

1 Ben M. Harrington (SBN 313877)  
2 **HAGENS BERMAN SOBOL SHAPIRO LLP**  
3 715 Hearst Avenue, Suite 300  
4 Berkeley, CA 94710  
5 Telephone: (510) 725-3000  
6 Facsimile: (510) 725-3001  
7 benh@hbsslaw.com

8 Steve W. Berman (*pro hac vice forthcoming*)  
9 **HAGENS BERMAN SOBOL SHAPIRO LLP**  
10 1301 Second Avenue, Suite 2000  
11 Seattle, WA 98101  
12 Telephone: (206) 623-7292  
13 Facsimile: (206) 623-0594  
14 Email: steve@hbsslaw.com

15 Eamon P. Kelly (*pro hac vice forthcoming*)  
16 Joseph M. Vanek (*pro hac vice forthcoming*)  
17 **SPERLING & SLATER, LLC**  
18 55 W. Monroe Street, 32nd Floor  
19 Chicago, IL 60603  
20 Telephone: (312) 676-5845  
21 Facsimile: (312) 641-6492  
22 ekelly@sperling-law.com  
23 jvanek@sperling-law.com  
24 jbergman@sperling-law.com

25 Phillip F. Cramer (*pro hac vice forthcoming*)  
26 **SPERLING & SLATER, LLC**  
27 1221 Broadway, Suite 2140  
28 Nashville, TN 37203  
Telephone: (312) 224-1512  
Facsimile: (312) 641-6492  
pcramer@sperling-law.com  
*Attorneys for Plaintiffs and the Proposed Class*

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA**

DEBORAH COLLINS; HUNTER COLLINS;  
and HENRY MORALES,

Plaintiffs,

v.

APPLE INC.

Defendant.

Case No. \_\_\_\_\_

**CLASS ACTION COMPLAINT**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**TABLE OF CONTENTS**

	<u>Page</u>
I. INTRODUCTION .....	1
II. BACKGROUND .....	3
III. DEFENDANT APPLE .....	9
IV. PLAINTIFFS .....	11
V. FACTUAL ALLEGATIONS .....	11
A. Apple Launches iPhone and Leverages Third-Party Developers to Enhance the Platform. ....	11
B. Apple Invited Third-Party Investment on The iPhone and Then Imposed Tight Controls on App Creation and App Distribution.....	13
VI. SMARTPHONES AS PLATFORMS.....	15
VII. APPLE UNLAWFULLY MAINTAINS ITS MONOPOLY POWER.....	16
A. Apple Harms Competition by Imposing Contractual Restrictions, Fees, and Taxes on App Creation and Distribution .....	16
1. Super Apps: Apple prevented apps from threatening its smartphone monopoly by undermining mini programs that reduce user dependence on the iPhone.....	18
2. Cloud Streaming Apps: Apple prevented developers from offering cloud gaming apps that reduce dependence on the iPhone’s expensive hardware.....	21
B. Apple Uses APIs and Other Critical Access Points in the Smartphone Ecosystem to Control the Behavior and Innovation of Third Parties in Order to Insulate Itself from Competition.....	23
1. Messaging: Apple protects its smartphone monopoly by degrading and undermining cross-platform messaging apps and rival smartphones. ....	23
2. Smartwatches: Apple protects its smartphone monopoly by impeding the development of cross-platform smartwatches.....	27
3. Digital Wallets: Apple restricts cross-platform digital wallets on the iPhone, reinforcing barriers to consumers switching to rival smartphones. ....	30

1	C.	Apple Uses A Similar Playbook To Maintain Its Monopoly Through Many Other Products And Services .....	33
2			
3	VIII.	ANTICOMPETITIVE EFFECTS .....	36
4	A.	Apple’s Conduct Harms The Competitive Process.....	36
5	B.	Apple Has Every Incentive To Use Its Monopoly Playbook In The Future .....	40
6			
7	IX.	PRIVACY, SECURITY, AND OTHER ALLEGED COUNTERVAILING FACTORS DO NOT JUSTIFY APPLE’S ANTICOMPETITIVE CONDUCT .....	40
8			
9	X.	THE SMARTPHONE INDUSTRY.....	42
10	A.	Background .....	42
11	B.	Smartphone Hardware.....	43
12	C.	Smartphone Operating Systems, Applications, And Other Software .....	44
13	D.	Relevant Markets .....	46
14		1. Performance smartphones are a relevant product market. ....	46
15		2. Smartphones are a broader relevant product market.....	47
16		3. The United States is a relevant geographic market for performance smartphones and smartphones. ....	48
17			
18	E.	Apple Has Monopoly Power In The Smartphone And Performance Smartphone Markets .....	49
19			
20	XI.	JURISDICTION, VENUE, AND COMMERCE .....	52
21	XII.	CLASS ALLEGATIONS .....	53
22	XIII.	STANDING AND ANTITRUST INJURY .....	55
23	XIV.	VIOLATIONS ALLEGED .....	55
24		COUNT I MONOPOLIZATION OF THE PERFORMANCE SMARTPHONE MARKET IN THE UNITED STATES IN VIOLATION OF SHERMAN ACT § 2.....	55
25			
26		COUNT II ATTEMPTED MONOPOLIZATION OF THE PERFORMANCE SMARTPHONE MARKET IN THE UNITED STATES IN VIOLATION OF SHERMAN ACT § 2 .....	56
27			
28			

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

COUNT III MONOPOLIZATION OF THE SMARTPHONE MARKET IN THE UNITED STATES IN VIOLATION OF SHERMAN ACT § 2 ..... 57

COUNT IV ATTEMPTED MONOPOLIZATION OF THE SMARTPHONE MARKET IN THE UNITED STATES IN VIOLATION OF SHERMAN ACT § 2..... 58

XV. REQUEST FOR RELIEF ..... 59

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

## I. INTRODUCTION

1. Apple has built a smartphone empire by erecting technological, psychological, and expense barriers that make it difficult for consumers to leave Apple’s platform and purchase a non-Apple device. As Steve Jobs summarized in a 2010 email to staff: Apple’s strategy is to “lock consumers into our ecosystem.”<sup>1</sup> The anticompetitive effects of this lock-in strategy, evolved by Apple over the ensuing years, are difficult to overstate. By trapping consumers in its ecosystem, Apple has severely restricted competition from other smartphone manufacturers to unlawfully maintain a durable monopoly over the market. As a monopolist, Apple has overcharged hundreds of millions of consumers on smartphones while generating historic returns.

2. The central pillar of Apple’s “lock-in” strategy is to suppress technologies and innovation that would make it easier for consumers to switch device ecosystems (*i.e.*, replace their iPhone with another manufacturers’ device). This is the antithesis of competition on the merits. In functioning markets, firms confront competitive threats by innovating their own products to make them better, cheaper, and more secure, all to win business. Apple’s lock-in strategy has the opposite objective and effect. Rather than make its devices more attractive to users, Apple traps its users by erecting artificial barriers to purchasing a competing device. By locking in its customer base, Apple cripples competition from actual and would-be smartphone manufacturers, resulting in higher prices, lower quality, stunted innovation, reduced choice, and lower quality-adjusted output in the smartphone market.

3. This complaint focuses on five technologies that Apple has suppressed to maintain a smartphone monopoly.

- **Super Apps:** Super apps can host an array of programs and device features and, in this way, they function as a gateway to accessing the functionality of a smartphone. The problem for Apple is that super apps facilitate switching devices, because if users interact with their device through super apps, they can more readily switch to other devices (manufactured by competitors) with the same super apps. Recognizing that super apps reduce costs and barriers to switching, Apple has blocked them through an array of technological and contractual restraints that serve no procompetitive ends.

---

<sup>1</sup> See “Steve Jobs wanted to ‘further lock customers into Apple’s ecosystem,” CNET (April 2, 2014), <https://www.cnet.com/tech/tech-industry/steve-jobs-wanted-to-further-lock-customers-into-apples-ecosystem/>.

- 1 • **Cloud Streaming Game Apps:** For many years Apple blocked cloud streaming  
2 gaming apps for similar reasons. Cloud streaming game apps provide users with a  
3 way to play computing intensive games in the cloud, thus decreasing the importance  
4 of expensive hardware Apple offers. To stunt cross-platform competition, Apple has  
5 severely constrained cloud streaming game apps on its smartphones.
- 6 • **Messaging Apps:** Apple degrades the functionality of third-party messaging apps,  
7 recognizing that high-quality messaging apps with cross-platform functionality would  
8 enhance competition among smartphone manufacturers and threaten Apple’s  
9 monopoly. Apple restricts cross-platform messaging specifically because it reinforces  
10 “obstacle[s] to iPhone families giving their kids Android phones.”
- 11 • **Smartwatches:** To further lock-in its customers, Apple has made the Apple Watch  
12 incompatible with competitor smartphone devices such as Android phones, while  
13 strategically degrading the functionality of third-party cross-platform smartwatches.  
14 By steering consumers toward the Apple Watch, and making it incompatible with  
15 other smartphones, Apple makes switching even more cost prohibitive because it  
16 entails not just purchasing a new phone, but a new smartwatch as well.
- 17 • **Digital Wallets:** Digital wallets store payment information and permit users to make  
18 payments by “tapping” their smartphone on a payments terminal. A cross-platform  
19 digital wallet would facilitate switching between smartphone devices. Recognizing  
20 this, and in a further effort to lock-in its users, Apple has blocked third-party digital  
21 wallets from accessing the technologies needed to perform tap payments from Apple’s  
22 devices. Apple has ensured that only its own proprietary and Apple-specific app—  
23 Apple Pay—can provide this functionality.

24 4. By suppressing these innovative technologies, Apple has degraded the  
25 functionality of its devices. It has made them less valuable to users. But enhancing the quality of  
26 its devices was never the objective of Apple’s lock-in strategy. The objective—Apple’s  
27 overarching strategic objective—is to make it difficult and costly for consumers to switch to  
28 competing devices. And measured against that manifestly anticompetitive goal, Apple’s strategy  
has been a resounding success.

1 5. Having locked in consumers and insulated itself from effective competition, Apple  
2 has maintained a monopoly in the smartphone market and, in that position, Apple is able to  
3 charge supracompetitive prices for its smartphones, with recent models commanding as much as  
4 \$1,599. In a competitive market, smartphone prices would be lower for Apple and overall.  
5 Beyond that, competition in a market freed from Apple’s practices would spark innovation—from  
6 both Apple and its competitors—that would enhance the functionality, security, and quality of the  
7 smartphone as we know it.



1 software applications, called “apps,” built atop a mobile operating system that mimicked the  
2 functionality and ease of use of a computer. Apple initially offered only a small number of apps  
3 that it created for the iPhone. But Apple quickly realized the enormous value that a broader  
4 community of entrepreneurial, innovative developers could drive to its users and the iPhone  
5 platform more broadly. So Apple invited and capitalized on the work of these third parties while  
6 maintaining control and monetizing that work for itself. The value of third parties’ work served  
7 an important purpose for Apple. Indeed, as early as 2010, then-CEO Steve Jobs discussed how to  
8 “further lock customers into our ecosystem” and “make Apple[‘s] ecosystem even more sticky.”<sup>2</sup>  
9 Three years later, Apple executives were still strategizing how to “get people hooked to the  
10 ecosystem.”<sup>3</sup>

11 10. That strategy paid off. Over more than 15 years, Apple has built and sustained the  
12 most dominant smartphone platform and ecosystem in the United States by attracting third-party  
13 developers of all kinds to create apps that users could download on their smartphones through a  
14 digital storefront called the App Store. As developers created more and better products, content,  
15 apps, and services, more people bought iPhones, which incentivized even more third parties to  
16 develop apps for the iPhone. Today, the iPhone’s ecosystem includes products, apps, content,  
17 accessories, and services that are offered by content creators, newspaper publishers, banks,  
18 advertisers, social media companies, airlines, productivity developers, retailers and other  
19 merchants, and others. As Apple’s power grew, its leverage over third parties reinforced its tight  
20 control over how third parties innovate and monetize on and off the smartphone in ways that were  
21 anticompetitive and exclusionary.

22 11. Today, Apple charges as much as \$1,599 for an iPhone and earns high margins on  
23 each one, more than double those of others in the industry. When developers imagine a new  
24 product or service for iPhone consumers, Apple demands up to 30 percent of the price of an app  
25 whose content, product, or service it did not create. Then when a consumer wants to buy some  
26 additional service within that app, Apple extracts up to another 30 percent, again for a service

---

27 <sup>2</sup> See *United States v. Apple Inc.*, Case No. 2:24-cv-04055, ECF No. 1 at ¶ 3 (D.N.J.).

28 <sup>3</sup> *Id.*



1 Apple does not create or develop. When users run an internet search, Google gives Apple a  
2 significant cut of the advertising revenue that an iPhone user’s searches generate.

3 12. Apple keenly understands that while a community of developers and accessory  
4 makers is indispensable to the success of the iPhone, they also pose an existential threat to its  
5 extraordinary profits by empowering consumers to “think different” and choose perfectly  
6 functional, less-expensive and potentially more innovative and attractive alternative smartphones.

7 13. Apple’s smartphone business model, at its core, is one that invites as many  
8 participants, including iPhone users and third-party developers, to join its platform as possible  
9 while using contractual terms to extract substantial remuneration from them. At the same time,  
10 Apple restricts its platform participants’ ability to negotiate or compete down its prices through  
11 alternative app stores, in-app payment processors, and more.

12 14. In order to protect that model, Apple reduces competition in the markets for  
13 performance smartphones and smartphones generally. It does this by delaying, degrading, or  
14 outright blocking technologies that would facilitate competition in the smartphone markets by  
15 decreasing barriers to switching to another smartphone, among other things. The suppressed  
16 technologies would provide a high-quality user experience on any smartphone, which would, in  
17 turn, require smartphones to compete on their merits.

18 15. Apple suppresses such innovation through a web of contractual restrictions that it  
19 selectively enforces through its control of app distribution and its “app review” process, as well as  
20 by denying access to key points of connection between apps and the iPhone’s operating system  
21 (called Application Programming Interfaces or “APIs”). Apple can enforce these restrictions due  
22 to its position as an intermediary between product creators such as developers on the one hand  
23 and users on the other.

24 16. This complaint highlights five examples of Apple using these mechanisms to  
25 suppress technologies that would have increased competition among smartphones. Suppressing  
26 these technologies does not reflect competition on the merits. Rather, to protect its smartphone  
27 monopoly—and the extraordinary profits that monopoly generates—Apple repeatedly chooses to  
28 make its products worse for consumers to prevent competition from emerging. These examples

1 below individually and collectively have contributed to Apple’s ability to secure, grow, and  
2 maintain its smartphone monopoly by increasing switching costs for users, which leads to higher  
3 prices, fewer choices, reduced quality-adjusted output, and less innovation for users and  
4 developers. Apple has used one or both mechanisms (control of app distribution or control of  
5 APIs) to suppress the following technologies, among others:

- 6 • Super apps provide a user with broad functionality in a single app. Super apps can  
7 improve smartphone competition by providing a consistent user experience that  
8 can be ported across devices. Suppressing super apps harms all smartphone  
9 users— including Apple users—by denying them access to high quality  
10 experiences and it harms developers by preventing them from innovating and  
11 selling products.
- 12 • Cloud streaming game apps provide users with a way to play computing intensive  
13 games in the cloud. Cloud streaming games (and cloud streaming in general) can  
14 improve smartphone competition by decreasing the importance of expensive  
15 hardware for accomplishing high-compute tasks on a smartphone. Suppressing  
16 cloud streaming games harms users by denying them the ability to play high-  
17 compute games, and it harms developers by preventing them from selling such  
18 games to users.
- 19 • Messaging apps allow users to communicate with friends, family, and other  
20 contacts. Messaging apps that work equally well across all smartphones can  
21 improve competition among smartphones by allowing users to switch phones  
22 without changing the way they communicate with friends, family, and others.  
23 Apple makes third-party messaging apps on the iPhone worse generally and  
24 relative to Apple Messages, Apple’s own messaging app, by prohibiting third-  
25 party apps from sending or receiving carrier-based messages. By doing so, Apple  
26 is knowingly and deliberately degrading quality, privacy, and security for its users  
27 and others who do not have iPhones. Apple also harms developers by artificially  
28 constraining the size of their user base.

- 1 • Smartwatches are an expensive accessory that typically must be paired to a  
2 smartphone. Smartwatches that can be paired with different smartphones allow  
3 users to retain their investment in a smartwatch when switching phones thereby  
4 decreasing the literal cost associated with switching from one smartphone to  
5 another, among other things. By suppressing key functions of third-party  
6 smartwatches—including the ability to respond to notifications and messages and  
7 to maintain consistent connections with the iPhone—Apple has denied users  
8 access to high performing smartwatches with preferred styling, better user  
9 interfaces and services, or better batteries, and it has harmed smartwatch  
10 developers by decreasing their ability to innovate and sell products.
- 11 • Digital wallets are an increasingly important way that smartphones are used and  
12 are a product in which users develop a great deal of comfort and trust as they  
13 typically contain users’ most sensitive information. Digital wallets that work  
14 across smartphone platforms allow users to move from one smartphone brand to  
15 another with decreased frictions, among other things. Apple has denied users  
16 access to digital wallets that would have provided a wide variety of enhanced  
17 features and denied digital wallet developers—often banks but also including other  
18 smartphone manufacturers—the opportunity to provide advanced digital payments  
19 services to their own customers.

20 17. By maintaining its monopoly over smartphones, Apple is able to harm consumers  
21 in a wide variety of additional ways. For example, by denying iPhone users the ability to choose  
22 their trusted banking apps as their digital wallet, Apple retains full control both over the consumer  
23 and also over the stream of income generated by forcing users to use only Apple-authorized  
24 products in the digital wallet. Apple also prohibits the creation and use of alternative app stores  
25 curated to reflect a consumer’s preferences with respect to security, privacy, or other values.  
26 These and many other features would be beneficial to consumers and empower them to make  
27 choices about what smartphone to buy and what apps and products to patronize. But allowing  
28 consumers to make that choice is an obstacle to Apple’s ability to maintain its monopoly.

1           18. Of course, this is not the story Apple presents to the world. For decades, Apple  
2 branded itself a nimble, innovative upstart. In 1998, Apple co-founder Steve Jobs criticized  
3 Microsoft’s monopoly and “dirty tactics” in operating systems to target Apple, which prompted  
4 the company “to go to the Department of Justice” in hopes of getting Microsoft “to play fair.”<sup>4</sup>  
5 But even at that time, Apple did not face the same types of restrictions it imposes on third parties  
6 today; Apple users could use their iPod with a Windows computer, and Microsoft did not charge  
7 Apple a 30 percent fee for each song downloaded from Apple’s iTunes store. Similarly, when  
8 Apple brought the iPhone to market in 2007, it benefited from competition among component  
9 makers and wireless carriers.

10           19. While Apple’s anticompetitive conduct arguably has benefited its shareholders—  
11 to the tune of over \$77 billion in stock buybacks in its 2023 fiscal year alone—it comes at a great  
12 cost to consumers. Some of those costs are immediate and obvious, and they directly affect  
13 Apple’s own customers: Apple inflates the price for buying and using iPhones while preventing  
14 the development of features like alternative app stores, innovative super apps, cloud-streaming  
15 games, secure texting, and digital wallet options.

16           20. Other costs of Apple’s anticompetitive conduct may be less obvious in the  
17 immediate term. But they are no less harmful and even more widespread, affecting all smartphone  
18 consumers. Apple’s smartphone monopoly means that it is not economically viable to invest in  
19 building some apps, like digital wallets, because they cannot reach iPhone users. This means that  
20 innovations fueled by an interest in building the best, most user-focused product that would exist  
21 in a more competitive market never get off the ground. What’s more, Apple itself has less  
22 incentive to innovate because it has insulated itself from competition. As Apple’s executives  
23 openly acknowledge: “In looking at it with hindsight, I think going forward we need to set a stake  
24 in the ground for what features we think are ‘good enough’ for the consumer. I would argue we’re  
25 already doing \*more\* than what would have been good enough. But we find it very hard to  
26 regress our product features YOY [year over year].” Existing features “**would have been good  
27 enough today if we hadn’t introduced [them] already,**” and “anything new and especially

28           <sup>4</sup> See *United States v. Apple Inc.*, Case No. 2:24-cv-04055, ECF No. 1 at ¶ 12 (D.N.J.).

1 expensive needs to be rigorously challenged before it's allowed into the consumer phone.”<sup>5</sup> Thus,  
2 it is not surprising that Apple spent more than twice as much on stock buybacks and dividends as  
3 it did on research and development.

4 21. Apple wraps itself in a cloak of privacy, security, and consumer preferences to  
5 justify its anticompetitive conduct. Indeed, it spends billions on marketing and branding to  
6 promote the self-serving premise that only Apple can safeguard consumers' privacy and security  
7 interests. Apple selectively compromises privacy and security interests when doing so is in  
8 Apple's own financial interest—such as degrading the security of text messages, offering  
9 governments and certain companies the chance to access more private and secure versions of app  
10 stores, or accepting billions of dollars each year for choosing Google as its default search engine  
11 when more private options are available. In the end, Apple deploys privacy and security  
12 justifications as an elastic shield that can stretch or contract to serve Apple's financial and  
13 business interests.

### 14 III. DEFENDANT APPLE

15 22. Apple is a global technology company with headquarters in Cupertino, California.  
16 Apple is one of the world's most valuable public companies with a market capitalization over  
17 \$2.5 trillion. In fiscal year 2023, Apple generated annual net revenues of \$383 billion and net  
18 income of \$97 billion. Apple's net income exceeds any other company in the Fortune 500 and the  
19 gross domestic products of more than 100 countries.

20 23. The iPhone, Apple's signature product, is the primary driver of Apple's growth  
21 and profitability, routinely commanding profit margins of more than 30 percent on devices  
22 alone—significantly higher than its smartphone competitors. iPhone sales have made up a  
23 majority of Apple's annual revenue every year since 2012.<sup>6</sup>

24 24. Apple increasingly extracts revenue from iPhone users beyond the initial  
25 smartphone sale. For example, Apple offers iPhone upgrades, apps and in-app payments, paid

26 \_\_\_\_\_  
27 <sup>5</sup> See *United States v. Apple Inc.*, Case No. 2:24-cv-04055, ECF No. 1 at ¶ 14 (D.N.J.)  
(emphasis in original).

28 <sup>6</sup> See *id.* at ¶ 20.

1 digital subscription services (*e.g.*, Apple’s music streaming, TV, news, gaming, fitness, and cloud  
2 storage subscriptions), accessories (*e.g.*, tracking devices, headphones, chargers, iPhone cases),  
3 and more. Apple refers to these offerings as “Services” and “Wearables, Home, and Accessories,”  
4 respectively. In fiscal year 2023, these offerings accounted for nearly one-third of Apple’s total  
5 revenue, or four times what Apple earned from selling Mac computers. Some of the largest  
6 drivers of revenue within these categories are Apple’s smartwatch, the Apple Watch, and Apple’s  
7 App Store, where iPhone users purchase and download apps. In recent years, Services have  
8 accounted for an increasing share of Apple’s revenues, while the iPhone has remained the primary  
9 gateway through which U.S. consumers access these services.

10 25. Apple’s U.S. market share by revenue is over 70 percent in the performance  
11 smartphone market—a more expensive segment of the broader smartphone market where Apple’s  
12 own executives recognize the company competes—and over 65 percent for all smartphones.  
13 These market shares have remained remarkably durable over the last decade.<sup>7</sup>

14 26. Apple’s smartphone market shares understate Apple’s dominance and likely  
15 growth in key demographics, including among younger American consumers. For example, one-  
16 third of all iPhone users in the United States were born after 1996, as compared to just 10 percent  
17 for Samsung, Apple’s closest smartphone competitor. Surveys show that as many as 88 percent of  
18 U.S. teenagers expect to purchase an iPhone for their next smartphone.<sup>8</sup> iPhone users also tend to  
19 come from higher income households. Because smartphone users generally use a single  
20 smartphone to access related products and services, locking up key user groups allows Apple to  
21 capture greater spending on iPhone-related products and services, realize higher margins per user  
22 as compared to its smartphone rivals, and exercise greater control over developers and other  
23 smartphone ecosystem participants.<sup>9</sup>

---

24  
25  
26 <sup>7</sup> *See id.* at ¶ 22.

27 <sup>8</sup> Piper Sandler, *Taking Stock with Teens* (Fall 2023 Survey),  
<https://www.pipersandler.com/teens>.

28 <sup>9</sup> *See id.* at ¶ 23.



1 smartphone that was easy to use. Reflecting on the company’s learning from the iPod, Apple’s  
2 then-CEO announced, “iTunes is going to sync all your media to your iPhone—but also a ton of  
3 data. Contacts, calendars, photos, notes, bookmarks, email accounts.”<sup>11</sup>

4 32. The original iPhone cost approximately \$299—approximately \$450 in 2024  
5 dollars adjusted for inflation—with a two-year contract with a phone carrier.

6 33. At launch, nearly all native apps for the iPhone were created by Apple. There were  
7 only about a dozen apps overall, including Calendar, Camera, Clock, Contacts, iPod, Messages,  
8 Notes, Phone, Photos, Safari, Stocks, Voice Memos, and Weather.

9 34. Within a year of launching the iPhone, Apple invited third-party developers to  
10 create native apps for the iPhone. Apple released its first software development kit—essentially  
11 the digital tools for building native apps on Apple’s operating system (iOS)—to encourage and  
12 enable third-party developers to create native apps for the iPhone. Apple also offered developers  
13 ways to earn money by selling apps and later in-app purchases and subscriptions. By 2009, Apple  
14 was running marketing campaigns highlighting the value that third-party apps provide to iPhone  
15 users with the trademarked slogan: “There’s an app for that.”

16 35. Apple’s decision to invite third-party participation on its iPhone platform benefited  
17 Apple, too. The proliferation of third-party apps generated billions of dollars in profits for Apple  
18 and an iPhone user base of more than 250 million devices in the United States. Apple’s market  
19 shares—over 70 percent of the performance smartphone market and over 65 percent of the  
20 broader smartphone market—likely understate its monopoly power today.

21 36. While Apple profits from third-party developers that increase the iPhone’s value to  
22 users, Apple executives understand that third-party products and services can, in their own words,  
23 be “fundamentally disruptive” to Apple’s smartphone monopoly, decreasing users’ dependence  
24 on Apple and the iPhone and increasing competitive pressure on Apple.<sup>12</sup> Apple therefore  
25 willingly sacrifices the short-term benefits it would gain from improved products and services  
26 developed by third parties when necessary to maintain its monopoly.

---

27 <sup>11</sup> See *id.* at ¶ 35.

28 <sup>12</sup> See *id.* at ¶ 40.



1 **B. Apple Invited Third-Party Investment on The iPhone and Then Imposed Tight**  
2 **Controls on App Creation and App Distribution**

3 37. Apple controls how developers distribute and create apps for iPhone users. For  
4 example, developers can only distribute native iPhone apps through Apple’s App Store, which is  
5 the only way for users to download native iOS apps. Limiting distribution to the Apple App Store  
6 enables Apple to exert monopoly power over developers by imposing contractual restrictions and  
7 rules that limit the behavior of non-Apple apps and services. Specifically, Apple sets the  
8 conditions for apps it allows on the Apple App Store through its App Store Review Guidelines.  
9 Under these guidelines, Apple has sole discretion to review and approve all apps and app updates.  
10 Apple selectively exercises that discretion to its own benefit, deviating from or changing its  
11 guidelines when it suits Apple’s interests and allowing Apple executives to control app reviews  
12 and decide whether to approve individual apps or updates. Apple often enforces its App Store  
13 rules arbitrarily. And it frequently uses App Store rules and restrictions to penalize and restrict  
14 developers that take advantage of technologies that threaten to disrupt, disintermediate, compete  
15 with, or erode Apple’s monopoly power.

16 38. Apple also controls app creation by deciding which APIs are available to  
17 developers when they make third-party apps. For example, developers cannot provide native apps  
18 on the iPhone unless they enter into Apple’s non-negotiable Developer Program License  
19 Agreement (DPLA). That agreement requires developers to use public APIs only “in the manner  
20 prescribed by Apple.” It also prohibits third-party apps from using APIs that Apple designates as  
21 “private.” Apple selectively designates APIs as public or private to benefit Apple, limiting the  
22 functionality developers can offer to iPhone users even when the same functionality is available  
23 in Apple’s own apps, or even select third-party apps. Similar to Apple’s App Store restrictions,  
24 Apple uses its DPLA to impose restrictions that penalize and restrict developers that take  
25 advantage of technologies that threaten to disrupt, disintermediate, compete with, or erode  
26 Apple’s monopoly power.

27 39. Developers cannot avoid Apple’s control of app distribution and app creation by  
28 making web apps—apps created using standard programming languages for web-based content

1 and available over the internet—as an alternative to native apps. Many iPhone users do not look  
2 for or know how to find web apps, causing web apps to constitute only a small fraction of app  
3 usage. Apple recognizes that web apps are not a good alternative to native apps for developers. As  
4 one Apple executive acknowledged, “[d]evelopers can’t make much money on the web.”<sup>13</sup>  
5 Regardless, Apple can still control the functionality of web apps because Apple requires all web  
6 browsers on the iPhone to use WebKit, Apple’s browser engine—the key software components  
7 that third-party browsers use to display web content.

8         40. Nor can developers rely on alternative app stores even though this would benefit  
9 developers and users. For example, developers cannot offer iPhone users an app store that only  
10 offers apps curated for use by children, which would provide opportunities to improve privacy,  
11 security, and child safety. By contrast, Apple allows certain enterprise and public sector  
12 customers to offer versions of app stores with more curated apps to better protect privacy and  
13 security.

14         41. Apple’s control over both app distribution and app creation gives Apple  
15 tremendous power. For example, Apple designates as “private” the APIs needed to send Short  
16 Message Service, or SMS, text messages, which is a protocol used by mobile carriers since the  
17 early 1990s to allow users to send basic text messages to other mobile phone numbers using their  
18 own mobile phone numbers. Developers have no technical means to access these private APIs,  
19 but even if they did, doing so would breach their developer agreement with Apple, and therefore  
20 put the developer at risk of losing the ability to distribute apps through the App Store. For  
21 example, Apple prohibits third-party iPhone apps from sending or receiving SMS<sup>14</sup> text  
22 messages even though this functionality is available through Apple Messages. Likewise, Apple  
23 can control the functionality of third-party apps and accessories through its control of app  
24 distribution because if an app includes functionality that Apple does not like, Apple can and does  
25 exercise its discretion to simply block the app from the App Store.

26 <sup>13</sup> *See id.* at ¶ 43.

27 <sup>14</sup> Following industry practice, throughout this complaint, “SMS” refers to both SMS and  
28 MMS (“multimedia messaging service”). MMS is a companion protocol to SMS that allows for  
group messages and messages with basic multimedia content, such as small file sharing.



1 innovations have created enormous value. Apple has willingly opened the platform to third-party  
2 developers to capture this value even though there is no extensive regulatory framework requiring  
3 it to do so or overseeing how it interacts with those third parties. In this way, smartphone  
4 platforms are very different from other platforms, like landline telephone networks, whose value-  
5 adding features were built primarily by the platform operator and which were only opened to third  
6 parties when the platform operator was required to do so by regulation. When a third-party  
7 developer for the iPhone creates a valuable new feature, consumers benefit and consumer demand  
8 goes up for Apple's products, increasing the economic value of the iPhone to Apple. This has  
9 played out hundreds of thousands of times for the iPhone, resulting in an enormously valuable  
10 smartphone platform reflecting the combined contributions of millions of developers.

11 46. In contrast, limiting the features and functionality created by third-party  
12 developers—and therefore available to iPhone users—makes the iPhone worse and deprives  
13 Apple of the economic value it would gain as the platform operator. It makes no economic sense  
14 for Apple to sacrifice the profits it would earn from new features and functionality unless it has  
15 some other compensating reason to do so, such as protecting its monopoly profits.

## 16 VII. APPLE UNLAWFULLY MAINTAINS ITS MONOPOLY POWER

### 17 A. Apple Harms Competition by Imposing Contractual Restrictions, Fees, and Taxes on 18 App Creation and Distribution

19 47. Soon after the iPhone's introduction and notwithstanding its success, the company  
20 began to fear that disintermediation of its platform and the commoditization of the iPhone would  
21 threaten Apple's substantial profits from iPhone sales and related revenue streams.

22 48. Accordingly, Apple exercised its control of app creation and app distribution in  
23 key cases to cement the iPhone and App Store as the primary gateway to apps, products, and  
24 services. Apple often claims these rules and restrictions are necessary to protect user privacy or  
25 security, but Apple's documents tell a different story. In reality, Apple imposes certain  
26 restrictions to benefit its bottom line by thwarting direct and disruptive competition for its iPhone  
27 platform fees and/or for the importance of the iPhone platform itself.  
28

1           49. Three aspects of Apple’s efforts to protect and exploit its smartphone monopoly  
2 are worth noting. First, Apple exercises its control over app distribution and app creation to  
3 dictate how developers innovate for the iPhone, enforcing rules and contractual restrictions that  
4 stop or delay developers from innovating in ways that threaten Apple’s power. In so doing, Apple  
5 influences the direction of innovation both on and off the iPhone.

6           50. Second, Apple drives iPhone users away from products and services that compete  
7 with or threaten Apple. In doing so, Apple increases the cost and friction of switching from the  
8 iPhone to another smartphone and generates extraordinary profits through subscription services  
9 (like Apple’s proprietary music, gaming, cloud storage, and news services), advertisements within  
10 the App Store, and accessories like headphones and smartwatches.

11           51. Third, Apple uses these restrictions to extract monopoly rents from third parties in  
12 a variety of ways, including app fees and revenue-share requirements. For most of the last 15  
13 years, Apple collected a tax in the form of a 30 percent commission on the price of any app  
14 downloaded from the App Store, a 30 percent tax on in-app purchases, and fees to access the tools  
15 needed to develop iPhone native apps in the first place. While Apple has reduced the tax it  
16 collects in certain instances, Apple still extracts 30 percent from many app transactions.

17           52. As Apple exercised its control of app distribution and app creation, Apple slowed  
18 its own iPhone innovation and extracted more revenue and profit from its existing customers  
19 through subscriptions, advertising, and cloud services. These services increase the cost of  
20 switching from the iPhone to another smartphone because many of these services—including its  
21 proprietary gaming, cloud storage, and news service—are exclusive to the Apple ecosystem,  
22 causing significant frictions for iPhone users who try to use alternative services on another  
23 smartphone. Moreover, Apple’s conduct demonstrates that Apple recognized the importance of  
24 digital products and services for the success of the iPhone while at the same time it restricted the  
25 development and growth of non-iPhone products and services—especially those that might make  
26 it easier for users to switch from the iPhone to another smartphone.

27           53. Each step in Apple’s course of conduct built and reinforced its smartphone  
28 monopoly. The cumulative effect of this course of conduct has been to maintain and entrench

1 Apple’s smartphone monopoly at the expense of consumers such as Plaintiffs. Despite major  
2 technological changes over the years, Apple’s power to control app creation and distribution and  
3 extract supracompetitive rents has remained largely the same, unconstrained by competitive  
4 pressures or market forces. That this conduct is impervious to competition reflects the success of  
5 Apple’s efforts to create and maintain its smartphone monopoly, the strength of that monopoly,  
6 and the durability of Apple’s power.

7 54. Apple’s monopoly maintenance has taken many forms and continues to evolve  
8 today; however, Apple’s anticompetitive and exclusionary course of conduct is exemplified by its  
9 contractual rules and restrictions targeting several products and services: super apps, cloud  
10 streaming apps, messaging apps, smartwatches, and digital wallets. By stifling these technologies,  
11 and many others, Apple reinforces its smartphone monopoly not by making its products more  
12 attractive to users, but by discouraging innovation that threatens Apple’s smartphone monopoly  
13 or the disintermediation of the iPhone. Apple continues to expand and shift the scope and  
14 categories of anticompetitive conduct such that the cumulative anticompetitive effect of Apple’s  
15 conduct is even more powerful than that of each exclusionary act standing alone.

16 **1. Super Apps: Apple prevented apps from threatening its smartphone**  
17 **monopoly by undermining mini programs that reduce user dependence on the**  
18 **iPhone.**

19 55. For years, Apple denied its users access to super apps because it viewed them as  
20 “fundamentally disruptive” to “existing app distribution and development paradigms” and  
21 ultimately Apple’s monopoly power. Apple feared super apps because it recognized that as they  
22 become popular, “demand for iPhone is reduced.”<sup>15</sup> So, Apple used its control over app  
23 distribution and app creation to effectively prohibit developers from offering super apps instead  
24 of competing on the merits.

25 56. A super app is an app that can serve as a platform for smaller “mini” programs  
26 developed using programming languages such as HTML5 and JavaScript. By using programming  
27 languages standard in most web pages, mini programs are cross platform, meaning they work the

---

28 <sup>15</sup> See *id.* at ¶ 60.

1 same on any web browser and on any device. Developers can therefore write a single mini  
2 program that works whether users have an iPhone or another smartphone.

3 57. Super apps can provide significant benefits to users. For example, a super app that  
4 incorporates a multitude of mini programs might allow users to easily discover and access a wide  
5 variety of content and services without setting up and logging into multiple apps, not unlike how  
6 Netflix and Hulu allow users to find and watch thousands of movies and television shows in a  
7 single app. As one Apple executive put it, “who doesn’t want faster, easier to discover apps that  
8 do everything a full app does?” Restricting super apps makes users worse off and sacrifices the  
9 short-term profitability of iPhones for Apple.

10 58. Super apps also reduce user dependence on the iPhone, including the iOS  
11 operating system and Apple’s App Store. This is because a super app is a kind of middleware that  
12 can host apps, services, and experiences without requiring developers to use the iPhone’s APIs or  
13 code.

14 59. As users interact with a super app, they rely less on the smartphone’s proprietary  
15 software and more on the app itself. Eventually, users become more willing to choose a different  
16 smartphone because they can access the same interface, apps, and content they desire on any  
17 smartphone where the super app is also present. Moreover, developers can write mini programs  
18 that run on the super app without having to write separate apps for iPhones and other  
19 smartphones. This lowers barriers to entry for smartphone rivals, decreases Apple’s control over  
20 third-party developers, and reduces switching costs.

21 60. Apple recognizes that super apps with mini programs would threaten its  
22 monopoly. As one Apple manager put it, allowing super apps to become “the main gateway  
23 where people play games, book a car, make payments, etc.” would “let the barbarians in at the  
24 gate.” Why? Because when a super app offers popular mini programs, “iOS stickiness goes  
25 down.”<sup>16</sup>

26 61. Apple’s fear of super apps is based on first-hand experience with enormously  
27 popular super apps in Asia. Apple does not want U.S. users to benefit from similar innovations.

28 <sup>16</sup> See *id.* at ¶ 65.

1 For example, in a Board of Directors presentation, Apple highlighted the “[u]ndifferentiated user  
2 experience on [a] super platform” as a “major headwind” to growing iPhone sales in countries  
3 with popular super apps due to the “[l]ow stickiness” and “[l]ow switching cost.” For the same  
4 reasons, a super app created by a U.S. company would pose a similar threat to Apple’s  
5 smartphone dominance in the United States. Apple noted as a risk in 2017 that a potential super  
6 app created by a specific U.S. company would “replace[ ] usage of native OS and apps resulting  
7 in commoditization of smartphone hardware.”<sup>17</sup>

8         62. Apple did not respond to the risk that super apps might disrupt its monopoly by  
9 innovating. Instead, Apple exerted its control over app distribution to stifle others’ innovation.  
10 Apple created, strategically broadened, and aggressively enforced its App Store Guidelines to  
11 effectively block apps from hosting mini programs. Apple’s conduct disincentivized investments  
12 in mini program development and caused U.S. companies to abandon or limit support for the  
13 technology in the United States.

14         63. In particular, part of what makes super apps valuable to consumers is that finding  
15 and using mini programs is easier than using an app store and navigating many separate apps,  
16 passwords, and set-up processes. Instead of making mini program discovery easy for users,  
17 however, Apple made it nearly impossible.

18         64. Since at least 2017, Apple has arbitrarily imposed exclusionary requirements that  
19 unnecessarily and unjustifiably restrict mini programs and super apps. For example, Apple  
20 required apps in the United States to display mini programs using a flat, text-only list of mini  
21 programs. Apple also banned displaying mini programs with icons or tiles, such as descriptive  
22 pictures of the content or service offered by the mini program. Apple also banned apps from  
23 categorizing mini programs, such as by displaying recently played games or more games by the  
24 same developer. These restrictions throttle the popularity of mini programs and ultimately make  
25 the iPhone worse because it discourages developers from creating apps and other content that  
26 would be attractive to iPhone users.

---

27  
28 <sup>17</sup> See *id.* at ¶ 66.



1           65. Apple also selectively enforced its contractual rules with developers to prevent  
2 developers from monetizing mini programs, hurting both users and developers. For example,  
3 Apple blocked mini programs from accessing the APIs needed to implement Apple’s in-app  
4 payment (IAP) system—even if developers were willing to pay Apple’s monopoly tax. Similarly,  
5 Apple blocked developers’ ability to use in-app payment methods other than directly using IAP.  
6 For instance, super apps could create a virtual currency for consumers to use in mini programs,  
7 but Apple blocked this too. Apple, however, allows other, less-threatening apps to do so.

8           **2. Cloud Streaming Apps: Apple prevented developers from offering cloud**  
9           **gaming apps that reduce dependence on the iPhone’s expensive hardware.**

10           66. For years, Apple blocked cloud gaming apps that would have given users access to  
11 desirable apps and content without needing to pay for expensive Apple hardware because this  
12 would threaten its monopoly power. In Apple’s own words, it feared a world where “all that  
13 matters is who has the cheapest hardware” and consumers could “buy[] a [expletive] Android for  
14 25 bux at a garage sale and ... have a solid cloud computing device” that “works fine.”<sup>18</sup> Apple’s  
15 conduct made its own product worse because consumers missed out on apps and content. This  
16 conduct also cost Apple substantial revenues from third-party developers. At the same time,  
17 Apple also made other smartphones worse by stifling the growth of these cross-platform apps on  
18 other smartphones. Importantly, Apple prevented the emergence of technologies that could lower  
19 the price that consumers pay for iPhones.

20           67. Cloud streaming apps let users run a computationally intensive program without  
21 having to process or store the program on the smartphone itself. Instead, a user’s smartphone  
22 leverages the computing power of a remote server, which runs the program and streams the result  
23 back to the phone. Cloud streaming allows developers to bring cutting-edge technologies and  
24 services to smartphone consumers—including gaming and interactive artificial intelligence  
25 services—even if their smartphone includes hardware that is less powerful than an iPhone.

26           68. Cloud streaming has significant benefits for users. For example, Apple has  
27 promoted the iPhone 15 by promising that its hardware is powerful enough to enable “next-level

28 \_\_\_\_\_  
<sup>18</sup> See *id.* at ¶ 71.

1 performance and mobile gaming.” But powerful hardware is unnecessary if games are played via  
2 cloud streaming apps. For a cloud game, the user experiences and plays the game on the  
3 smartphone, but the game is run by hardware and software in remote computing centers (“the  
4 cloud”). Thus, cloud gaming apps deliver rich gaming experiences on smartphones without the  
5 need for users to purchase powerful, expensive hardware. As a result, users with access to cloud  
6 streamed games may be more willing to switch from an iPhone to a smartphone with less  
7 expensive hardware because both smartphones can run desirable games equally well.

8         69. Cloud streaming also has significant advantages for developers. For example,  
9 instead of re-writing the same game for multiple operating systems, cloud platforms can act as  
10 middleware that allow developers to create a single app that works across iOS, Android, and other  
11 operating systems. Cloud streaming provides more and simpler options for offering subscriptions,  
12 collecting payments, and distributing software updates as well. All of this helps game developers  
13 reach economies of scale and profitability they might not achieve without offering cloud gaming  
14 apps and reduces their dependence on iOS and Apple’s App Store.

15         70. Apple wielded its power over app distribution to effectively prevent third-party  
16 developers from offering cloud gaming subscription services as a native app on the iPhone. Even  
17 today, none are currently available on the iPhone.

18         71. For years, Apple imposed the onerous requirement that any cloud streaming  
19 game—or any update to a cloud streaming game—be submitted as a stand-alone app for approval  
20 by Apple. Having to submit individual cloud streaming games for review by Apple increased the  
21 cost of releasing games on the iPhone and limited the number of games a developer could make  
22 available to iPhone users. For example, the highest quality games, referred to as AAA games,  
23 typically require daily or even hourly updates across different platforms. If these updates need to  
24 be individually approved by Apple, developers must either delay their software updates across all  
25 platforms or only update their games on non-iOS platforms, potentially making the iOS version of  
26 the game incompatible with other versions on other platforms until Apple approves the update.  
27 Neither option is tenable for players or developers.  
28

1           72.     Until recently, Apple would have required users to download cloud streaming  
2 software separately for each individual game, install identical app updates for each game  
3 individually, and make repeated trips to Apple’s App Store to find and download games. Apple’s  
4 conduct made cloud streaming apps so unattractive to users that no developer designed one for  
5 the iPhone.

6           73.     Apple undermines cloud gaming apps in other ways too, such as by requiring  
7 cloud games to use Apple’s proprietary payment system and necessitating game overhauls and  
8 payment redesigns specifically for the iPhone. Apple’s rules and restrictions effectively force  
9 developers to create a separate iOS-specific version of their app instead of creating a single cloud-  
10 based version that is compatible with several operating systems, including iOS. As a result,  
11 developers expend considerable time and resources re-engineering apps to bring cross-platform  
12 apps like multiplayer games to the iPhone.

13           74.     Cloud streaming apps broadly speaking—not just gaming—could force Apple to  
14 compete more vigorously against rivals. As one Apple manager recognized, cloud streaming  
15 eliminates “a big reason for high-performance local compute” and thus eliminates one of the  
16 iPhone’s advantages over other smartphones because then “all that matters is who has the  
17 cheapest hardware.” Accordingly, it reduces the need for users to buy expensive phones with  
18 advanced hardware. This problem does not “stop at high-end gaming,” but applies to “a number  
19 of high-compute requirement applications.”<sup>19</sup>

20 **B.     Apple Uses APIs and Other Critical Access Points in the Smartphone Ecosystem to**  
21 **Control the Behavior and Innovation of Third Parties in Order to Insulate Itself**  
22 **from Competition**

23 **1.     Messaging: Apple protects its smartphone monopoly by degrading and**  
24 **undermining cross-platform messaging apps and rival smartphones.**

25           75.     Apple undermines cross-platform messaging to reinforce “obstacle[s] to iPhone  
26 families giving their kids Android phones.” Apple could have made a better cross-platform  
27 messaging experience itself by creating iMessage for Android but concluded that doing so “will  
28

---

<sup>19</sup> See *id.* at ¶ 79.

1 hurt us more than help us.”<sup>20</sup> Apple therefore continues to impede innovation in smartphone  
2 messaging, even though doing so sacrifices the profits Apple would earn from increasing the  
3 value of the iPhone to users, because it helps build and maintain its monopoly power.

4 76. Messaging apps allow smartphone users to communicate with friends, family, and  
5 other contacts and are often the primary way users interact with their smartphones. In Apple’s  
6 own words, messaging apps are “a central artery through which the full range of customer  
7 experience flows.”<sup>21</sup>

8 77. Smartphone messaging apps operate using “protocols,” which are the systems that  
9 enable communication and determine the features available when users interact with each other  
10 via messaging apps.

11 78. One important protocol used by messaging apps is SMS. SMS offers a broad user  
12 network, but limited functionality. For example, all mobile phones can receive SMS messages,  
13 but SMS does not support modern messaging features, such as large files, edited messages, or  
14 reactions like a “thumbs up” or a heart.

15 79. Many messaging apps—such as WhatsApp, Facebook Messenger, and Signal—  
16 use proprietary, internet-based protocols, which are sometimes referred to as OTT (“over the  
17 top”) protocols. OTT messaging typically involves more secure and advanced features, such as  
18 encryption, typing indicators, read receipts, the ability to share rich media, and disappearing or  
19 ephemeral messages. While all mobile phones can send and receive SMS messages, OTT only  
20 works between users who sign up for and communicate through the same messaging app. As a  
21 result, a user cannot send an OTT message to a friend unless the friend also uses the same  
22 messaging app.

23 80. Apple makes third-party messaging apps on the iPhone worse generally and  
24 relative to Apple Messages, Apple’s own messaging app. By doing so, Apple is knowingly and  
25 deliberately degrading quality, privacy, and security for its users. For example, Apple designates  
26 the APIs needed to implement SMS as “private,” meaning third-party developers have no

---

27 <sup>20</sup> See *id.* at ¶ 80.

28 <sup>21</sup> See *id.* at ¶ 81.

1 technical means of accessing them and are prohibited from doing so under Apple’s contractual  
2 agreements with developers. As a result, third-party messaging apps cannot combine the “text to  
3 anyone” functionality of SMS with the advanced features of OTT messaging. Instead, if a user  
4 wants to send somebody a message in a third-party messaging app, they must first confirm  
5 whether the person they want to talk to has the same messaging app and, if not, convince that  
6 person to download and use a new messaging app. By contrast, if an Apple Messages user wants  
7 to send somebody a message, they just type their phone number into the “To:” field and send the  
8 message because Apple Messages incorporates SMS and OTT messaging.

9 81. Apple prohibits third-party developers from incorporating other important features  
10 into their messaging apps as well. For example, third-party messaging apps cannot continue  
11 operating in the background when the app is closed, which impairs functionality like message  
12 delivery confirmation. And when users receive video calls, third-party messaging apps cannot  
13 access the iPhone camera to allow users to preview their appearance on video before answering a  
14 call. Apple Messages incorporates these features.

15 82. If third-party messaging apps could incorporate these features, they would be more  
16 valuable and attractive to users, and the iPhone would be more valuable to Apple in the short  
17 term. For example, by incorporating SMS, users would avoid the hassle of convincing someone to  
18 download a separate app before sending them a message. Third-party messaging apps could also  
19 offer the ability to schedule SMS messages to be sent in the future, suggest replies, and support  
20 robust multi-device use on smartphones, tablets, and computers—as they have already done on  
21 Android.

22 83. Moreover, messaging apps benefit from significant network effects—as more  
23 people use the app, there are more people to communicate with through the app, which makes the  
24 app more valuable and in turn attracts even more users. Incorporating SMS would help third-party  
25 messaging apps grow their network and attract more users. Instead, Apple limits the reach of  
26 third-party messaging apps and reinforces network effects that benefit Apple.

27 84. Recently, Apple has stated that it plans to incorporate more advanced features for  
28 cross-platform messaging in Apple Messages by adopting a 2019 version of the RCS protocol

1 (which combines aspects of SMS and OTT). Apple has not done so yet, and regardless it would  
2 not cure Apple’s efforts to undermine third-party messaging apps because third-party messaging  
3 apps will still be prohibited from incorporating RCS just as they are prohibited from  
4 incorporating SMS. Moreover, the RCS standard will continue to improve over time, and if Apple  
5 does not support later versions of RCS, cross-platform messaging using RCS could soon be  
6 broken on iPhones anyway.

7 85. In addition to degrading the quality of third-party messaging apps, Apple  
8 affirmatively undermines the quality of rival smartphones. For example, if an iPhone user  
9 messages a non-iPhone user in Apple Messages—the default messaging app on an iPhone—then  
10 the text appears to the iPhone user as a green bubble and incorporates limited functionality: the  
11 conversation is not encrypted, videos are pixelated and grainy, and users cannot edit messages or  
12 see typing indicators. This signals to users that rival smartphones are lower quality because the  
13 experience of messaging friends and family who do not own iPhones is worse—even though  
14 Apple, not the rival smartphone, is the cause of that degraded user experience. Many non-iPhone  
15 users also experience social stigma, exclusion, and blame for “breaking” chats where other  
16 participants own iPhones. This effect is particularly powerful for certain demographics, like  
17 teenagers—where the iPhone’s share exceeds 85 percent, according to one survey. This social  
18 pressure reinforces switching costs and drives users to continue buying iPhones—solidifying  
19 Apple’s smartphone dominance not because Apple has made its smartphone better, but because it  
20 has made communicating with other smartphones worse.

21 86. Apple recognizes that its conduct harms users and makes it more difficult to switch  
22 smartphones. For example, in 2013, Apple’s Senior Vice President of Software Engineering  
23 explained that supporting cross-platform OTT messaging in Apple Messages “would simply serve  
24 to remove [an] obstacle to iPhone families giving their kids Android phones.” In March 2016,  
25 Apple’s Senior Vice President of Worldwide Marketing forwarded an email to CEO Tim Cook  
26 making the same point: “moving iMessage to Android will hurt us more than help us.”<sup>22</sup>

27  
28 \_\_\_\_\_  
<sup>22</sup> See *id.* at ¶ 91.

1            87. In 2022, Apple’s CEO Tim Cook was asked whether Apple would fix iPhone-to-  
2 Android messaging. “It’s tough,” the questioner implored Mr. Cook, “not to make it personal but  
3 I can’t send my mom certain videos.” Mr. Cook’s response? “Buy your mom an iPhone.”<sup>23</sup>

4            88. Recently, Apple blocked a third-party developer from fixing the broken cross-  
5 platform messaging experience in Apple Messages and providing end-to-end encryption for  
6 messages between Apple Messages and Android users. By rejecting solutions that would allow  
7 for cross-platform encryption, Apple continues to make iPhone users’ less secure than they could  
8 otherwise be.

9            **2. Smartwatches: Apple protects its smartphone monopoly by impeding the**  
10            **development of cross-platform smartwatches.**

11            89. Apple uses smartwatches, a costly accessory, to prevent iPhone customers from  
12 choosing other phones. Having copied the idea of a smartwatch from third-party developers,  
13 Apple now prevents those developers from innovating and limits the Apple Watch to the iPhone  
14 to prevent erosion in iPhone sales.

15            90. Smartwatches are wrist-worn devices with an interactive display and  
16 accompanying apps that let users perform a variety of functions, including monitoring health data,  
17 responding to messages and notifications, performing mobile payments, and, of course, telling  
18 time. Smartwatches must generally be paired with a smartphone to operate and unlock their full  
19 functionality, such as receiving and responding to emails and text messages or answering phone  
20 calls. Because of the significant cost of buying a smartwatch, users are less willing to choose a  
21 smartphone if it is not compatible with their smartwatch.

22            91. Apple’s smartwatch—Apple Watch—is only compatible with the iPhone. So, if  
23 Apple can steer a user towards buying an Apple Watch, it becomes more costly for that user to  
24 purchase a different kind of smartphone because doing so requires the user to abandon their costly  
25 Apple Watch and purchase a new, Android-compatible smartwatch.

26            92. By contrast, cross-platform smartwatches can reduce iPhone users’ dependence on  
27 Apple’s proprietary hardware and software. If a user purchases a third-party smartwatch that is

---

28            <sup>23</sup> See *id.* at ¶ 92.

1 compatible with the iPhone and other smartphones, they can switch from the iPhone to another  
2 smartphone (or vice versa) by simply downloading the companion app on their new phone and  
3 connecting to their smartwatch via Bluetooth. Moreover, as users interact with a smartwatch, e.g.,  
4 by accessing apps from their smartwatch instead of their smartphone, users rely less on a  
5 smartphone’s proprietary software and more on the smartwatch itself. This also makes it easier for  
6 users to switch from an iPhone to a different smartphone.

7 93. Apple recognizes that driving users to purchase an Apple Watch, rather than a  
8 third-party cross-platform smartwatch, helps drive iPhone sales and reinforce the moat around its  
9 smartphone monopoly. For example, in a 2019 email the Vice President of Product Marketing for  
10 Apple Watch acknowledged that Apple Watch “may help prevent iPhone customers from  
11 switching.” Surveys have reached similar conclusions: many users say the other devices linked to  
12 their iPhone are the reason they do not switch to Android.

13 94. Apple also recognizes that making Apple Watch compatible with Android would  
14 “remove[an] iPhone differentiator.”<sup>24</sup>

15 95. Apple uses its control of the iPhone, including its technical and contractual control  
16 of critical APIs, to degrade the functionality of third-party cross-platform smartwatches in at least  
17 three significant ways: First, Apple deprives iPhone users with third-party smartwatches of the  
18 ability to respond to notifications. Second, Apple inhibits third-party smartwatches from  
19 maintaining a reliable connection with the iPhone. And third, Apple undermines the performance  
20 of third-party smartwatches that connect directly with a cellular network. In doing so, Apple  
21 constrains user choice and crushes innovation that might help fill in the moat around Apple’s  
22 smartphone monopoly.

23 96. The ability to respond to notifications, e.g., new messages or app alerts, directly  
24 from a smartwatch is one of the top considerations for smartwatch purchasers—and one of the  
25 most used product features when it is available. According to Apple’s own market research, the  
26 ability to “[s]end and receive text messages from social and messaging apps” is a critical feature  
27

---

28 <sup>24</sup> See *id.* at ¶ 99.



1 for a smartwatch.<sup>25</sup> In 2013, when Apple started offering users the ability to connect their iPhones  
2 with third-party smartwatches, Apple provided third-party smartwatch developers with access to  
3 various APIs related to the Apple Notification Center Service, Calendar, Contacts, and  
4 Geolocation. The following year, Apple introduced the Apple Watch and began limiting third-  
5 party access to new and improved APIs for smartwatch functionality. For example, Apple  
6 prevents third-party smartwatches from accessing APIs related to more advanced Actionable  
7 Notifications, so iPhone users cannot respond to notifications using a third-party smartwatch.  
8 Instead, Apple provides third-party smartwatches access to more limited APIs that do not allow  
9 users to respond to a message, accept a calendar invite, or take other actions available on Apple  
10 Watch.

11 97. A reliable Bluetooth connection is essential for a smartwatch to connect wirelessly  
12 with a smartphone, and thereby function as a companion to the user’s smartphone and unlock its  
13 full functionality. But Apple prohibits third-party smartwatch developers from maintaining a  
14 connection even if a user accidentally turns off Bluetooth in the iPhone’s control center. Apple  
15 gives its own Apple Watch that functionality, however, because Apple recognizes that users  
16 frequently disable Bluetooth on their iPhone without realizing that doing so disconnects their  
17 watch. As a result, iPhone users have a worse experience when they try to use a third-party  
18 smartwatch with their iPhone. Apple also requires users to turn on “Background App Refresh”  
19 and disable the battery-saving “Low Power Mode” in their iPhone settings for third-party  
20 smartwatches to remain consistently connected to their companion app, which is necessary to  
21 allow a user’s iPhone and their smartwatch to update and share data about the weather or exercise  
22 tracking, even though Apple does not impose similar requirements for Apple Watch.

23 98. Cellular-enabled smartwatches incorporate the ability to connect directly to a  
24 cellular network, allowing users to make calls, send messages, and download data even if their  
25 smartwatch is not paired to a smartphone. Cellular-enabled smartwatches are popular with  
26 consumers, making up approximately 20 percent of Apple Watch sales. Apple Watch users can  
27 use the same phone number for their smartphone and smartwatch when connected to the cellular

---

28 <sup>25</sup> See *id.* at ¶ 101.

1 network. As a result, messages are delivered to both the user’s smartphone and smartwatch,  
2 providing an integrated messaging experience. Although it is technologically feasible for Apple to  
3 allow an iPhone user with a third-party smartwatch to do the same, Apple instead requires these  
4 users to disable Apple’s iMessage service on the iPhone in order to use the same phone number  
5 for both devices. This is a non-starter for most iPhone users. In practice, iPhone users with a  
6 third-party smartwatch must maintain separate phone numbers for the two devices, worsening  
7 their user experience, and may miss out on receiving messages sent to their primary iPhone  
8 number.

9 **3. Digital Wallets: Apple restricts cross-platform digital wallets on the iPhone,**  
10 **reinforcing barriers to consumers switching to rival smartphones.**

11 99. Apple recognizes that using a digital wallet will eventually become “something  
12 people do every day of their lives.” But Apple has used its control over app creation, including  
13 its technical and contractual control over API access, to effectively block third-party developers  
14 from creating digital wallets on the iPhone with tap-to-pay functionality, which is an important  
15 feature of a digital wallet for smartphones. As a result, Apple maintains complete control over  
16 how users make tap-to-pay payments with their iPhone. Apple also deprives users of the benefits  
17 and innovations third-party wallets would provide so that it can protect “Apple’s most important  
18 and successful business, iPhone.”<sup>26</sup>

19 100. Digital wallets are apps that allow a user to store and use passes and credentials,  
20 including credit cards, personal identification, movie tickets, and car keys, in a single app. For  
21 example, digital wallets allow users to make in-person payments by tapping their device on a  
22 payment terminal. Digital wallets can also be used for transactions in mobile apps and mobile  
23 websites.

24 101. Absent Apple’s conduct, cross-platform digital wallets could also be used to  
25 manage and pay for subscriptions and in-app purchases.

26  
27  
28 

---

<sup>26</sup> See *id.* at ¶ 104.

1           102. Apple Wallet is Apple’s proprietary digital wallet on the iPhone. Apple Wallet  
2 incorporates Apple’s proprietary payment system Apple Pay, which processes digital payments  
3 on the web, in apps, and at merchant points of sale.

4           103. Today, Apple Wallet offers users a way to make these payments using their  
5 iPhone. But Apple envisions that Apple Wallet will ultimately supplant multiple functions of  
6 physical wallets to become a single app for shopping, digital keys, transit, identification, travel,  
7 entertainment, and more. As users rely on Apple Wallet for payments and beyond, it “drive[s]  
8 more sales of iPhone and increase[s] stickiness to the Apple ecosystem” because Apple Wallet is  
9 only available on the iPhone.<sup>27</sup> Thus, switching to a different smartphone requires leaving behind  
10 the familiarity of an everyday app, setting up a new digital wallet, and potentially losing access to  
11 certain credentials and personal data stored in Apple Wallet.

12           104. Cross-platform digital wallets would offer an easier, more seamless, and  
13 potentially more secure way for users to switch from the iPhone to another smartphone. For  
14 example, if third-party developers could create cross-platform wallets, users transitioning away  
15 from the iPhone could continue to use the same wallet, with the same cards, IDs, payment  
16 histories, peer-to-peer payment contacts, and other information, making it easier to switch  
17 smartphones. And because many users already use apps created by their preferred financial  
18 institutions, if these financial institutions offered digital wallets or could at least offer their  
19 services through third-party digital wallets, then users would have access to new apps and  
20 technologies without needing to share their private financial data with additional third parties,  
21 including Apple. In the short term, these improved features would make the iPhone more  
22 attractive to users and profitable for Apple.

23           105. Accordingly, the absence of cross-platform digital wallets with tap-to-pay  
24 capability on the iPhone makes it harder for iPhone users to purchase a different smartphone.

25           106. The most important function for attracting users to a digital wallet for smartphones  
26 is the ability to offer tap-to-pay, *i.e.*, the ability to make in-person payments by tapping your  
27 smartphone on a payment terminal. Apple uses its control over app creation and API access to

---

28           <sup>27</sup> See *id.* at ¶ 108.

1 selectively prohibit developers from accessing the near-field communication (NFC) hardware  
2 needed to provide tap-to-pay through a digital wallet app.

3 107. Apple Wallet is the only app on the iPhone that can use NFC to facilitate tap-to-  
4 pay. While Apple actively encourages banks, merchants, and other parties to participate in Apple  
5 Wallet, Apple simultaneously exerts its smartphone monopoly to block these same partners from  
6 developing better payment products and services for iPhone users.

7 108. Apple also uses its smartphone monopoly to extract payments from banks, which  
8 need to access customers that use digital wallets on iPhones. Since Apple first launched Apple  
9 Pay—long before it achieved meaningful adoption—Apple has charged issuing banks 15 basis  
10 points (0.15 percent) for each credit card transaction mediated by Apple Pay. Payment apps from  
11 Samsung and Google are free to issuing banks. Apple’s fees are a significant expense for issuing  
12 banks and cut into funding for features and benefits that banks might otherwise offer smartphone  
13 users. The volume of impacted transactions is large and growing. A U.S. Consumer Financial  
14 Protection Bureau report estimates that Apple Pay facilitated nearly \$200 billion in transactions in  
15 the United States in 2022. And the report goes on to explain that “analysts estimate that the value  
16 of digital wallet tap-to-pay transactions will grow by over 150 percent by 2028.”<sup>28</sup>

17 109. Multiple app developers have sought direct NFC access for their payment or wallet  
18 apps. Yet Apple prohibits these developers from incorporating tap-to-pay functionality in their  
19 apps for fear that doing so would “be one way to disable [A]pple [P]ay trivially,” leading to the  
20 “proliferation of other payment apps” that might operate cross-platform and ultimately undermine  
21 Apple’s smartphone monopoly.<sup>29</sup>

22 110. There is no technical limitation on providing NFC access to developers seeking to  
23 offer third-party wallets. For example, Apple allows merchants to use the iPhone’s NFC antenna  
24 to *accept* tap-to-pay payments from consumers. Apple also acknowledges it is technically feasible  
25 to enable an iPhone user to set another app (*e.g.*, a bank’s app) as the default payment app, and  
26

---

27 <sup>28</sup> See *id.* at ¶ 113.

28 <sup>29</sup> See *id.* at ¶ 114.

1 Apple has announced its intention to allow this functionality in Europe after drawing antitrust  
2 scrutiny there.

3 111. Apple further impedes the adoption of digital wallets by restricting others from  
4 offering the same ability to authenticate digital payment options on online checkout pages. By  
5 limiting the ability of third-party wallets to provide a simple, fast, and comprehensive solution to  
6 online purchasing, Apple further undermines the viability of such wallets.

7 112. Apple also blocks other digital wallets from serving as an alternative to Apple's in-  
8 app payment (IAP). This prevents these wallets from increasing their attractiveness and  
9 improving the overall user experience on the iPhone by offering consumer experiences that may  
10 include use of rewards points in purchasing, digital receipts, returns, loyalty programs, and digital  
11 coupons for purchases of relevant subscriptions and digital goods. Apple even prohibits  
12 developers on its App Store from notifying users in the developer's app that cheaper prices for  
13 services are available using alternative digital wallets or direct payments.

14 113. Apple's conduct reflects its knowing degradation of the experience of its own  
15 users by blocking them from accessing wallets that would have better or different features. In so  
16 doing, Apple cements reliance on the iPhone and also imposes fees on a large and critical slice of  
17 all digital wallet NFC transactions, which the U.S. Consumer Financial Protection Bureau  
18 estimates will grow to \$451 billion by 2028.

19 **C. Apple Uses A Similar Playbook To Maintain Its Monopoly Through Many Other**  
20 **Products And Services**

21 114. The exclusionary and anticompetitive acts described above are part of Apple's  
22 ongoing course of conduct to build and maintain its smartphone monopoly. They are hardly  
23 exhaustive. Rather, they exemplify the innovation Apple has stifled and Apple's overall strategy  
24 of using its power over app distribution and app creation to selectively block threatening  
25 innovations.

26 115. Apple has deployed a similar playbook for a much broader range of third-party  
27 apps and services as well, many of which present technologies that function as middleware,  
28 facilitate switching, reduce the need for expensive hardware, or disintermediate Apple's iPhone

1 by enabling the development of cross-platform technologies. For instance, Apple has undermined  
2 third-party location trackable devices that fully function across platforms. Apple has impaired  
3 third-party, cross-platform video communications apps while steering users to its own video  
4 communication app, FaceTime. Apple has limited the capabilities of third-party iOS web  
5 browsers, including by requiring that they use Apple’s browser engine, WebKit. Protocols that  
6 Apple has placed around new “eSIM” technology may introduce additional frictions for any user  
7 who seeks to transition from an iPhone to a different phone while maintaining the same phone  
8 number. Apple has impeded cross-platform cloud storage apps in order to steer iPhone users into  
9 iCloud, making data transfer between different devices more difficult. Apple uses restrictions in  
10 sales channels to impede the sale and distribution of rival smartphones. And Apple has worsened  
11 its users’ experience by making it difficult for iPhone users to use superior voice and AI assistants  
12 and steering users to use Siri as a voice assistant.

13           116. Ultimately, the strategies Apple has employed to date are not the only ones Apple  
14 can use to achieve its anticompetitive and lucrative ends. As technology evolves, Apple continues  
15 to evolve and shift its anticompetitive behavior to protect its monopoly power. For example, in  
16 recent years, Apple has increasingly moved into offering its own subscription services, including  
17 news, games, video, music, cloud storage, and fitness subscriptions that could be used to keep  
18 users tethered to the platform. These subscription services and other ancillary fees are a  
19 significant part of Apple’s net revenue and add substantially to a user’s cost of an iPhone. These  
20 subscriptions services can also increase switching costs among iPhone users. If an Apple user can  
21 only access their subscription service on an iPhone, they may experience significant costs, time,  
22 lost content, and other frictions if they attempt to switch to a non-Apple smartphone or  
23 subscription service.

24           117. These subscription services can also increase Apple’s power over content creators  
25 and newspapers, among others, by exerting control over how audiences access their work,  
26 decreasing traffic to their websites and apps, and positioning Apple as the middleman or tollbooth  
27 operator in the relationship between creators and users. In so doing, Apple takes on outside  
28

1 importance and control in the creative economy, which may diminish incentives to fund, make,  
2 and distribute artistic expression.

3 118. In addition, when one road is closed to Apple, Apple has demonstrated its ability  
4 to find new roads to the same or worse ends. For example, Apple was recently ordered to stop  
5 blocking link-outs by third parties to their websites where users could buy the third party's  
6 product cheaper. In response, Apple reportedly allowed link-outs to websites but now charges for  
7 purchases made on the web even if they are not an immediate result of a click from a link in a  
8 native iPhone app.

9 119. Apple has also attempted to undermine cross-platform technologies like digital car  
10 keys in ways that benefit Apple but harm consumers. For example, Apple has required developers  
11 to add digital keys developed for their own apps to Apple Wallet as well. The default status of  
12 Apple Wallet steers users to the Apple Wallet rather than allowing third parties to present digital  
13 car keys only in their own cross-platform app, increasing dependence on Apple and the iPhone  
14 whenever they use their car. At the same time, it decreases the incentives of automakers to  
15 innovate because automakers are forced to share data with Apple and prevented from  
16 differentiating themselves as they could absent Apple's conduct.

17 120. Apple's threatened dominance over the automotive industry goes well beyond the  
18 Apple Wallet and Apple's demands on car makers to allow innovative products and services on  
19 the iPhone. Apple's smartphone dominance extends to CarPlay, an Apple infotainment system  
20 that enables a car's central display to serve as a display for the iPhone and enables the driver to  
21 use the iPhone to control maps and entertainment in the car. Like the smartphone market,  
22 infotainment systems are increasingly considered must-have capabilities in newer vehicles. After  
23 leveraging its smartphone dominance to car infotainment systems, Apple has told automakers that  
24 the next generation of Apple CarPlay will take over all of the screens, sensors, and gauges in a  
25 car, forcing users to experience driving as an iPhone-centric experience if they want to use any of  
26 the features provided by CarPlay. Here too, Apple leverages its iPhone user base to exert more  
27 power over its trading partners, including American carmakers, in future innovation. By applying  
28 the same playbook of restrictions to CarPlay, Apple further locks-in the power of the iPhone by

1 preventing the development of other disintermediating technologies that interoperate with the  
2 phone but reside off device.

### 3 **VIII. ANTICOMPETITIVE EFFECTS**

#### 4 **A. Apple's Conduct Harms The Competitive Process**

5 121. As described above, Apple protects its monopoly power in smartphones and  
6 performance smartphones by using its control over app distribution and app creation to suppress  
7 or delay apps, innovations, and technologies that would reduce user switching costs or simply  
8 allow users to discover, purchase, and use their own apps and content without having to rely on  
9 Apple. As a result, Apple faces less competition from rival smartphones and less competitive  
10 pressure from innovative, cross-platform technologies not because Apple makes its own products  
11 better but because it makes other products worse. With the benefit of less competition, Apple  
12 extracts extraordinary profits and regulates innovation to serve its interests. This leaves all  
13 smartphone users worse off, with fewer choices, higher prices and fees, lower quality  
14 smartphones, apps, and accessories, and less innovation from Apple and others. Left  
15 unchallenged, Apple will continue to use and strengthen its smartphone monopoly to dictate how  
16 companies can create and distribute apps in the future so that they cannot threaten Apple's  
17 smartphone monopolies.

18 122. Apple's conduct has resulted in less choice for smartphone users. Today, only two  
19 companies (Google and Samsung) remain as meaningful competitors to Apple in the premium  
20 smartphone market.

21 123. Even when users consider these alternatives, Apple's conduct has increased the  
22 technical, behavioral, monetary, and other costs of switching from an iPhone to an alternative  
23 smartphone. This undermines competition and entrenches Apple's monopoly power. For  
24 example, according to user surveys, one of the biggest reasons iPhone users do not switch to rival  
25 smartphones today is to avoid the problems Apple has created for cross-platform messaging.  
26 Likewise, Apple exercised its control over app distribution and app creation to impede the  
27 development and growth of super apps, depriving users of technology that would have facilitated  
28 switching by decreasing user's dependence on Apple and the iPhone. Apple took a similar



1 approach to cloud streaming apps, delaying or suppressing technology that would have made it  
2 easier for users to switch to cheaper smartphones. Apple also used its control over app creation,  
3 including its control over critical APIs, to impose technical and contractual restrictions on  
4 messaging apps, third-party smartwatches, and digital wallets, undermining cross-platform  
5 technologies that would have helped users overcome switching costs and friction and ultimately  
6 increased smartphone competition.

7 124. Apple's conduct has delayed or suppressed the emergence of cross-platform  
8 technologies that would put competitive pressure on Apple's ability to extract extraordinary  
9 profits from users and developers. For example, if developers could distribute their programs  
10 through super apps or cloud streaming apps, rather than the App Store, it would put competitive  
11 pressure on Apple's ability to control app distribution and app creation as well as the taxes Apple  
12 imposes on developers who want to distribute apps to iPhone users. Similarly, third-party digital  
13 wallets, or other apps with tap-to-pay functionality, would benefit users and developers by putting  
14 more competitive pressure on Apple as well. For example, digital wallets could eventually  
15 provide developers an alternative way to process payments and manage customer relationships,  
16 forcing Apple to compete more aggressively by lowering fees and improving quality, which  
17 would ultimately benefit users. Instead, Apple continues to exert its power over customers and  
18 financial institutions when users pay for something with their phone—in the App Store, in an app,  
19 or increasingly in the physical world with tap-to-pay.

20 125. Apple's conduct has harmed users in other ways. For example, third-party digital  
21 wallets could provide smartphone users better rewards, e.g., cash back, as well as a more private,  
22 secure payment experience from a user's preferred financial institution rather than being forced to  
23 go through Apple. But these tap-to-pay digital wallet products and services do not exist today  
24 because of Apple.

25 126. Apple's conduct has made its own products worse, sacrificing the short-term  
26 profits Apple could earn from improving the iPhone in order to preserve the long-term value of  
27 maintaining its monopoly. In a competitive market, Apple would compete aggressively to support  
28 the development of popular apps and accessories for iPhone users, which would in turn make

1 iPhones more attractive to users and more valuable. But Apple takes steps to delay or suppress  
2 cross-platform technologies that it recognizes would be popular with users, such as super apps  
3 and cloud streaming apps, because of the threat they pose to Apple's smartphone monopolies. As  
4 a result, several developers have abandoned plans to develop super apps and cloud-based gaming  
5 apps even after making substantial investments in bringing them to market. Apple's conduct may  
6 have also slowed the development of innovative, high-compute apps related to education,  
7 artificial intelligence, and productivity as well. Apple has also impeded innovation by third-party  
8 smartwatches such that manufacturers have limited the functionality of their smartwatches for  
9 iPhone users, suspended support for iPhone compatibility because of Apple's restrictions, or  
10 canceled development of cross-platform smartwatches altogether. At least one company's  
11 canceled smartwatch formed part of its overall wearables strategy, including future development  
12 of virtual-reality technology. Similarly, Apple degrades third-party messaging apps, even though  
13 it makes cross-platform messaging less private and less secure for iPhone users, because doing so  
14 raises switching costs.

15 127. Apple's conduct has harmed other smartphone users, too. Because of the resources  
16 and risks required to maintain different features across different smartphones, many potential  
17 super app, mini program, and other developers do not implement features prohibited by Apple  
18 even on other smartphones. For example, prospective digital wallet providers, including U.S.  
19 banks, have abandoned the development of digital-wallet apps for either Apple or other  
20 smartphones. Another company decided not to offer users an innovative digital car key in part  
21 because Apple required that company to add any features related to the key into Apple Wallet  
22 rather than allowing that company to put its key solely in its own app. Other developers have  
23 shrunk, shuttered, or abandoned plans to launch super apps, cloud-streamed gaming apps,  
24 smartwatches, and other apps. As a result, all smartphone users enjoy lower quality smartphones,  
25 less innovation, less quality-adjusted output, and less choice.

26 128. Apple's documents and conduct show that Apple is motivated by the  
27 anticompetitive purpose of building or maintaining monopoly power in the relevant markets. For  
28 example, Apple sacrificed substantial revenues it could have earned from super apps, mini

1 programs, cloud streaming apps, and other third-party apps and accessories. In particular, mobile  
2 gaming already accounts for a large and growing portion of Apple’s revenue. Popular cloud  
3 streamed gaming apps would offer iPhone users access to popular services (including games) and  
4 in turn generate significant revenue for Apple through subscriptions and in-app purchases.  
5 Instead, Apple preferred the long-term benefit of reduced smartphone competition to the revenue  
6 it would generate from cloud gaming, super apps, and mini programs or the quality (and  
7 consumer demand) increase that would flow from this innovation. Apple has also used its control  
8 over app distribution and app creation to selectively undermine cross-platform technologies, not  
9 because this helps protect users but because it helps protect Apple.<sup>30</sup>

10 129. The harms to smartphone competition caused by Apple’s conduct are amplified by  
11 Apple’s decision to grant itself exclusive distribution rights to iPhone users through the Apple  
12 App Store. If Apple allowed users to access apps in other ways, users could choose an app store  
13 that did not restrict super apps or mini programs, even if Apple ran its App Store the same way it  
14 does today. Apple does not allow that choice, however, because if it did developers could write  
15 their programs for any smartphone rather than specifically for iOS, just as internet browsers and  
16 Apple’s QuickTime allowed developers to write programs that worked on a variety of operating  
17 systems not just Windows. That would lower users’ switching costs and reduce users’ and  
18 developers’ dependence on Apple and the iPhone.

19 130. Apple’s smartphone monopoly gives it many levers to maintain its power even in  
20 the face of interventions focused on eliminating or disciplining specific anticompetitive practices.  
21 This is because Apple’s iPhone monopoly, secured by its anticompetitive conduct, grants it the  
22 power to set the rules by which most smartphone users buy digital and hardware products, and by  
23 which developers are allowed to sell these same products to users. If Apple is forced to change  
24 some of these rules, it has the power to adopt new rules, restrictions, or features that reinforce  
25 Apple’s monopoly and harm competition in other ways. For example, Apple has stated plans to  
26 adopt RCS due to market and international regulatory pressure. But Apple continues to  
27 contractually restrict third parties from accessing other APIs and features that would enable cross-

---

28 <sup>30</sup> See *id.* at ¶ 133.

1 platform messaging apps. In another instance, Apple was enjoined from enforcing certain anti-  
2 steering provisions in its agreements with developers. In response, Apple simply created a  
3 different set of onerous restrictions on app developers to achieve a similar result. In other cases,  
4 Apple has used its control over app distribution to force companies to comply with Apple's  
5 policies that may contradict local laws by delaying the review of the offending companies' apps.

6 **B. Apple Has Every Incentive To Use Its Monopoly Playbook In The Future**

7 131. Apple's conduct does not just impact the past and present but poses significant risk  
8 to the development of new innovations. Apple may use its smartphone monopoly playbook to  
9 acquire or maintain power over next-frontier devices and technologies. As Apple grows its  
10 dominance, Apple may continue delaying or stifling the innovations of cross-platform companies,  
11 in order to lock users into Apple devices.

12 **IX. PRIVACY, SECURITY, AND OTHER ALLEGED COUNTERVAILING**  
13 **FACTORS DO NOT JUSTIFY**  
14 **APPLE'S ANTICOMPETITIVE CONDUCT**

15 132. There are no valid, procompetitive benefits of Apple's exclusionary conduct that  
16 would outweigh its anticompetitive effects. Apple's conduct has not resulted in lower prices,  
17 higher quality-adjusted output, improved innovation, or a better user experience for smartphone  
18 users.

19 133. Apple markets itself on the basis of privacy and security to differentiate itself from  
20 what competition is left in the smartphone market. But this does not justify Apple's monopolistic  
21 and anticompetitive conduct. Apple imposes contractual restraints on app creation and  
22 distribution, imposes hefty fees on many types of smartphone interactions, and conditionally  
23 restricts API access on its smartphone platform simply because it can. There are limited if any  
24 competitive constraints on this conduct. As a point of comparison, Apple does not engage in such  
25 conduct on its Mac laptops and computers. It gives developers the freedom to distribute software  
26 directly to consumers on Mac without going through an Apple-controlled app store and without  
27 paying Apple app store fees. This still provides a safe and secure experience for Mac users,  
28 demonstrating that Apple's control over app distribution and creation on the iPhone is  
substantially more restrictive than necessary to protect user privacy and security.

1           134. In fact, many alternative technologies that Apple’s conduct suppresses would  
2 enhance user security and privacy. For example, Apple’s conduct targeting digital wallets forces  
3 users to share information with Apple even if they would prefer to share that information solely  
4 with their bank, medical provider, or other trusted third party. In particular, when an iPhone user  
5 provisions a credit or debit card into Apple Wallet, Apple intervenes in a process that could  
6 otherwise occur directly between the user and card issuer introducing an additional point of  
7 failure for privacy and security. Likewise, super apps or alternative app stores could offer users  
8 and their families a more curated selection of apps that better protect user privacy and security.  
9 Indeed, Apple allows enterprise and public sector customers to offer more curated app stores on  
10 employee iPhones because it better protects privacy and security.

11           135. Apple is also willing to make the iPhone less secure and less private if that helps  
12 maintain its monopoly power. For example, text messages sent from iPhones to Android phones  
13 are unencrypted as a result of Apple’s conduct. If Apple wanted to, Apple could allow iPhone  
14 users to send encrypted messages to Android users while still using iMessage on their iPhone,  
15 which would instantly improve the privacy and security of iPhone and other smartphone users.

16           136. Similarly, Apple is willing to sacrifice user privacy and security in other ways so  
17 long as doing so benefits Apple. For example, Apple allows developers to distribute apps through  
18 its App Store that collect vast amounts of personal and sensitive data about users—including  
19 children—at the expense of its users’ privacy and security. Apple also enters agreements to share  
20 in the revenue generated from advertising that relies on harvesting users’ personal data. For  
21 example, Apple accepts massive payments from Google to set its search engine as the default in  
22 the Safari web browser even though Apple recognizes that other search engines better protect user  
23 privacy.

24           137. Finally, Apple selectively enforces its rules and contractual restrictions for app  
25 distribution and app creation. For example, when it benefits Apple to do so, Apple permits  
26 developers to introduce mini programs, stream content from the cloud, use virtual currency, and  
27 receive special permissions or access APIs not automatically available to everyone.  
28



1 **B. Smartphone Hardware**

2 142. A smartphone’s hardware includes the frame and screen. Higher performing  
3 smartphones are typically constructed from better materials like glass and metal instead of plastic,  
4 manufactured to higher standards that make them more durable (e.g., water and dust proof), and  
5 have higher quality displays.

6 143. A smartphone’s hardware also includes the semiconductor chipsets that run the  
7 smartphone: central processing of software instructions, graphics, video, display, memory, data  
8 storage, and connection to wireless networks. Chipsets that offer superior performance—faster  
9 processing and network connections, better graphics, more storage—are costly. As a result,  
10 smartphone manufacturers typically include them only in more expensive performance  
11 smartphones.

12 144. Smartphone hardware includes other important components like cameras, and  
13 position and motion sensors. Performance smartphones typically have higher quality cameras,  
14 better battery life, wireless charging, and advanced biometrics such as face scanning.

15 a. Smartphones also contain several types of antennas that allow the phone to  
16 communicate with other smartphones, accessories, or other devices using standard  
17 communication protocols such as Wi-Fi, Bluetooth, and Near-Field  
18 Communications (NFC).

19 b. Wi-Fi is a wireless networking technology that uses radio waves to provide  
20 wireless high-speed Internet access through mobile devices, computers, printers,  
21 and other equipment. “Wi-Fi,” in particular, refers to IEEE 802.11 standards that  
22 define the protocols that enable communications with current Wi-Fi-enabled  
23 wireless devices such as wireless routers and access points.

24 c. Bluetooth is a wireless standard that allows smartphones to use shortwave radios  
25 to communicate with accessories like headphones and smartwatches. An  
26 industrywide Bluetooth standard specifies technological requirements to ensure  
27 that all Bluetooth devices can recognize and interact with each other. A typical  
28 Bluetooth signal has a range of about 30 feet.

1 d. Near Field Communication (NFC) allows smartphones to interact with NFC-  
2 enabled devices like a credit card terminal at a coffee shop. NFC relies on  
3 shortrange wireless technologies, including radio signals, to communicate and  
4 share information. To operate, two NFC-enabled devices must typically be within  
5 four centimeters or less of one another.

6 145. Three device manufacturers, Apple, Samsung, and Google, account for  
7 approximately 94 percent of all smartphones by revenue in the United States. Apple and Samsung  
8 alone account for approximately 90 percent of all smartphone revenues in the United States.<sup>31</sup>

9 146. Cloud-based technologies are run using hardware and software in remote  
10 computing centers (“the cloud”) rather than by hardware and software on a smartphone. The user  
11 experiences the technology on the phone but the complex computing that generates the rich  
12 experience and that executes the user’s commands happens in the cloud. Thus, cloud apps can  
13 deliver rich experiences on smartphones with less capable hardware than iPhones currently  
14 contain.

15 **C. Smartphone Operating Systems, Applications, And Other Software**

16 147. In addition to hardware, smartphones include various software components that  
17 make a smartphone more attractive to users.

18 148. The most important software component is a smartphone’s operating system, the  
19 foundational software that manages both the hardware and other software programs on the device.  
20 All iPhones are preloaded with Apple’s proprietary, exclusive iPhone operating system called  
21 iOS. The only other significant mobile operating system in the United States is Google’s Android,  
22 which works with smartphones manufactured by Samsung, whose U.S. headquarters is located in  
23 this district, Google, Motorola, and smaller players. Software applications, known as “apps,” are  
24 programs that perform specific tasks at the smartphone user’s request, such as sending messages,  
25 playing music, or web browsing. Apps depend on a smartphone’s operating system to function.  
26 For example, to make a video call, apps must communicate with a smartphone’s operating system  
27 to access various hardware components on the phone, such as the camera, microphone, and

28 <sup>31</sup> See *id.* at ¶ 153.



1 speaker. Apps communicate with a smartphone’s operating system through application  
2 programming interfaces (APIs).

3 149. Apps that work with a particular smartphone operating system are called native  
4 apps. Thus, Apple’s native iOS apps work with iPhone and native Android apps work with  
5 Android smartphones.

6 150. Most app developers do not view Android as a substitute for iOS or iOS as a  
7 substitute for Android. The overwhelming majority of users choose a single phone and do not  
8 “multi-home” by carrying an Android phone and the iPhone at the same time. Thus, a developer  
9 cannot reach iPhone users on Android or Android users on iPhones. Due to the lack of user multi-  
10 homing, most developers create native apps for both iOS and Android to reach the greatest  
11 number of smartphone users. For example, a food delivery or ride-sharing app cannot develop an  
12 app just for Android phones or just for the iPhone. Developing for both platforms is often  
13 necessary for developers to reach the scale they need to be viable.

14 151. It is also important to develop apps for the iPhone and other smartphone platforms  
15 because most apps are increasingly “social” in nature and require users on one platform to reach  
16 users on the other. For example, the developer of a dating app must enable its users on iPhones to  
17 meet users on Android and vice-versa. A money-sharing app must enable users on Android  
18 devices to send money to users on iPhones and vice versa.

19 152. App developers typically provide a similar user experience for native apps on  
20 iPhones and Android smartphones to minimize the resources and risks of maintaining different  
21 features across different smartphones. Even so, developers must program native apps to work  
22 with a specific operating system and so they do not always interoperate or synchronize across  
23 different operating systems.

24 153. Middleware is software that provides similar APIs and functionality across a  
25 diverse set of operating systems and devices. This allows developers to create cross-platform  
26 applications without having to write separate code for individual operating systems or devices  
27 because developers can rely on the APIs exposed by the middleware rather than APIs that only  
28 work on specific operating systems or devices. Apple has long understood how middleware can

1 help promote competition and its myriad benefits, including increased innovation and output, by  
2 increasing scale and interoperability. As Apple’s then-Senior Vice President of Software  
3 Engineering testified during *United States v. Microsoft*: “Because we have created QuickTime for  
4 both Windows and Macintosh computers, developers can write a single version of a content  
5 product that will run on both Macintosh and Windows, without the additional expense of ‘porting’  
6 the product to different operating systems.” In the context of smartphones, examples of  
7 middleware include internet browsers, internet or cloud-based apps, super apps, and  
8 smartwatches, among other products and services. While not meeting the technical definition of  
9 middleware, certain other products and services may nonetheless have the same economic impact  
10 as middleware, such as eliminating the added expense of porting a product or experience across  
11 hardware or operating systems. For the purposes of this complaint middleware refers to both  
12 technical middleware and to products and services that, while not technically middleware, have  
13 the same economic effect.

14 **D. Relevant Markets**

15 154. All smartphones compete against each other in a broad relevant market. But  
16 industry participants, including Apple, assess competition among smartphones in narrower  
17 markets that are best understood as submarkets of the larger all-smartphone market. Because  
18 Apple chooses not to compete to sell new smartphones in the entry-level tier, the most relevant  
19 market to assess its conduct is a narrower submarket that excludes this tier. Regardless of how the  
20 market is drawn, however, Apple’s conduct is unlawful.

21 **1. Performance smartphones are a relevant product market.**

22 155. Performance smartphones are a narrower relevant product market within the  
23 broader smartphone market. This narrower market includes those smartphones that compete with  
24 most iPhones and excludes the lowest-end smartphones, which industry participants sometimes  
25 refer to as “entry-level” smartphones.

26 156. Industry participants recognize performance smartphones as distinct and  
27 frequently group smartphones into tiers that include entry-level smartphones and higher tiers such  
28 as “premium” or “flagship.”

1           157. Apple has also long recognized a distinction between these higher-end  
2 smartphones and lower-end, entry-level smartphones. Apple’s own documents indicate it does not  
3 view entry-level smartphones as competing with the iPhone and other performance  
4 smartphones.<sup>32</sup>

5           158. Performance smartphones have distinct characteristics and uses as compared to  
6 other smartphones. For example, entry-level smartphones are generally made with lower-quality  
7 materials and are less durable (e.g., plastic instead of metal and glass). They have lower-  
8 performance components such as slower processors and lower-capacity storage, which prevent  
9 users from running more intensive applications or storing large volumes of pictures and data on  
10 the device. Entry-level smartphones often lack features such as an NFC antenna that allows  
11 consumers to use their phone to make payments or access passes for public transit.

12           159. Consumers typically purchase performance smartphones under different terms  
13 than entry-level smartphones. Consumers generally use entry-level smartphones along with  
14 prepaid service plans. By contrast, consumers usually purchase performance smartphones for use  
15 with post-paid service plans that include promotional discounts to consumers who purchase  
16 performance smartphones.

17           160. Because of these differences, among others, between entry-level smartphones and  
18 performance smartphones, entry-level smartphones are not reasonable substitutes for performance  
19 smartphones.

20           161. Moreover, competition from non-performance smartphones is not sufficient today  
21 to prevent Apple from exercising monopoly power in the performance smartphone market.

22           **2. Smartphones are a broader relevant product market.**

23           162. Smartphones are a relevant product market. Smartphones are distinct from phones  
24 that offer less capable hardware and software options than smartphones. These other phones,  
25 sometimes called “feature phones,” may offer basic web browsing in addition to calling and  
26 messaging options, but do not offer the breadth of access to the internet or third-party apps as  
27 smartphones. Similarly, these phones often have lower-quality hardware, such as poorer displays,

28 \_\_\_\_\_  
<sup>32</sup> See *id.* at ¶ 167.

1 less capable cameras, and rely on physical keyboards instead of smartphone touch screens. Thus,  
2 these phones are not reasonable substitutes for smartphones.

3 163. Smartphones are also distinct from other portable devices, such as tablets,  
4 smartwatches, and laptop computers. These devices lack the combination of function, size, and  
5 portability that consumers rely on in a smartphone, even if they offer some similar capabilities.  
6 Thus, none of these other products are reasonable substitutes for smartphones.

7 164. Apple, other participants in the market, and the public recognize that smartphones  
8 are distinct from feature phones and other portable devices.

9 165. Competition from feature phones, or other alternatives, is not sufficient to prevent  
10 Apple from exercising monopoly power in the smartphone market.

11 **3. The United States is a relevant geographic market for performance**  
12 **smartphones and smartphones.**

13 166. The United States is a relevant geographic market for the sale of performance  
14 smartphones and smartphones. A smartphone purchased abroad for use in the United States might  
15 be incompatible with the consumer's domestic carrier, may not have the necessary radio  
16 technology to take advantage of the carrier's highest speed connections, the carrier might not be  
17 able to offer support during setup or subsequently, or the phone's warranty may be invalid.

18 167. Potential new smartphone entrants to the U.S. market must also comply with  
19 telecommunications regulations and satisfy other legal requirements. No extensive regulatory  
20 framework governs how Apple operates its platform with respect to developers, but there are a  
21 number of regulatory requirements that must be met in order to enter the smartphone market. For  
22 example, some smartphone makers are effectively barred from offering their smartphones to U.S.  
23 consumers.

24 168. Consumers in the United States could not avoid or defeat an increase in the price  
25 of performance smartphones or smartphones by purchasing and importing smartphones from  
26 abroad. This allows Apple to set prices for the same smartphone in the United States separately  
27 from those in other countries. For example, Apple lowered the price of the iPhone 11 in China  
28 relative to the United States because Apple faced greater competition in China. This additional

1 competition arises in part because a popular super app put competitive pressure on Apple and  
2 made it easier for users to switch from an iPhone to a rival smartphone. As a result, Apple is  
3 unable to command the same prices for the iPhone in China than they do in the United States due  
4 to less competition.

5 **E. Apple Has Monopoly Power In The Smartphone And Performance Smartphone**  
6 **Markets**

7 169. Apple has monopoly power in the smartphone and performance smartphone  
8 markets because it has the power to control prices or exclude competition in each of them. Apple  
9 also enjoys substantial and durable market shares in these markets. Moreover, Apple's market  
10 shares likely underestimate Apple's power because they are protected by significant barriers to  
11 entry, network effects, and switching costs. Apple recognizes and exploits these barriers to entry,  
12 network effects, and switching costs to protect itself from competition from rival platforms and  
13 innovations, products, and services that may diminish consumer reliance on the iPhone. Apple's  
14 power will likely increase over time.

15 170. In the U.S. market for performance smartphones, where Apple views itself as  
16 competing, Apple estimates its market share exceeds 70 percent.<sup>33</sup> These estimates likely  
17 understate Apple's market share today. For example, Apple's share among key demographics,  
18 including younger audiences and higher-income households, is even larger. Even in the broadest  
19 market consisting of all smartphones—including many smartphones that Apple and industry  
20 participants do not view as competing with Apple's iPhones and other higher-end phones—  
21 Apple's share is more than 65 percent by revenue.<sup>34</sup> Similarly, even if consumers choose one  
22 phone over another, the vast majority of developers consider iPhones and Android devices as  
23 complements because developers must build apps that run on both platforms due to the lack of  
24 user multi-homing. In effect, the lack of multi-homing among users necessitates multi-homing  
25 among developers. This market reality increases the power that Apple is able to exercise over  
26

---

27 <sup>33</sup> See *id.* at ¶ 181.

28 <sup>34</sup> See *id.*

1 developers that seek to reach users on smartphones—especially performance smartphones that  
2 run sophisticated apps.

3 171. Apple’s high market shares are durable. Over the last decade, Apple increased its  
4 share of smartphones sold in the United States most years. Through the same period, Apple  
5 collected more than half the revenue for all smartphones sold in the United States.

6 172. Apple’s monopoly power in the relevant markets is protected by substantial  
7 barriers to entry and expansion. For example, since fewer than ten percent of smartphone  
8 purchasers in the United States are buying their first smartphone, there are fewer new customers  
9 available for Apple’s rivals. Instead, rivals must encourage existing iPhone users to switch from  
10 using an iPhone to using another smartphone when they replace or upgrade their phone. As a  
11 result, switching costs—many created or exacerbated by Apple—impose substantial barriers to  
12 entry and expansion for rival smartphones. This barrier is increasingly impenetrable. Nearly 90  
13 percent of iPhone owners in the United States replace their iPhone with another iPhone. At least  
14 one U.S. carrier estimates that as high as 98 percent of iPhone users on its network replace or  
15 upgrade their iPhone in a given quarter by buying another iPhone.<sup>35</sup> The increased switching costs  
16 that consumers experience because of Apple’s conduct underpins these exceedingly high  
17 retention rates.

18 173. Apple’s monopoly power in the relevant markets is protected by other barriers to  
19 entry, expansion, or repositioning as well. For example, introducing a new smartphone requires  
20 considerable investments in acquiring expensive and scarce components such as mobile chips and  
21 specialized glass for screens. Other significant barriers to entry include product design, software  
22 development, regulatory approval, manufacturing, marketing, and customer service. As explained  
23 above, rival smartphones must also overcome the substantial network effects generated by  
24 interactions between users, developers, and others who interact with the iPhone.

25 174. Apple’s iPhone platform is protected by several additional barriers to entry and  
26 expansion, including strong network and scale effects and high switching costs and frictions. For  
27 example, if an iPhone user wants to buy an Android smartphone, they are likely to face

28 <sup>35</sup> See *id.* at ¶ 183.

1 significant financial, technological, and behavioral obstacles to switching. The user may need to  
2 re-learn how to operate their smartphone using a new interface, transfer large amounts of data  
3 (e.g., contacts), purchase new apps, or transfer or buy new subscriptions and accessories. These  
4 switching costs and frictions are even higher when software applications, APIs, and other  
5 functionality do not help the different devices and operating systems communicate and  
6 interoperate. These switching costs and frictions increase the “stickiness” of the iPhone, making  
7 users more beholden to the smartphone manufacturer and platform operator.

8         175. Many prominent, well-financed companies have tried and failed to successfully  
9 enter the relevant markets because of these entry barriers. Past failures include Amazon (which  
10 released its Fire mobile phone in 2014 but could not profitably sustain its business and exited the  
11 following year); Microsoft (which discontinued its mobile business in 2017); HTC (which exited  
12 the market by selling its smartphone business to Google in September 2017); and LG (which  
13 exited the smartphone market in 2021). Today, only Samsung and Google remain as meaningful  
14 competitors in the U.S. performance smartphone market. Barriers are so high that Google is a  
15 distant third to Apple and Samsung despite the fact that Google controls development of the  
16 Android operating system.

17         176. Apple’s monopoly power is separately demonstrated by direct indicia. For  
18 example, Apple can and does profitably forego innovation without fear of losing customers to  
19 competitors. For example, Apple’s vice president of iPhone marketing explained in February  
20 2020: “In looking at it with hindsight, I think going forward we need to set a stake in the ground  
21 for what features we think are ‘good enough’ for the consumer. I would argue were [sic] already  
22 doing \*more\* than what would have been good enough.” After identifying old features that  
23 “would have been good enough today if we hadn’t introduced [updated features] already,” she  
24 explained, “anything new and especially expensive needs to be rigorously challenged before it’s  
25 allowed into the consumer phone.”<sup>36</sup>

26         177. Apple’s profits and profit margins, for nearly every aspect of the iPhone, are  
27 further evidence of Apple’s monopoly power. For example, Apple’s per-unit smartphone profit

---

28         <sup>36</sup> See *id.* at ¶ 187.

1 margins are far more than its next most profitable rival. Apple charges carriers considerably more  
2 than its rivals to buy and resell its smartphones to the public and employs contract clauses that  
3 may impede the ability of carriers to promote rival smartphones, a harmful exercise of monopoly  
4 power that is hidden to most consumers. Apple extracts fees—as much as 30 percent when users  
5 purchase apps or make in-app payments. Apple also extracts a 0.15 percent commission on credit  
6 card transactions through its digital wallet, while none of its smartphone competitors with digital  
7 wallets charge any fee. Apple predicts that it will collect nearly \$1 billion in worldwide revenue  
8 on Apple Pay fees by 2025. A recent report by the U.S. Consumer Financial Protection Bureau  
9 suggest these revenues will only increase, as “analysts expect the value of digital wallet tap-to-  
10 pay transactions will grow by over 150 percent by 2028.”<sup>37</sup>

11 178. Apple increasingly charges developers additional fees to promote their apps in the  
12 App Store as well. In fact, this is one of the fastest-growing parts of Apple’s services business,  
13 with revenue “increasing by more than a third to \$4.4B in FY 2022.”

14 179. These indicia of Apple’s monopoly power are direct evidence of its monopoly  
15 power in the relevant markets.

## 16 XI. JURISDICTION, VENUE, AND COMMERCE

17 180. This Court has subject matter jurisdiction over this action under 28 U.S.C. § 1331  
18 because Plaintiffs allege violations of federal law, namely, the Sherman Act.

19 181. This Court has personal jurisdiction over Defendant Apple, which is headquartered  
20 in this District. Apple has engaged in sufficient minimum contacts with the United States, this  
21 judicial district, and this State, and it has intentionally availed itself of the laws of the United  
22 States and this State by conducting a substantial amount of business throughout the State.

23 182. This judicial district is a proper venue because Apple resides in this District and  
24 transacts affairs in this District. A substantial part of the events giving rise to Plaintiffs’ claims  
25 occurred in this District.

---

26  
27  
28 <sup>37</sup> See *id.* at ¶ 188.



1 183. Apple engages in, and its activities substantially affect, interstate trade and  
2 commerce. Apple provides a range of products and services that are marketed, distributed, and  
3 offered to consumers throughout the United States, across state lines, and internationally.

## 4 XII. CLASS ALLEGATIONS

5 184. Plaintiffs bring this proposed class action for damages and injunctive relief  
6 pursuant to Fed. R. Civ. P. 23(b)(1), (2), and (3).

7 185. Plaintiffs bring this action on their own behalf and on behalf of the following  
8 class:

9 **Direct Purchaser Class:** All persons and entities who, as residents of the United  
States, purchased an iPhone from Apple.

10 186. Excluded from the proposed class are Defendant; Defendant's affiliates and  
11 subsidiaries; Defendant's current or former employees, officers, directors, agents, and  
12 representatives; the district judge or magistrate judge to whom this case is assigned, as well as  
13 those judges' immediate family members; counsel to Plaintiffs and the proposed class, as well as  
14 counsel's employees; and all governmental entities.

15 187. **Numerosity:** The exact number of the members of the proposed class is unknown  
16 and is not available to the Plaintiffs at this time, but upon information and belief, the class will  
17 consist of tens of millions of members such that individual joinder in this case is impracticable.

18 188. **Commonality:** Numerous questions of law and fact are common to the claims of  
19 the Plaintiffs and members of the proposed class. These include, but are not limited to:

- 20 a. Whether there is a relevant antitrust product market for smartphones;
- 21 b. Whether there is a relevant antitrust product market (or submarket) for  
22 performance smartphones;
- 23 c. Whether Apple has unlawfully monopolized the smartphone and/or  
24 performance smartphone markets;
- 25 d. Whether purchasers and users of smartphones have been harmed, including  
26 by way of having paid more for smartphones than they would have but for Apple's allegedly  
27 anticompetitive conduct;
- 28

1 e. Whether Plaintiffs and members of the proposed class are entitled to  
2 declaratory or injunctive relief to halt Apple’s unlawful practices, and to their attorney fees, costs,  
3 and expenses; and

4 f. Whether Plaintiffs and members of the proposed class are entitled to any  
5 damages or restitution incidental to the declaratory or injunctive relief they seek, or otherwise,  
6 and to their attorney fees, costs, and expenses related to any recovery of such monetary relief.

7 189. **Typicality:** Plaintiffs’ claims are typical of the claims of the members of the  
8 proposed class. The factual and legal bases of Apple’s liability are the same and resulted in injury  
9 to Plaintiffs and all of the other members of the proposed class.

10 190. **Adequate representation:** Plaintiffs will represent and protect the interests of the  
11 proposed class both fairly and adequately. Plaintiffs have retained counsel competent and  
12 experienced in complex class-action litigation. Plaintiffs have no interests that are antagonistic to  
13 those of the proposed class, and its interests do not conflict with the interests of the proposed  
14 class members it seeks to represent.

15 191. **Prevention of inconsistent or varying adjudications:** If prosecution of myriad  
16 individual actions for the conduct complained of were undertaken, there may be inconsistent or  
17 varying results. This would have the effect of establishing incompatible standards of conduct for  
18 Apple. Certification of Plaintiffs’ proposed class would prevent these undesirable outcomes.

19 192. **Injunctive and declaratory relief:** By way of its conduct described in this  
20 complaint, Apple has acted on grounds that apply generally to the proposed class. Accordingly,  
21 final injunctive relief or corresponding declaratory relief is appropriate respecting the class as a  
22 whole.

23 193. **Predominance and superiority:** This proposed class action is appropriate for  
24 certification. Class proceedings on these facts and this law are superior to all other available  
25 methods for the fair and efficient adjudication of this controversy, given that joinder of all  
26 members is impracticable. Even if members of the proposed class could sustain individual  
27 litigation, that course would not be preferable to a class action because individual litigation would  
28 increase the delay and expense to the parties due to the complex factual and legal controversies

1 present in this matter. Here, the class action device will present far fewer management  
2 difficulties, and it will provide the benefit of a single adjudication, economies of scale, and  
3 comprehensive supervision by this Court. Further, uniformity of decisions will be ensured.

### 4 **XIII. STANDING AND ANTITRUST INJURY**

5 194. Plaintiffs purchased iPhones directly from Apple at a price alleged to be inflated as  
6 a result of Apple's anticompetitive and monopolistic practices, as alleged herein. Apple therefore  
7 caused Plaintiffs to suffer overcharge damages.

8 195. Charging supracompetitive prices to direct purchasers like Plaintiffs was the  
9 purpose and direct effect of Apple's alleged monopolization conduct.

10 196. Because Apple continues to engage in the anticompetitive practices alleged in this  
11 Complaint, Plaintiffs are reasonably likely to incur future overcharges when they purchase  
12 additional and/or replacement smartphones. Plaintiffs have standing as direct purchasers of  
13 products and services sold at inflated prices. Both the actual harm and the threat of future harm  
14 are cognizable antitrust injuries directly caused by Defendant's violations of federal antitrust  
15 laws. The full amount of such overcharge damages will be calculated after discovery and upon  
16 proof at trial.

### 17 **XIV. VIOLATIONS ALLEGED**

#### 18 **COUNT I**

#### 19 **MONOPOLIZATION OF THE PERFORMANCE SMARTPHONE** 20 **MARKET IN THE UNITED STATES IN VIOLATION** 21 **OF SHERMAN ACT § 2**

22 197. Plaintiffs incorporate the allegations above as if fully set forth herein.

23 198. Performance smartphones in the United States is a relevant antitrust market, and  
24 Apple has monopoly power in that market.

25 199. Apple has willfully monopolized and illegally maintained such monopoly of the  
26 performance smartphone market in the United States through an exclusionary course of conduct  
27 and the anticompetitive acts described herein. Each of Apple's actions individually and  
28 collectively increased, maintained, or protected its performance smartphone monopoly.



1 manner of impediment may shift in response to technological and regulatory change consistent  
2 with Apple's past conduct.

3 207. While each of Apple's acts is anticompetitive in its own right, Apple's interrelated  
4 and interdependent actions have had a cumulative and self-reinforcing effect that has harmed  
5 competition and the competitive process.

6 208. In undertaking this course of conduct, Apple has acted with specific intent to  
7 monopolize, and to destroy effective competition in, the performance smartphone market in the  
8 United States. There is a dangerous probability that, unless restrained, Apple will succeed in  
9 monopolizing the performance smartphone market in the United States, in violation of Section 2  
10 of the Sherman Act.

### 11 **COUNT III**

#### 12 **MONOPOLIZATION OF THE SMARTPHONE MARKET IN THE** 13 **UNITED STATES IN VIOLATION OF SHERMAN ACT § 2**

14 209. Plaintiffs incorporate the allegations above as if fully set forth herein.

15 210. Smartphones in the United States is a relevant antitrust market, and Apple has  
16 monopoly power in that market.

17 211. Apple has willfully monopolized and unlawfully maintained such monopoly of the  
18 smartphone market in the United States through an exclusionary course of conduct and the  
19 anticompetitive acts described herein. Each of Apple's actions individually and collectively  
20 increased, maintained, or protected its smartphone monopoly.

21 212. Apple's anticompetitive acts include, but are not limited to, its contractual  
22 restrictions against app creation, distribution, and access to APIs that have impeded apps and  
23 technologies including, but not limited to, super apps, cloud streaming, messaging, wearables,  
24 and digital wallets. The areas identified in this complaint reflect a non-exhaustive list of recent  
25 anticompetitive acts but as technology advances, both the technologies impeded and the specific  
26 manner of impediment may shift in response to technological and regulatory change consistent  
27 with Apple's past conduct.  
28





1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

DATED: March 22, 2024

Respectfully submitted,

**HAGENS BERMAN SOBOL SHAPIRO LLP**

By:  /s/ Ben M. Harrington  
Ben M. Harrington (SBN 313877)  
715 Hearst Avenue, Suite 300  
Berkeley, CA 94710  
Telephone: (510) 725-3000  
Facsimile: (510) 725-3001  
benh@hbsslaw.com

Steve W. Berman (*pro hac vice forthcoming*)  
**HAGENS BERMAN SOBOL SHAPIRO LLP**  
1301 Second Avenue, Suite 2000  
Seattle, Washington 98101  
Telephone: (206) 623-7292  
Facsimile: (206) 623-0594  
steve@hbsslaw.com

Eamon P. Kelly (*pro hac vice forthcoming*)  
Joseph M. Vanek (*pro hac vice forthcoming*)  
**SPERLING & SLATER, LLC**  
55 W. Monroe Street, 32nd Floor  
Chicago, IL 60603  
Telephone: (312) 676-5845  
Facsimile: (312) 641-6492  
ekelly@sperling-law.com  
jvanek@sperling-law.com

Phillip F. Cramer (*pro hac vice forthcoming*)  
**SPERLING & SLATER, LLC**  
1221 Broadway, Suite 2140  
Nashville, TN 37203  
Telephone: (312) 224-1512  
Facsimile: (312) 641-6492  
pcramer@sperling-law.com

*Attorneys for Plaintiffs and the Proposed Class*