

2. Third Restatement's Multi-Step Inquiry

The second step of the *In re Social Media* framework reconciles the test for whether something is a product under the Third Restatement into a single multi-step inquiry. This multi-step inquiry is not adaptable to consumer apps because (a) the question of whether software is a service or akin to content, expression, or ideas allows defendants to exploit their informational advantage over plaintiffs and (b) software does not need a tangible analog to be considered a product under the Third Restatement.

a) Asking Whether Software is s Service or Akin to Content Allows Defendants to Exploit their Informational Advantage

As required by the Third Restatement, software cannot be a product if it is a service or akin to content, expression, and ideas.[216] This analysis may be simple in some cases. For example, in *In re Social Media*, the court found that plaintiffs adequately alleged that filters and labels for edited content were products and not content.[217] The court also found that plaintiffs adequately alleged that barriers to account deletion and deactivation were products and not services.[218]

But it may sometimes be impossible for plaintiffs to know when a tech company acts as a manufacturer of their apps, as opposed to a content creator or service provider. In *In re Social Media*, the court did not analyze whether the accused infinite scroll user interface was a product.[219] Infinite scroll is a user interface convention that automatically displays new content to users as they scroll.[220] On its face, this feature may seem akin to content or a service that generates content, but it is a deliberate product design choice. There are many user interfaces companies can use to display content. For example, pagination is a user interface technique that loads a discrete set of content at a time.[221] When the user reaches the end of that discrete set of content, the user must

216. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 (A.L.I. 1998); *supra* Section II.B.2.

217. *See supra* Section III.C.2.c).

218. *See supra* Section III.C.2.b).

219. *See In re Soc. Media*, 702 F. Supp. 3d at 819–20 (noting that the plaintiffs accused "endless feeds" of causing mental and psychological harm to children). Judge Gonzalez Rogers found that this this claim was barred by § 230 because it sought to hold defendants liable as a content publisher. *See id.* at 831.

220. Tim Neusesser, *Infinite Scrolling: When to Use It, When to Avoid It*, NEILSON NORMAN GRP. (Sep. 4, 2022), https://www.nngroup.com/articles/infinite-scrolling-tips/.

221. *See* Jakob Nielson, *Users' Pagination Preferences and "View All,"* NEILSON NORMAN GRP. (Apr. 28, 2013), https://www.nngroup.com/articles/item-list-view-all/.

prompt the app to show them additional content.[222] Reaching the end of the content provides a natural stopping point for users and serves as a psychological trigger to get off the app.[223] Infinite scroll is intentionally designed without a natural stopping point to psychologically manipulate users into maximizing their screen time, allowing social media apps to gain additional revenue from displaying ads to users.[224] In light of infinite scroll's exploitative design, potential alternatives, and business goals, it is more akin to a design choice in product manufacturing than to content or service.

Defendant tech companies are the ones with access to information regarding their apps' design and the availability and feasibility of alternative designs. In fact, it is industry practice for product managers to document and test their design choices to maximize business performance.[225] Such documentation is not available to the public because it contains sensitive business information and trade secrets.[226] Therefore, plaintiffs are often unaware of the design choices in defendants' apps and the availability of alternative designs.[227] In sum, plaintiffs are at an informational disadvantage because they do not know all the ways how defendant tech companies act as manufacturers of their apps.[228]

b) Software is Analogous to Tangible Personal Property Even If It Does Not Have a Tangible Analog

In *In re Social Media*, the court sought to satisfy the Third Restatement's tangibility requirement by asking whether the accused app or functionality has a physical analog.[229] Despite the plaintiffs' uncompelling arguments, the court's

222. *See id.*

223. *See id.*

224. *See* Sanzana Karim Lora, Sadia Afrin Purba, Bushra Hossain, Tanjina Oriana & Ashek Seum, *Infinite Scrolling, Finite Satisfaction: Exploring User Behavior and Satisfaction on Social Media in Bangladesh*, ARXIV (2024).

225. *See supra* Section II.D.2; Carlos González De Villaumbrosia, *The Only Product Requirements Document (PRD) Template You Need*, PROD. SCH. (May 19, 2024), https://productschool.com/blog/product-strategy/product-template-requirements-document-prd (noting that product managers write PRDs to communicate what features they are building and provide a guide to develop and launch the features).

226. Anesi Igebu, *How to Write a Product Requirements Document*, LINKEDIN (Nov. 18, 2020), https://www.linkedin.com/pulse/how-write-product-requirements-document-anesi-igebu/ (noting that products requirements documents are confidential).

227. *See id.*

228. *See* HYLTON, *supra* note 28, at 335 (noting that products liability prevents manufacturers from exploiting their informational advantage).

229. *See supra* Section C.1.a; *see also In re Uber*, 2024 WL 4211217, at *22 (reasoning that the Uber app is analogous to a tangible mobile phone accessory that could summon an Uber

conclusion that social media apps were not sufficiently analogous to tangible personal property rested on a misinterpretation of the Third Restatement of Torts. The court interpreted electricity and intangibles that are sufficiently analogous to tangible property as two separate categories of products.[230] The court therefore determined that an intangible can be considered a product if it has an analogous tangible product.[231] However, the Third Restatement provides electricity as an *example* of an intangible that is sufficiently analogous to tangible personal property.[232] An intangible does not need a tangible analog to be considered a product; for example, electricity is considered a product even though it does not have a tangible analog.[233]

Additionally, the physical analog requirement creates an upper limit on the applicability of products liability law that technology is already surpassing. Many emerging technologies do not have clear physical analogs. For example, are autonomous vehicles analogous to a remote-controlled vehicle (product) or a taxi ride (service)? The same question arises for AI: is a chatbot powered by AI analogous to a question-answering robot (product), an omniscient person hired to answer questions (service), or the works of an author (ideas, expression, and content)? AI's physical analog is at best strained and at worst nonexistent.

Requiring an app or feature to have a tangible analog to be considered a product is contrary to the goals of products liability law for two reasons. First, it will disincentivize tech companies from investing in the safety of emerging technologies without tangible analogs. If courts find that technologies such as AI or autonomous vehicles do not have tangible analogs, manufacturers of these technologies will be immune from products liability claims. This contradicts products liability's goal of incentivizing safety in innovation. Second, the question of whether an app or feature has a physical analog is subjective and will vary from judge to judge. For example, the court in *In re Social Media* concluded that social media apps were not analogous to tangible containers and therefore not products as a whole.[234] On the other hand, in *In*

ride to the user's location and that an allegedly defective GPS alerting system was analogous to GPS-based alerting in an Apple AirTag).

230. *In re Soc. Media*, 702 F. Supp. 3d at 841.

231. *Id.*

232. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 (A.L.I. 1998) ("Other items, *such as* . . . electricity, are products when the context of their distribution and use is sufficiently analogous to the distribution and use of tangible personal property that it is appropriate to apply the rules stated in this Restatement." (emphasis added)).

233. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 cmt. d. (A.L.I. 1998).

234. *In re Soc. Media*, 702 F. Supp. 3d at 843.

re Uber the court concluded that the Uber app was a product as a whole because it was analogous to a tangible mobile phone accessory that could summon an Uber ride to the user's location.[235] The question of whether an app or feature has a physical analog is a subjective determination made at a trial judge's discretion. This will lead to inconsistent outcomes in courts, contrary to the administrability goals of products liability.[236]

B. THE USER EXPERIENCE (UX)/USER INTERFACE (UI) APPROACH

In parts of the *In re Social Media* decision, Judge Gonzalez Rogers hints that user experience and user interface choices are more likely to be products for the purposes of products liability.[237] This Note argues that this factor is determinative for analyzing the product status of consumer software. Section IV.B of this Note: (1) contends that instead of applying the *In re Social Media* multi-step inquiry, courts can determine whether an app or feature is a product under the Third Restatement of Torts by the app's user experience or user interface; (2) explains why the UX/UI approach promotes the policy goals of products liability law; and, (3) shows that implementing UX/UI approach is unlikely to cause chilling effects on the tech industry.

1. An App or Feature Is a Product under the Third Restatement If It Has a Consumer-Facing User Experience (UX) or User Interface (UI)

In re Social Media's "all-or-nothing" and "defect-specific" approaches promote administrability and prevent zero-sum outcomes in consumer app products liability. *In re Social Media*'s multi-step inquiry fails to promote the administrability and deterrence goals of products liability. Building upon the "all-or-nothing" and "defect-specific" approaches, this Note proposes the UX/UI approach as an alternative to *In re Social Media*'s multi-step inquiry:

1. Under the "all-or-nothing" approach, a consumer app should be considered a product if the user experience only involves the defendant's technology and the user never interacts with human-provided services or human-generated content.
2. Under the "defect-specific" approach, an accused feature is a product if the plaintiff can visually identify a defective user interface element within the defendant's app.

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235. *In re Uber*, 2024 WL 4211217, at *22.

236. *See* CALABRESI, *supra* note 37, at 47–64.

237. *See In re Soc. Media*, 702 F. Supp. 3d at 849–53 (concluding that defective parental controls and age verification and failure to implement CSAM reporting were products because they were user interface/experience choices).

The UX/UI approach is advantageous because it provides a bright-line rule that courts can consistently apply. The UX/UI approach meets the requirements of the Third Restatement of Torts because (a) tech companies are manufacturers of their user experiences and user interfaces but not of services and content and (b) user experiences and user interfaces are analogous to tangible personal property.

a) Tech Companies Are Manufacturers of User Experiences and User Interfaces in Their Apps

Any company that builds consumer apps should be considered a manufacturer of the user experiences and user interfaces in their apps. The software product development process involves data-driven design and distribution.[238] Even the most minuscule features of an app are designed to influence user behavior and increase revenue.[239] Each new feature is monitored to ensure it is promoting the business's goals.[240] Therefore, the role tech companies play in designing, building, and testing the user experiences and user interfaces in their apps is analogous—if not identical—to the role manufacturers play in designing, building, and testing conventional products.[241] Furthermore, tech companies are capable of sophisticated, automated monitoring to improve their products in a way that surpasses the capabilities of conventional manufacturers.[242] Therefore, tech companies should be considered manufacturers of user experiences and user interfaces in their consumer apps.

If and when companies replace manual tasks performed by human employees with AI automation in consumer apps, it will become more important to view tech companies as manufacturers of user experiences and user interfaces. For example, a company's choice to use an AI chatbot instead of a human employee is regarded as a user experience choice because it impacts the user's overall experience within the app—perhaps by eliminating wait times for customer service. The user could also identify visible user interface elements, such as harmful messages from the chatbot or a label on the screen indicating that the user is interacting with an AI. Under the UX/UI approach, the use of a chatbot in lieu of a human employee is a UX design choice and therefore would be a product for the purposes of products liability. A harmed plaintiff can show that the use of a chatbot is a product by showing that their

238. *See supra* Section II.D.2.
239. *See id.*
240. *See id.*
241. *See id.*
242. *See supra* text accompanying note 76.

UX did not involve human-generated content or services, or by identifying a specific UI component that caused their harm. Therefore, under the UX/UI approach, a company will be liable under products liability for harm caused by AI chatbots but liable for the conduct of human employees only in the case of negligence. This is consistent with a simple principle of tort law: companies should be liable under negligence for harm caused by their employees[243] and liable under products liability for harm caused by their technology.[244]

b) Use Experiences and User Interfaces Are Sufficiently Analogous to Tangible Personal Property

User experiences and user interfaces meet the Third Restatement of Tort's definition of a product because they are sufficiently analogous to tangible personal property in the context of their distribution and use.[245] While Judge Gonzalez Rogers points out in *In re Soc. Meda* that apps are not tangible products in the same way a water heater or a power tool are tangible products,[246] the Third Restatement imposes no such requirement to achieve product status.[247] The text of Section 19(a) provides that "[o]ther items, such as real property and electricity, are products when the *context of their distribution and use is sufficiently analogous to the distribution and use of tangible personal property* that it is appropriate to apply the rules stated in this Restatement."[248] This text does not require an app or feature to have an analogous tangible product.[249]

For example, electricity is a product for the purposes of products liability even though it does not have a tangible analog.[250] In *In re Uber*, Judge Breyer notes that electricity becomes a product once it enters a consumer's home, even though it is "not quite tangible and requires a massive background infrastructure to be useful."[251] Judge Breyer suggests further that "[a]n analogy can be drawn [between electricity and] Uber's software, which may not be a product just in itself, but sensibly recognized as a product when a user downloads the frontend interface onto their own device."[252] Experts in

243. *See Gagne v. Bertran*, 43 Cal. 2d at 487.
244. *See supra* Section II.A.
245. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19(a) (A.L.I. 1998).
246. *See supra* Section II.B.1.b.
247. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19(a) (A.L.I. 1998).
248. *Id.*
249. *See id.*
250. *See id.* § 19 cmt. d.
251. *In re Uber,* 2024 WL 4211217, at *22 n.15.
252. *Id.*

cyberlaw emphasize that analogies such as Judge Breyer's are critical to developing effective legal solutions for emerging technologies.[253]

Like electricity, consumer software should be considered a product when it flows through devices that users interact with.[254] Software that exists on a server before a user downloads an app or accesses a web page is analogous to electricity that has not flowed through a customer's meter because it has "not yet been sold or otherwise distributed."[255] Just as electricity is sufficiently analogous to tangible property when a user flips a light switch or turns on an appliance, consumer software is sufficiently analogous to tangible property when users interact with it through a mobile app or web page.[256] A simple way for courts and litigants to tell when consumer software has become sufficiently analogous to tangible property is to have plaintiffs identify a user experience or user interface that they interacted with.[257] For example, in *Lemmon v. Snap* the plaintiffs could have satisfied their burden to show that the speed filter was a product by identifying the UI element corresponding to the filter: the font showing the user's speed that appears on top of the user's photo or video.[258] Therefore, the UX/UI approach satisfies the requirements of the Third Restatement.[259]

2. The UX/UI Approach Promotes the Policies of Tort Law

The UX/UI approach promotes allocative efficiency, deterrence, and administrability. First, the UX/UI approach places the burden of product accidents on the party best able to prevent harm, because tech companies are in a superior position to control the design of their apps. Although tech companies are not always able to control third-party services and content facilitated by their apps, the UX/UI approach will not hold tech companies liable for harm resulting from services or content.

Second, the UX/UI approach promotes deterrence by encouraging tech companies to invest in product safety. Although the physical analog requirement fails to incentivize safety in emerging technologies such as AI,[260] the UX/UI approach considers that AI apps are products if the AI app has a

253. *See* Calo, *supra* note 66, at 559.

254. *See id.*

255. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19 cmt. d (A.L.I. 1998) (internal quotations omitted).

256. *See id.*

257. *See supra* text accompanying notes 66–67.

258. *See Lemmon v. Snap*, 995 F.3d at 1089.

259. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 19(a) (A.L.I. 1998).

260. *See supra* Section IV.A.2.

consumer-facing user experience or user interface. As many scholars would agree, this is a desirable outcome.[261] On top of the existing proof problems plaintiffs face in bringing design defect claims against product manufacturers,[262] AI's "black box problem" amplifies proof problems because engineers themselves do not understand how some AI models make their decisions.[263] Placing the burden on plaintiffs to show a lack of reasonable care and causation will preclude negligence claims against AI companies because no one—not even a reasonable AI developer—can explain the inner workings of certain AI models.[264] By recognizing AI and other technologies without obvious tangible analogs as products, the UX/UI approach incentivizes safety in innovation and prevents tech companies from exploiting their informational advantage.

Finally, the UX/UI approach will be more administrable for courts than the *In re Social Media*'s multi-step inquiry. As explained above, the UX/UI approach is a bright-line rule that produces the same result as the subjective and complicated multi-step inquiry.[265] Additionally, the UX/UI approach will help trial courts come to consistent conclusions about what apps and features are products.[266]

3. The UX/UI Approach Will Not Create Chilling Effects on the Tech Industry

One potential concern regarding the UX/UI approach is that it will lower the barrier for plaintiffs claiming products liability against defendant tech companies. There are unlikely to be significant chilling effects on tech companies due to the many additional hurdles plaintiffs face in products liability cases. Just because a court determines that a consumer app is a product does not mean that the defendant is liable for all resulting harm. Once a plaintiff satisfies their burden to show that a consumer software app or feature is a product, they must also demonstrate defect, harm, and causation.[267] Additionally, in claims for design defect and insufficient warnings the plaintiff

261. *See* Villasenor, *supra* note 5; Ramakrishan et. al., *supra* note 7, at 27.

262. *See id.*

263. *See* Lou Blouin, *AI's Mysterious 'Black Box' Problem, Explained*, U. MICH.-DEARBORN NEWS (Mar. 6, 2023), https://umdearborn.edu/news/ais-mysterious-black-box-problem-explained (defining the "black box problem" as the "inability for us to see how deep learning systems make their decisions").

264. *See* HYLTON, *supra* note 28, at 335.

265. *See supra* Section IV.A.2.

266. *See supra* Section II.D.3.

267. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 1–2 (A.L.I. 1998).

must also show that their harm was foreseeable and could have been prevented with a reasonable alternative design or reasonable warnings or instructions.[268]

Furthermore, products liability only provides redress for physical harm.[269] Given the digital nature of apps, it is unlikely that defects will often result in direct physical harm. Many of the products liability cases involving defective apps only allege psychological harm.[270] Even if physical harm results, plaintiffs must overcome the additional hurdle of proximate causation. Courts may dismiss products liability cases against apps for insufficient causation when third parties cause the intentional tort to harm plaintiffs.[271] Plaintiffs' own conduct could be an independent intervening cause of harm because users make a conscious choice to use consumer apps.[272] Furthermore, the defendant has an additional opportunity to assert defenses, such as misuse and subsequent mishandling.[273]

Given the other barriers plaintiffs have to establish a successful products liability claim, the UX/UI approach is not likely to open the floodgates of products liability litigation.[274] Nonetheless, the UX/UI approach will incentivize tech companies to invest in product safety to avoid litigation in the

268. *See id.* § 2(b) (stating that a product has a design defect "when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design . . . and the omission of the alternative design renders the product not reasonable safe"); Ramakrishan et. al., *supra* note 7, at 33 (predicting that liability determinations for AI developers will largely be the same under the risk-utility test and traditional negligence doctrines).

269. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 1(A.L.I. 1998).

270. *See, e.g.*, *In re Soc. Media*, 702 F. Supp. 3d at 819 (alleging mental health harm and addiction); *T.V. v. Grindr*, 2024 WL 4128796, at *6 (alleging severe emotional distress and suicide).

271. *Brauer*, 103 A. at 167 (holding that unforeseeable third-party intervention is an independent intervening cause of harm); *See also, e.g.*, *Jackson v. Airbnb*, 639 F. Supp. 3d. at 1000 (alleging that plaintiff's son was shot and killed on an Airbnb property); *In re Uber*, 2024 WL 4211217, at *1–2 (alleging that Uber drivers engaged in sexual misconduct).

272. *See* RESTATEMENT (THIRD) OF TORTS: PHYS. & EMOT. HARM § 34 (2010) ("When a force of nature or an independent act is also a factual cause of harm, an actor's liability is limited to those harms that result from the risks that made the actor's conduct tortious.").

273. *See* RESTATEMENT (SECOND) OF TORTS § 402A cmt. g (A.L.I. 1998) (noting that a product is not defective if it the harm results from subsequent mishandling or from abnormal handling or misuse by the consumer).

274. *See* Gary Wilson, Vincent Moccio & Daniel O. Fallon, *The Future of Products Liability in America*, 27 WM. MITCHELL L. REV. 85, 88–101 (2000) (noting that statutes of repose, damages caps, and federal preemption heightened requirements for the reliability of expert testimony under *Daubert*, and the advent multi-district litigation made it more difficult for individual plaintiffs to maintain products liability suits).

first place and provide an avenue for redress for app-caused harm to plaintiffs with meritorious claims.

V. CONCLUSION

The purpose of products liability is to strike the optimal balance between innovation and safety.[275] This is just as true for consumer software as it was for the first passenger vehicles.[276] Courts are struggling to determine when consumer software is a product and sometimes arrive at opposite conclusions on the very same app.[277] In an attempt to address the unique complexity of consumer software and avoid these zero-sum outcomes, *In re Social Media* created a new framework to analyze the product status of consumer software using the "all-or-nothing" and "defect-specific" approaches and then applying the Third Restatement of Torts through a multi-step inquiry.[278] Although *In re Social Media*'s approach is better than the baseline, replacing the multi-step inquiry with the UX/UI approach further simplifies the analysis of whether consumer apps are products and creates consistent, administrable litigation.[279]

Products liability law still has many unanswered questions concerning consumer software. First, this Note does not address § 230 Immunity. Although internet companies are not insulated from products liability claims under § 230,[280] what constitutes protected expression in user experiences and user interfaces of consumer apps is a difficult question to answer.[281] Although courts have historically provided internet companies with immunity for harms caused by their algorithms,[282] the Third Circuit held in *Anderson v. TikTok, Inc.* that § 230 did not shield TikTok from liability for its recommendation algorithm.[283] The interplay between § 230 and products liability in the context of consumer software warrants further scholarship. Second, additional investigation is needed to clarify the line between the expressive and functional

275. *See* SHAPO, *supra* note 30, at 7-42–43.

276. *See MacPherson v. Buick*, 217 N.Y. at 389.

277. *See supra* Section II.D.3.b.

278. *See supra* Section III.B.

279. *See supra* Section IV.B.

280. *Lemmon v. Snap*, 995 F.3d at 1093. Note that the Ninth Circuit did not directly address the question of whether Snapchat is a product. *See id.*

281. Max Del Real, *Breaking Algorithmic Immunity: Why Section 230 Immunity May Not Extend to Recommendation Algorithms*, 99 WASH. L. REV. 1, 1 (noting that "recommendation algorithms pose an especially tricky challenge for Section 230 analyses").

282. *Id.* at 3.

283. 116 F.4th 180, 184 (3d Cir. 2024) (holding that § 230 did not protect TikTok from liability for harm caused by its recommendation algorithm because the recommendation algorithm is TikTok's own expression rather than the expression of a third party).

attributes of user interfaces and user experiences. It may be very difficult for courts to draw the line between technology and content, ideas, and expressions in the context of specific design elements. Finally, this Note does not address how other products liability rules apply in the context of consumer software, such as what constitutes a manufacturing or design defect in a consumer app.

In conclusion, the existing products liability framework can address harm caused by emerging consumer software technology. Although courts would benefit from adopting the UX/UI approach in lieu of the multi-step inquiry, *In re Social Media* shows that courts are already moving in the right direction to adapt products liability law to meet the needs of modern consumers.